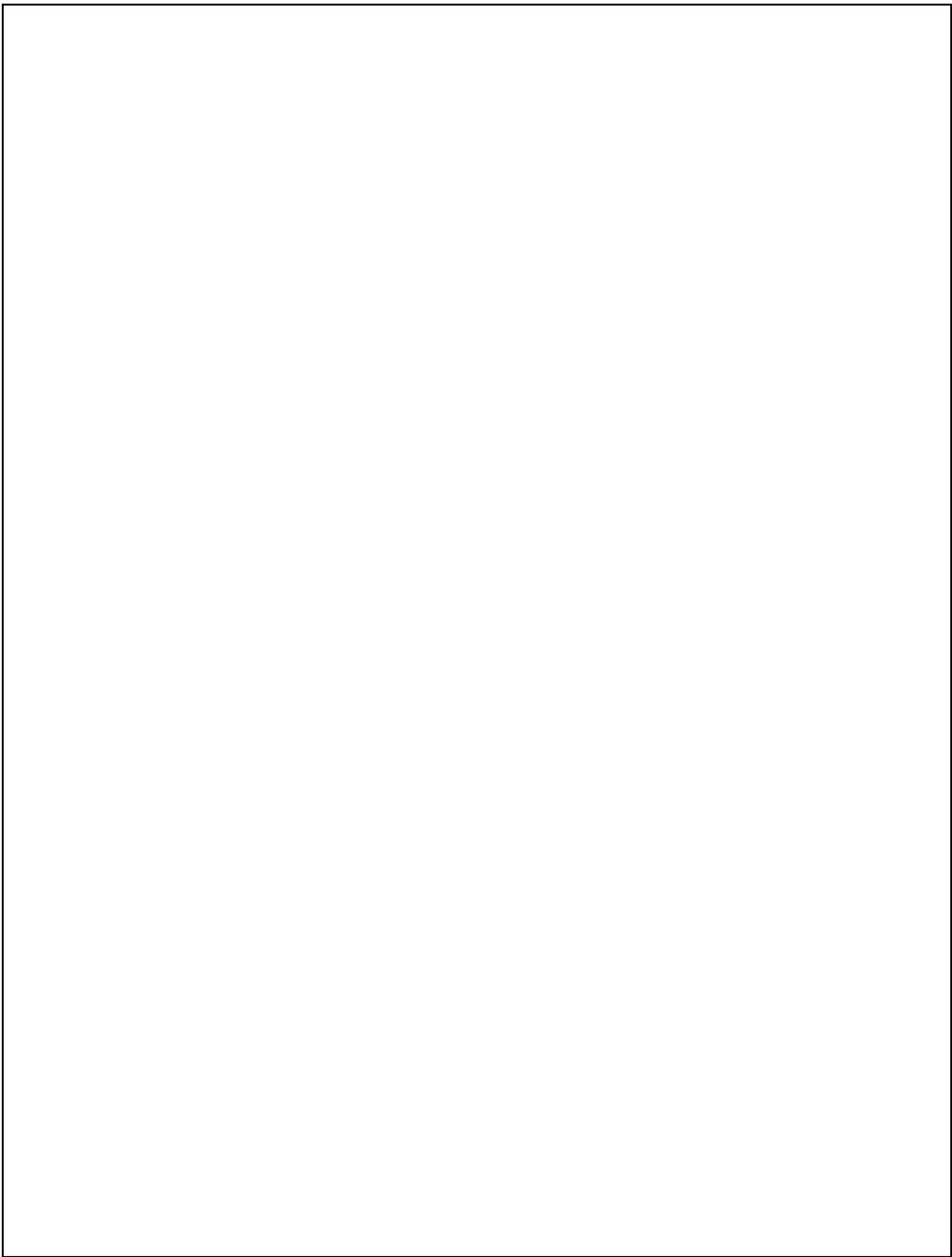


## ***ESJ Gen-Tie Project Visual Resources Report***

### Note:

The ESJ Gen-Tie Project Visual Resources Report (ICF Jones & Stokes 2010) was utilized by Dudek to gather project description information and to select key observation points (KOPs) from which to assess the anticipated visual impacts of the ESJ Gen-Tie Project and the ESJ Phase 1 Wind Development in Mexico. In addition, the photographic visual simulations and viewshed analysis prepared by ICF Jones & Stokes were included in the EIR/EIS visual impact analysis. The visual quality assessment and viewer response worksheets prepared in the field by ICF Jones & Stokes were not used for the EIR/EIS. Although the Visual Resources Report contained impact findings for the proposed ESJ Gen-Tie Project, these findings and analyses were not used, nor adopted for the EIR/EIS. The Visual Resources Report was reviewed, and the ICF Jones & Stokes-prepared simulations were used in the field to evaluate the type and degree of visual changes that would occur from each KOP. In some cases, however, the findings of the EIR/EIS team differed from the studies provided by ICF Jones & Stokes.



# **VISUAL RESOURCES REPORT**

## **ENERGÍA SIERRA JUÁREZ U.S. TRANSMISSION, LLC GENERATION-TIE LINE PROJECT**

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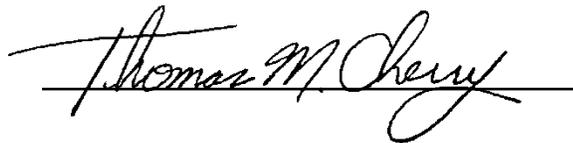
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ICF Jones & Stokes. 2010. Visual Resources Report for the Energía Sierra Juárez U.S. Transmission, LLC Generation-Tie Line Project. (ICF J&S 00330.09.) San Diego, CA. Prepared for County of San Diego, San Diego, CA.

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## Acronyms and Abbreviations

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ACEC	Area of Critical Environmental Concern
AMSL	above mean sea level
ATV	all-terrain vehicle
BLM	Bureau of Land Management
CEQA	California Environmental Quality Act
cKOP	candidate key observation point
CPUC	California Public Utilities Commission
CWA	Clean Water Act
DEM	digital elevation model
DOE	Department of Energy
DTM	digital terrain model
du	dwelling unit
ECFO	El Centro Field Office of the BLM
ECO Sub	East County Substation
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESDC RMP	Eastern San Diego County Resource Management Plan
ESJ	Energía Sierra Juárez U.S. Transmission, LLC
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
Gen-Tie	Generation-Tie Line
GIS	Geographic Information System
GPS	global positioning system
KOP	Key observation point
kV	kilovolt
LCU	landscape character unit
MWs	megawatts
NHS	National Highway System
OE	Office of Electricity Delivery and Energy Reliability
project	Energía Sierra Juárez U.S. Transmission, LLC Generation-Tie Line Project
RWQCB	Regional Water Quality Control Board
SDG&E	San Diego Gas & Electric
SMS	Safety Management Systems
SRPL	Sunrise Powerlink Project
SWPL	Southwest Powerlink
SWPPP	stormwater pollution prevention plan
USGS	U.S. Geological Society
VRM	Visual Resource Management

# Executive Summary

## Energía Sierra Juárez U.S. Transmission, LLC Generation-Tie Line Project

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This visual resources report assesses the potential effects of the Energía Sierra Juárez U.S. Transmission, LLC Generation-Tie Line Project (project) on visual resources in accordance with the California Environmental Quality Act (CEQA). This study also includes proposed measures to avoid, minimize, or mitigate adverse visual impacts associated with construction and operation of the proposed project.

This visual analysis was completed using the *County of San Diego's Guidelines for Determining Significance and Report Format and Content Requirements*. These documents outline a process-oriented methodology that endeavors to create a repeatable, objective procedure that quantifiably identifies visual change created by human-made (anthropogenic) modifications to the viewshed. Intensive three-dimensional geospatial modeling was conducted to identify potential visual receptors. The viewshed's scenic quality and viewer groups were analyzed in a systematic procedure. Design visualizations of the project were created and used in a consistent interdisciplinary team exercise to assess the project's contrast on the viewshed and to quantifiably assess the project's visual impact.

The process yielded a determination that the generation tie-line would have a less-than-significant impact on the four key observation points (KOPs) from an aesthetics perspective. In an equal level of detail, a project design alternative was also analyzed. The results concluded that the proposed design solution was somewhat superior to the alternative monopole design.



# Visual Resources Report

## Energía Sierra Juárez U.S. Transmission, LLC

### Generation-Tie Line Project

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## 1 Introduction

### 1.1 Purpose

This visual resources report assesses the potential effects of the Energía Sierra Juárez U.S. Transmission, LLC Generation-Tie Line Project (project) on visual resources in accordance with the California Environmental Quality Act (CEQA). This study also includes proposed measures to avoid, minimize, or mitigate adverse visual impacts associated with construction and operation of the proposed project. The baseline for this analysis was formed using information taken from the *Preliminary Visual Assessment for the Proposed Energia Sierra Juarez U.S. Transmission, LLC Generation-Tie Line Project* (completed by ICF Jones & Stokes in June 2009).

### 1.2 Concepts and Terminology

#### Visual Resource Assessment

*Visual resources* are the various components of the landscape that contribute to the visual character of a place. These components can be natural or human-made and include objects, vistas, and viewsheds. A visual assessment generally begins with an inventory of the visual resources and aesthetic conditions of a particular site, and involves the following steps:

- describe the existing visual character and visual resources of the project site/study area,
- identify visually sensitive resources,
- identify viewers and representative viewpoints to the project area,
- evaluate the effects the proposed project would have on visual resources, and
- if impacts are considered significant, provide mitigation measures to avoid or reduce these impacts.

This process is based upon the Federal Highway Administration (FHWA) assessment method, in which the aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area. These concepts are described below.

#### Visual Character

*Visual character* is defined by descriptive attributes in the landscape. Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with development such as structures, roads, utilities, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic

elements used to describe visual character for most visual assessments are the form, line, color, and texture of landscape features. The appearance of the landscape is described in terms of the dominance of these components. For example, an urban setting can be highly engineered where geometric lines and forms dominate the landscape, and there is minimal contrast in texture and perhaps stark contrast in color. This has a very different character than a natural landscape defined by rolling hills, textured vegetation, contrasting forms, and muted colors. In the visual assessment, neither landscape is considered to have greater or higher visual character.

## Visual Quality

*Visual quality* is evaluated based on the relative degree of vividness, intactness, and unity, as modified by viewer sensitivity. The concepts of vividness, intactness, and unity are described below.

- *Vividness* is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes and in natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole. It frequently attests to the careful design of individual components in the landscape (Federal Highway Administration 1981).

High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

## Viewer Exposure and Sensitivity

The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. *Viewer sensitivity*, or concern for a particular viewshed, is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related in part to the position of the viewer to the resource. Therefore, visibility and visual dominance of landscape elements depend on viewers' placement within the viewshed. A *viewshed* is defined as all surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (Federal Highway Administration 1983). To identify the importance of views of a resource, a viewshed may be broken into distance zones: *foreground* (in which the observer is a direct participant and objects in the view are at a close range [0.25 to 0.5 mile from the viewer]), *middleground* (which is generally in the center of the viewshed, and objects are still large enough to be visually differentiated from adjacent visual features [3 to 5 miles from the viewer]), and *background* (in which the observer can see less detail and distinction of features, and where the visual emphasis is on outlines and edges such as ridgelines and skylines [extends infinitely from the viewer]). Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer.

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration.

## 1.3 Key Issues

Typical adverse effects on visual resources associated with development projects include the loss of natural features or areas, the removal of urban features with aesthetic value, or the introduction of contrasting urban features into natural areas. The loss or alteration of visually significant features, or the introduction of disparate features that conflict with existing visual character and visual elements of form, line, color, and texture are considered significant adverse visual effects. Elements of the proposed project that have the potential to result in significant visual quality impacts include:

- vegetation clearing necessary for construction of five 50- x 50-foot pads for the transmission line towers, a new north-south access road, and a staging/laydown area;
- grading activities;
- installation of proposed transmission lines; and
- installation of proposed lattice towers.

## 2 Project Description

The Energía Sierra Juárez U.S. Transmission, LLC Generation-Tie Line Project (project) is proposed by Energía Sierra Juárez U.S. Transmission, LLC (ESJ U.S.) in eastern San Diego County (see Figure 1). The project includes construction, operation, and maintenance of a less than 1-mile-long portion of an electric generator tie line from the Mexican border to the Southwest Powerlink (SWPL) 500 kilovolt (kV) transmission line in the Mountain Empire Community Planning Area. The proposed project would consist of either a single-circuit, 500 kV line (Route A1) or double-circuit 230 kV line (Route A2) supported by three to five 150-foot steel lattice towers or 150- to 170-foot steel monopole towers. The project would have the capacity to connect up to 1,250 megawatts (MWs) of future renewable wind energy generation to be located in northern Baja, Mexico.

Assuming the worst-case visual impact scenario for project build out, the project would consist of a single-circuit 500 kV line supported by five 150-foot-high steel lattice towers, each sited approximately 1,500 feet apart. The lattice towers would be supported by circular concrete pier foundations, and each would have a maximum base area of 1,156 square feet (34 x 34 feet) and permanent land disturbances of 2,500 square feet (50 x 50 feet). The proposed project would extend approximately 1 mile from the international border to its terminus at the East County Substation (ECO Sub). No fencing would be included, and no lighting on the towers/poles would be necessary, based on the Federal Aviation Administration (FAA) determination of no hazard to air navigation. The lattice towers would be equipped with warning signs in English and Spanish to alert the public of the electrical hazard.

Old Highway 80 provides access to the project area, and an existing unpaved access road that runs east to west would be used to access the project area from Old Highway 80. Construction of a new north-south access road would be required by the project to access the line and lattice towers. Vegetation would be cleared and grubbed along the proposed north-south access road. Limited grading would also be required for the access road as well as for the tower pads. Topsoil removed during grading would be stockpiled within the construction easement for reuse to spread on cut-and-fill slopes.

Project construction would require between 20 and 25 workers per day for a period of approximately 6 months. In addition, approximately 10 to 15 construction vehicles would operate on site during construction, with 7 to 12 vehicles entering or exiting the site each day. The majority of construction activities are anticipated to be completed by early 2012.

The proposed project would require a stormwater pollution prevention plan (SWPPP) as mandated under the Clean Water Act (CWA) and the San Diego Regional Water Quality Control Board (RWQCB). The SWPPP would include standard sediment control devices such as silt fences, straw wattles, straw bales, netting, soil stabilizers, and check dams in order to minimize soil erosion during and after construction.

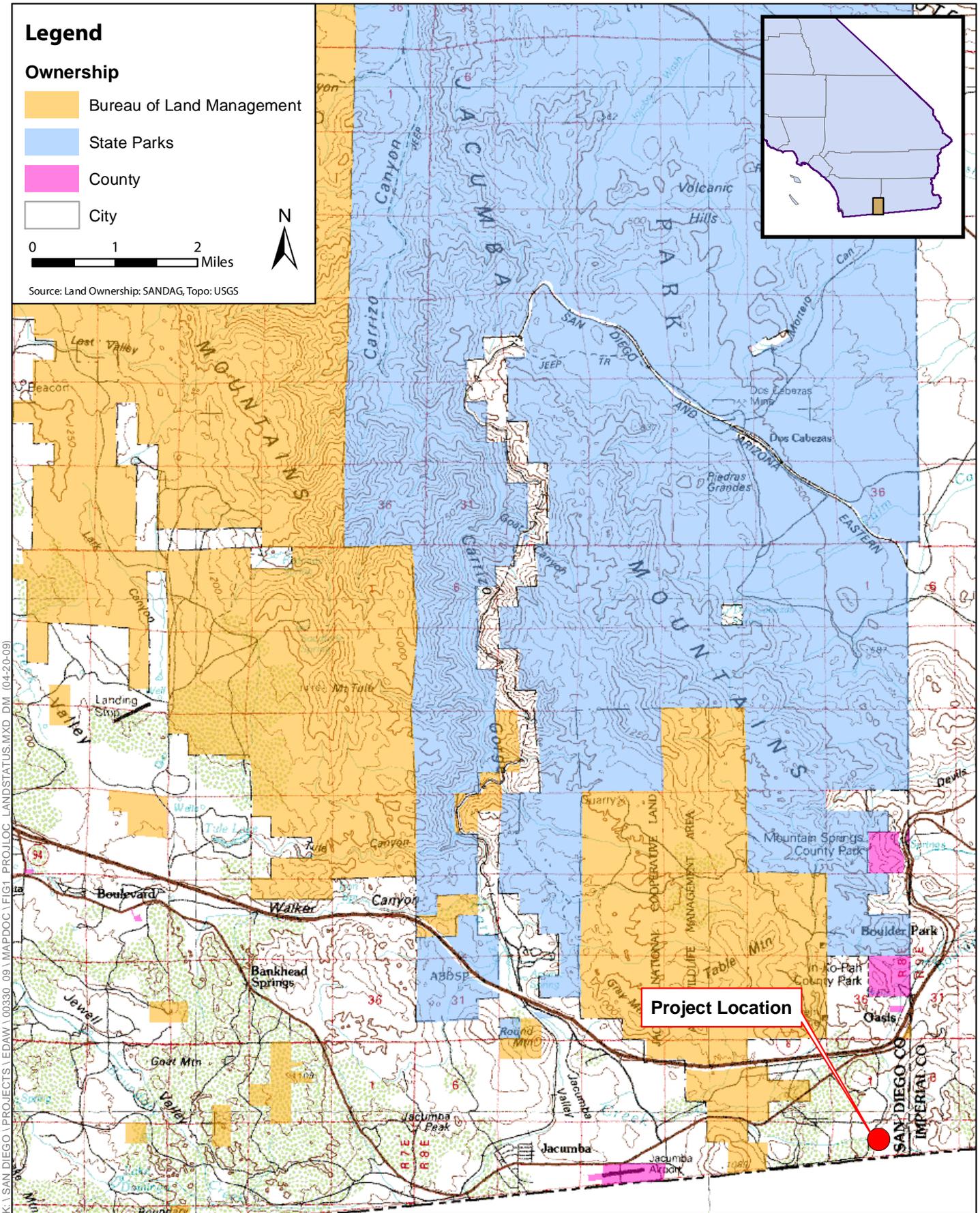
Operation of the facility would require one to two personnel for patrol duties and visual inspection of the generator tie line on a periodic basis. Occasional pressure washing of insulators would be necessary. Also, road maintenance is anticipated to occur twice per year on average, but would be performed on an as-needed basis.

## 2.1 Land Ownership and Land Use/Zoning Designations

The proposed project site is located on privately owned land directly adjacent to and west of the San Diego–Imperial County line and north of the international border; the site is within the County of San Diego’s Mountain Empire Community Planning Area. The Mountain Empire land use map identifies the project site as Multiple Rural Use (1 dwelling unit (du)/4, 8, 20 acres). Lands surrounding the site to the north are designated as national forest, state park, and public/semi-public lands. West of the site, land use designations include Multiple Rural Use (1 du/4, 8, 20 acres), General Commercial, Intensive Agricultural (1 du/2, 4, 8 acres), and Specific Plan Area.

Lands to the north, east, and west within 1.5, 0.2, and 1.5 miles of the project site, respectively, are administered by the Bureau of Land Management (BLM), and under jurisdiction of BLM’s El Centro Field Office (ECFO). Lands further west and immediately north of the project site are under San Diego County jurisdiction and managed under the guidelines of the Eastern San Diego County Resource Management Plan (ESDC RMP; BLM 2008a).

West of the project site is the Airport Mesa Resource Management Area, which is part of the Descanso/Jacumba Special Recreation Management Area. The ESDC RMP identifies the area north of the international border as a utility corridor. In accordance with BLM’s *Land Use Planning Handbook* (H-1601-1), BLM is required to designate Visual Resource Management (VRM) Classifications for all areas of BLM land, based on an inventory of visual resources and management considerations for other land uses. The VRM Classification for the area is Class III. The objective of VRM Class III Classification is to “...partially retain the existing character of the landscape.” A moderate change in the landscape character is allowed, but should not dominate the view (BLM 2008a).



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## **3 Regulatory Setting**

### **3.1 Federal**

#### **National Highway System Designation Act of 1995**

The National Highway System Designation Act designates almost 160,955 miles of roadway as being part of the National Highway System (NHS). Title III, Section 304, of the legislation allows, but does not mandate, design standards for NHS projects that take into account the constructed and natural environment of the area, including the environmental, scenic, aesthetic, historic, community, and preservation impacts of the proposed action/project.

### **3.2 State**

#### **California Environmental Quality Act (CEQA)**

Under CEQA, state and local agencies are required to consider impacts on aesthetic resources. The State CEQA Guidelines provide specific guidance to lead agencies to consider impacts on aesthetic resources, including trees, rock outcroppings, and historic buildings within a state scenic highway or scenic vista. Additionally, the guidelines provide general guidance regarding the protection of visual character and quality. Appendix G of the CEQA Guidelines states that a project has the potential for a significant impact if it would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to: trees, rock outcroppings, and historic buildings within a state scenic route;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views of the area.

#### **California Scenic Highway Law/Program**

The California Scenic Highway Law created the California State Scenic Highways Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of adjacent lands. The program was established by the state legislature through Senate Bill No. 1467 (Farr) in 1963. This bill established the scenic highway advisory committee as the state's primary policy body for recommending program criteria to be used in reviewing local applications and recommending approval of official scenic highway designations. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The state laws governing the scenic highway program are found in the Streets and Highways Code, Sections 260 through 263.

The project site is visible from Interstate 8, which is an eligible state scenic highway, although it is not officially designated (California Department of Transportation [Caltrans] 2007).

### 3.3 Local

#### San Diego County General Plan

The San Diego County General Plan, originally adopted in 1975, provides guidance for the preservation of aesthetic resources. Specific community plans, which are incorporated into the general plan, include goals, policies, and recommendations to guide development within a specific region. These community plans identify specific planning considerations, including guidelines designed to preserve visual character/quality and minimize adverse aesthetic effects. The general plan also includes specific guidelines for scenic highways, conservation, open space, and energy, further described below. Currently, the County is in the process of updating its General Plan and all associated community plans and maps. The General Plan update is expected to result in significant changes to the adopted elements described below (County of San Diego 1995a, 2009).

#### San Diego County General Plan, Open Space Element, Part I

The Open Space Element, originally adopted in 1973, details plans and measures for preserving open space for natural resources, the managed production of resources, outdoor recreation, public health and safety, and the identification of agricultural land. The general open space goals are as follows:

**Goal 1:** Promote the health and safety of San Diego County residents and visitors by regulating development of lands.

**Goal 2:** Conserve scarce natural resources and lands needed for vital natural processes and the managed production of resources.

**Goal 3:** Conserve open spaces needed for recreation, education and scientific activities.

**Goal 4:** Encourage and preserve those open space uses that distinguish and separate communities.

#### San Diego County General Plan, Scenic Highway Element, Part VI

This Scenic Highway Element, originally adopted in 1975, was prepared by the Scenic Highway Element Subcommittee of the Citizens' Committee on the General Plan. Its purpose is to establish a scenic highway program to protect and enhance the County's scenic, historic, and recreational resources within a network of scenic highway corridors. In preparing this element, the subcommittee first reviewed the State Scenic Highway Program's existing laws, incentives, guidelines, and programs; San Diego County's scenic resources; and the County's participation in the scenic highway program.

The standards and criteria for establishing and protecting scenic highways are described in Appendix A of the Scenic Highway Element. Criteria for establishing the Scenic Highway System Priority List, which serve as a basis for initiating specific corridor studies, are:

- Routes traversing and providing access to major recreation, scenic or historic resources;
- Routes traversing lands under the jurisdiction of public agencies;
- Routes supported by significant local community interest;
- Routes offering unique opportunities for the protection and enhancement of scenic recreational and historical resources.

According to the adopted Scenic Highway Element, the segment of Interstate 8 from State Route 79 east to the Imperial County line is designated as a Third Priority Scenic Route.

Also, the County's draft Conservation/Open Space Element, which incorporates the adopted Scenic Highway Element, identifies the segment of Old Highway 80 from State Route 79 (Pine Valley) to Interstate 8 (Jacumba) as a Scenic Highway.

### **San Diego County General Plan, Conservation Element, Part X**

The Conservation Element, originally adopted in 1975, establishes goals, policies, and programs that value and protect natural resources to ensure they are available for future generations. Primary objectives of the Conservation Element are to address the conservation, development, and use of natural resources including water, forests, soils, rivers, and mineral deposits. The element strives to minimize the impact of future development in areas with significant natural resources; it also promotes efficient use of water and other natural resources and strives to ensure the long-term sustainability of non-renewable resources.

### **San Diego County General Plan, Energy Element, Part XI**

The Energy Element is a discretionary general plan element, pursuant to Government Code Section 65303(k), which provides direction to the County on energy-related matters. The energy element attempts to provide a rational strategy to direct actions within the County toward a more conservative and efficient use of energy resources and to assure a reliable, adequate supply of energy. It assumes that decisions the County makes now can have an impact on the County's energy future. The following goals have been selected as a means of guiding San Diego County toward a wise and rational use of its energy:

- Goal 1:** Define and assure adequate energy supplies for San Diego County.
- Goal 2:** Encourage the utilization of alternative passive and renewable energy resources.
- Goal 3:** Maximize energy conservation and efficiency of utilization.
- Goal 4:** Minimize environmental impact of energy resources.
- Goal 5:** Minimize possibility of energy shortages and resulting hardships.

### **San Diego County Zoning Ordinance, Special Area Regulations**

The provisions of Sections 5000 through 5964 of the County's Zoning Ordinance, also known as the Special Area Regulations, set forth specialized regulations that have limited application within San Diego County and that assure consideration is provided for areas of special interest or unusual value. When Special Area Regulations require the issuance of a Minor Use Permit or a Major Use Permit, such permits are only issued when the proposed use satisfies all conditions and requirements of the Special Area Regulations and is found consistent with the intent and purpose of the applicable Special Area Regulations.

The following Special Area Regulations and associated Zoning Ordinance Sections apply to the proposed project:

- Scenic Area (S), Section 5200–5212

## 3.4 Community Design Policies and Guidances

### San Diego County General Plan, Mountain Empire Subregional Plan, Part XX

Community plans are policy plans specifically created to address the issues, characteristics, and visions of communities within the County. These diverse communities each have a distinct physical setting with a unique history, culture, character, life style, and identity. Thus, the Mountain Empire Subregional Plan provides a framework for addressing the critical issues and concerns that are unique to the Mountain Empire community and are not reflected in the broader policies of the Land Use Element of the General Plan. Goals and policies of the Subregional Plan are designed to provide more precise guidance regarding the character, land uses, and densities within the Mountain Empire Community Planning Area. These goals and policies are more limiting and restrictive than the Countywide goals and policies, consistent with state legislation for internal consistency. Where the existing element adequately addresses an individual community's situation, the subject area may be omitted or a notation to reference the element may be included so that the adopted goals and policies relating to the subject area may be taken into account (County of San Diego 1995b). The goals, policies, and recommendations of the Mountain Empire Subregional Plan that are applicable to the proposed project are listed below:

**Goal 1:** Encourage the development of land in a manner that reinforces the unique identity of the Mountain Empire Subregion and its communities.

**Goal 2:** Provide a land use pattern consistent with the subregional population forecast.

#### Policies and Recommendations

- The landforms of the Subregion are an important environmental resource that should be respected in new development. Hillside grading shall be minimized and designed to blend in with the existing natural contours.

**Goal 3:** Provide a land use pattern which will accommodate the forecast population increase while retaining the rural charm of the present living environment.

#### Policies and Recommendations

- Preserve the rural atmosphere of the Subregion by blending roads into the natural terrain.
- All development proposals shall demonstrate a diligent effort to retain significant existing natural features characteristic of the community's landscape. Existing topography and landforms, drainage courses, rock outcroppings, vegetation and views shall be incorporated, to the maximum extent feasible, into the future development of the land.
- Landscaping should emphasize the use of natural drought resistant plant materials.
- Graded hillsides should approximate the surrounding natural hills. Slope blanks should be softened by contoured grading of fill at the top and toe of the slope.
- Avoid all extensive or severe grading to preserve the natural terrain.

**Goal 4:** Provide the facilities and level of service necessary to satisfy the needs of the subregion.

#### Policies and Recommendations

- Maintain unobstructed access to and along the path of existing power transmission facilities and lines.
- Any proposed grading, improvements or other encroachments to the substation or transmission rights-of-way must be reviewed by SDG&E.

- Any alteration of drainage patterns affecting the substation or transmission line rights-of-way should be reviewed and approved by SDG&E.
- Uses proposed for property adjacent to substations or transmission line rights-of-way should be reviewed for possible impacts to the power facilities and vice versa.

**Goal 5:** Ensure that there is careful management of environmental resources in the area in order to prevent wasteful exploitation or degradation of those resources and to maintain them for future needs.

Policies and Recommendations

- Avoid the construction of artificial drainage structures; utilize natural channels and streambeds and require that runoff and drainage be used for groundwater recharging where applicable.
- Floodways shall be maintained in their natural state unless findings can be made that a threat to public safety exists.
- The dark night sky is a significant resource for the Subregion and appropriate steps shall be taken to preserve it.
- Development shall not adversely affect the habitat of sensitive plant and wildlife species or those areas of significant scenic value.

**Goal 6:** Ensure that the conservation of non-renewable energy resources is pursued in a way that is not detrimental to the rural lifestyle.

Policies and Recommendations

- New development should utilize alternative energy technologies, especially active and passive solar systems.
- Protected courtyards, porches, arcades, loggias, verandas and overhangs are effective means of shading exterior wall surfaces and windows from direct sun exposure. These elements are easily added to buildings as temperature-moderating elements. An additional benefit is their ability to add character to the building.
- Deciduous trees used on the south and west sides of a building can provide shade in summer while allowing sun penetration in winter.
- Roof overhangs on south-facing walls offer effective protection of window areas from summer sun while admitting lower winter sun rays.
- South-facing courtyards may be used to create protected outdoor spaces, giving the site a more favorable micro climate for year-round activities.

**Goal 7:** Establish a network of scenic highway and corridors within which scenic, historical and recreational resources are protected and enhanced.

Policies and Recommendations

- Mitigate the effects of development located within or in clear view of a designated scenic corridor.

## 4 Existing Visual Environment and Visual Resources

The project site is a low-lying, depositional pediment whose form is best described as slightly concave and flat, and gently slopes 10° to the southwest. As the site extends to the west, north, and east, it converges with the surrounding topography. The site's vegetative community is characterized as Sonoran mixed woody scrub. Dominates are creosote bush (*Larrea tridentate*), ephedra (*Ephedra* spp.), jojoba (*Simmondsia chinensis*), Gander's cholla (*Cylindropuntia ganderi*), yucca (*Yucca schidigera*), and lotebush (*Ziziphus parryi*). The herbaceous layer is dominated by annual forbs that include wild heliotrope (*Phacelia distans*), common goldfields (*Lasthenia gracilis*), fiddlenecks (*Amsinkia* sp.), filaree (*Erodium cicutarium*), and hydra stick-leaf (*Mentzelia affinis*). These plant communities vary in height from 1 to 6 feet and range in color from dark to light green, transitioning to more intense hues of yellow and brown during the dry season. The onsite vegetation exhibits a coarse and patchy texture, as vegetative coverage varies across the site from approximately 30 to 40%. Views from the project site are mostly panoramic, although the Jacumba Mountains enclose views from the site to the east.



Photo showing onsite vegetative cover

The project site exhibits linear uniformity and vegetative continuity; however, various cultural modifications located throughout the project area interrupt the continuous natural landscape created by the site's topographic and vegetative characteristics. These cultural modifications, further described below, include the international border fence, existing east-west and north-south access roads, the SWPL, Old Highway 80, Interstate 8, and a telecommunications facility on Nopal Peak in the Jacumba Mountains.

The dark brown international border fence, constructed in 2008 and adjoining the project site directly to the south, creates a strong linear disruption in the site's uninterrupted landscape character (Figure 2, Photo 1). Additionally, the existing, approximately 40-foot-wide east-west access road creates a second break in the groundcover near the northern end of the site by introducing a vivid sand-colored line that contrasts starkly with the predominantly grey-green vegetative cover (Figure 2, Photo 2). Figure 2, Photo 3, shows a segment of the SWPL extending within the project viewshed from the west to the east. The SWPL lattice towers and powerlines introduce strong vertical and horizontal elements into the project viewshed. They are most prominent against the blue sky, but tend to blend in and disappear into the mountain background. Finally, as shown in Figure 2, Photo 4, the most prominent cultural disturbance in the project area is Interstate 8. Interstate 8 is a long-standing cultural modification that was completed in 1967. Both east- and west-bound traffic on Interstate 8 introduce motion/movement into the project viewshed, which draws the eye away from the site.

As identified above, Interstate 8, a County-designated scenic highway, traverses the vicinity of the project. In addition, Old Highway 80 has been identified by the County as a designated scenic highway in the unadopted 2020 General Plan update; thus, it is included in this analysis.



Photo 1 Existing Border Fence



Photo 2 Existing East-West Access Road



Photo 3 Existing Southwest Powerlink



Photo 4 Existing Interstate 8



The surrounding project area is unique in both its natural and human-made settings and has a long history of human occupation. Various natural attributes, including hot springs, desert environment, and clean air, attracted many residents and brought about Jacumba's development. Cattle ranching became a major economic pursuit in the Jacumba Valley through the 1870s. Completion of the San Diego and Arizona Eastern Railway in 1919 established the town as a way station between San Diego and the newly developed Imperial Valley agricultural communities. Although the Jacumba hot springs had already attracted health-seekers and other residents, the new railroad station provided an opportunity to develop Jacumba as a resort. By 1925 a hotel and spa were developed in the community. Principal among the guests were families of Imperial Valley farmers who, before air conditioning, came to escape the oppressive summer heat. The town remained stable until after World War II, after which the advent of air conditioning made it possible to stay in Imperial Valley through the summer. In addition, improved automobiles provided easier personal access to San Diego. After Interstate 8 was built in 1967, Jacumba lost most of the traffic that attracted business along Old Highway 80. Based on the current condition of the community, viewers that may be affected by a change in landscape character within the Jacumba community include recreationists (hikers, sightseers, recreational shooters, all-terrain vehicle (ATV) users, etc.), residents, and motorists (commuters, sightseers).

## 4.1 Project Setting

The proposed project is located in the eastern portion of San Diego County where the Peninsular Ranges and desert regions converge. The project site is within the eastern portion of the California Peninsular Ranges, which surround the project site to the north and west. Elevations in the Peninsular Ranges within the project vicinity vary from 3,000 to 6,000 feet above mean sea level (AMSL). The ranges are characterized by steep mountain slopes that are typically covered with granite boulders and chaparral vegetation on the western slopes, evergreen and temperate forests at and near the peaks, and desert chaparral on the eastern slopes. The largely undeveloped mountain areas surround scattered rural communities. Scenic resources are plentiful and include large open spaces such as the Cleveland National Forest and various state and County reserves and parks.

Elevations within the desert region range from sea level to over 3,000 feet AMSL, and the terrain includes mountains, alluvial fans, and desert floor. The desert region provides expansive views characterized by dramatic landforms, native desert habitat, and low desert valleys. The project site is located on a southwestward sloping pediment of the Jacumba Mountains. The In-Ko-Pah Mountains rise above the surrounding landscape north of the site. The Grey and Table Mountains are visible landforms in the northern viewshed. The Jacumba Valley, which contains several large, conical landforms, is located directly west of the project site.

Seven individual landforms have been identified within the project vicinity, including mountains, uplands, a planar pediment, and a creek, which are further described below.

## 4.2 Project Viewshed

The project site is located in the Jacumba Valley physiographic unit and is bordered by the rugged topography of the Peninsular Mountain Range in the high Colorado Desert environment. The Jacumba Valley is surrounded on the west, north, and east by mountainous topography rising up to 1,000 feet above the valley floor. The Jacumba and In-Ko-Pah Mountains enclose the landscape and

define the limits of the viewshed from the valley. The Jacumba Valley viewshed encompasses approximately 7.75 square miles or 5,000 acres on the U.S. side of the international border with Mexico. The viewshed is linearly interrupted by the recently constructed border fence, but the valley and its viewshed extends for miles into the La Rumorosa area of Mexico. The unincorporated community of Jacumba occupies the southwest corner of the viewshed and is adjacent to the international border. The project is proposed to be located in the southeast quadrant of the viewshed.

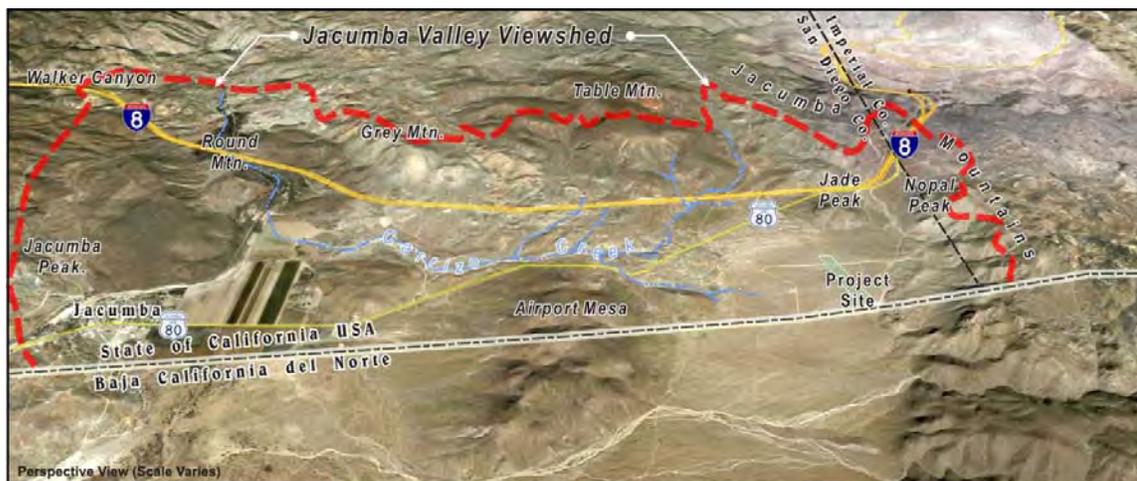


Photo showing Jacumba Valley viewshed limits

The majority of the valley is undeveloped, with Jacumba being the densest population center in the viewshed. In 2000, the census showed Jacumba having a population of 660. Old Highway 80 is Jacumba's primary thoroughfare and commercial corridor. East of Jacumba's residential and commercial area is San Diego County's Jacumba Airport, a public general aviation facility with a 2,508-foot east-west trending runway. No air traffic control towers or hanger buildings are at the facility. A large intensive vegetable agricultural operation, its growing fields, infrastructure, irrigation system, and packing sheds occupy approximately 400 acres northeast of Jacumba. As the land rises to the east, it becomes less hospitable; there is decidedly less development, and only scattered rural residential structures are located in the eastern Jacumba Valley viewshed. The valley is traversed by several significant linear cultural modifications that are contributing factors to the viewshed's visual character. These include Interstate 8, Old Highway 80, the 500 kV Southwest Powerlink electrical transmission line, the San Diego Arizona Eastern Railway, and the border fence. Each of these features introduces distinct and in some cases contrasting forms, lines, and colors into the landscape that compromise the visual quality of Jacumba Valley's viewshed. Their presence is industrial and utilitarian in nature, and that incongruity disrupts the intactness, unity, and, in instances, vividness of the viewshed. This area has recently received a more concentrated U.S. Border Patrol presence, and numerous dirt roads that facilitate its enforcement activities cross the area. Patrol and scouting activities by the agents in their vehicles can create transitory negative visual effects by introducing motion and creating dust clouds. There are also developed checkpoints on Interstate 8 and Old Highway 80 in the eastern portion of the valley.

This large and diverse landscape exhibits a single predominant vegetative cover of Sonoran Desert scrub. The vegetative cover density is dictated by the availability of soil and water. This patchwork of vegetative over cover and rocky granitic outcrops gives the majority of the landscape a grey-green

color and coarse texture. The eastern portion of the viewshed has a very coarse texture, which is a product of the rocky underlying landform and the patchy, clumped desert scrub vegetative over cover. There are numerous volcanic erosional landforms in the viewshed that protrude conspicuously in the landscape. These features typically exhibit a unique but slightly incongruent conical form in the viewshed (e.g., Airport Mesa, Jade Peak, and Table and Round Mountains). Due to their geologic composition, these landforms exhibit a noticeably rusty-red hue and darker color value than the surrounding granitic rock formations. The Jacumba Mountains are steep and rocky, and nearly devoid of vegetation. The silhouette of these grey pyramidal forms creates a dramatic jagged line on the viewshed’s eastern horizon. Carrizo Creek’s headwaters originate in the eastern portion of the viewshed, and it meanders westward through the valley before turning north on its journey to the Imperial Valley through the dramatic landscape of the Carrizo Gorge.

For purposes of this study, the project viewshed extends approximately 2 miles from west to east. As shown to the right, lattice towers tend to retreat into the landscape as distance from the viewer increases. Depending on meteorological conditions, at distances greater than 2 miles the mass and detail of the lattice towers would be considered too small to be a significant portion of the total landscape. To the east, the Jacumba Mountains restrict the viewshed to less than 1 mile. Although the viewshed extends further south into Mexico, the international border fence defines the southern viewshed limits. Analysis of the south-facing viewshed will not be evaluated as part of the proposed project. Figures 3a and 3b show the 360° panoramic viewshed from the project site.



Photo showing lattice towers disappear into landscape as distance increases

### 4.3 Landscape Character Units

A landscape character unit (LCU) is a portion of the regional landscape that can be defined as a cohesive visual unit that exhibits consistent elements and features that create a unified view. The underlying topographic form, vegetation type and coverage, and existing land use (or absences thereof) combine to create an outdoor room (landscape unit) with a distinct visual character. Slope types, watershed ridges, and other physical elements serve to divide one LCU from another. The lines that divide LCUs may be abrupt and obvious or less distinct and transitional. Seven individual LCUs have been identified in the 2-mile project viewshed (see Figure 4).

#### Pediment LCU

The Pediment LCU exhibits a planar form whose general aspect slopes downward from east to west. The slope of this depositional environment is fairly constant over the extent of the unit.



Photo showing 130° panoramic view of Pediment LCU

Elevation varies from 3,160 feet in the western portion of the LCU to 3,200 feet in the east. The ground surface is sand colored. Vegetation in the area is high desert Sonoran scrub up to 6 feet tall. This intermittent vegetative tapestry gives the landscape a coarse texture and grey-green color. The photo above provides a 130° panoramic view that demonstrates the southern portion of the Pediment LCU. This photo encompasses adjacent LCUs and is an excellent example of how dramatic adjacent scenery can enhance a less than spectacular LCU. Cultural modifications in this LCU are primarily the dirt access roads that provide access to the project site and act as transportation routes for the border patrol's enforcement activities. The border fence is a distinct and contrasting, slightly diagonal line in the LCU.

## Boulder-Strewn Transitional Uplands LCU

This LCU surrounds and is adjacent to the Pediment LCU, providing a zone of transition between the gently sloping Pediment and the rugged, mountainous LCUs. This LCU exhibits a somewhat jumbled topography often strewn with rocks and boulders. The vegetation coverage varies with the steepness of the topography. The primary cultural modifications in this LCU include Old Highway 80, a portion of Interstate 8, SWPL, and numerous dirt roads. Elevations range from 3,000 feet to 3,200 feet. This LCU is tanner and more sand-colored, and it exhibits a coarser texture than the adjacent Pediment LCU.

With its jumbled topography and rocky underlying landform, the Boulder-Strewn Transitional Uplands LCU exhibits jagged irregular forms. Lines on this LCU are manifested primarily by cultural modifications that include Old Highway 80, which follows the topography comfortably, and Interstate 8, which, from a slightly superior topographic viewpoint, creates a distinct horizontal line on the LCU. In addition, a segment of SWPL also traverses this LCU. The patchy vegetation reveals the underlying land cover; colors are a combination of mottled sand and greenish grey, and textures are noticeably coarser than the surrounding LCUs.



Photo showing Boulder-Strewn Transitional Uplands LCU

## Jacumba Mountains LCU

The Jacumba Mountains comprise another LCU, located on the eastern flank of southern California's coastal peninsular ranges, extending to the international border. The Jacumba's are a broad range, made up of ridges and intervening valleys. Valley of the Moon and Davies Valley are a few of the popular destinations in the Jacumba Mountains Wilderness area. The Jacumba Mountains range in elevation from approximately 3,400 to 4,100 feet in the project vicinity.



Photo showing Jacumba Mountains LCU in the background

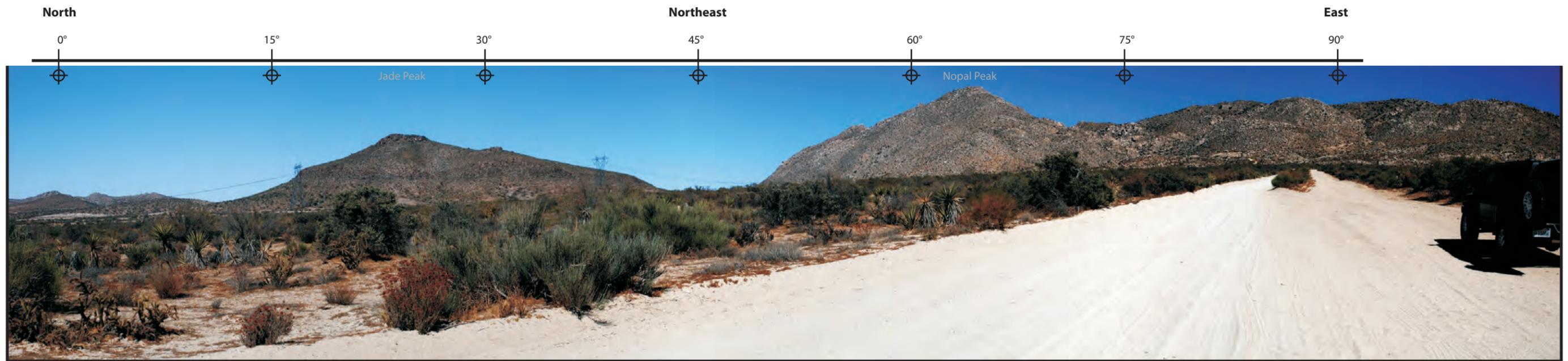


Photo 1 90° Panoramic View from the Northern End of the Project Site (North to East)

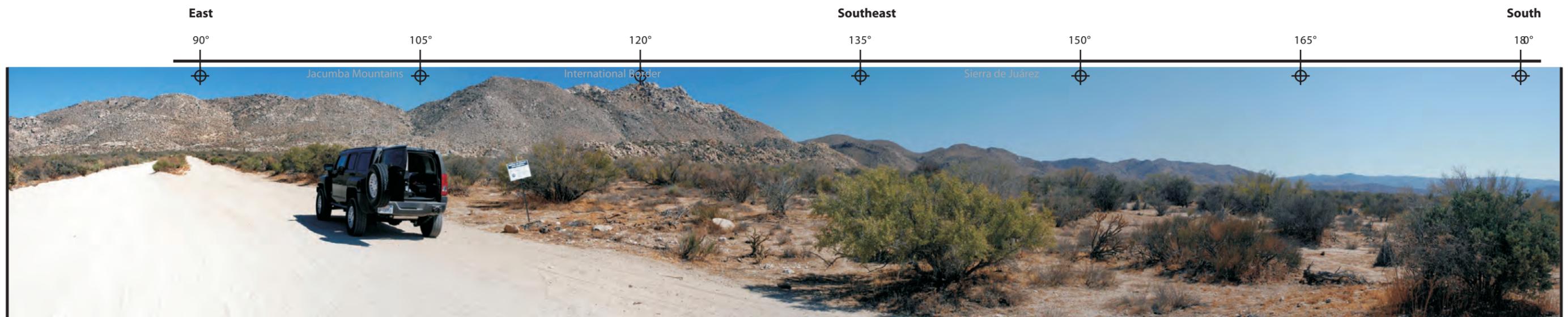
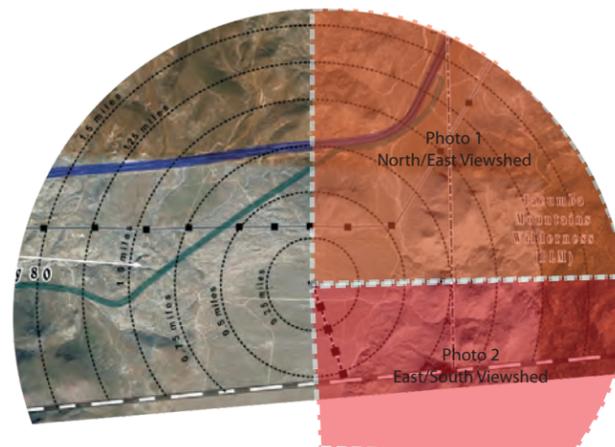


Photo 1 90° Panoramic View from the Northern End of the Project Site (East to South)





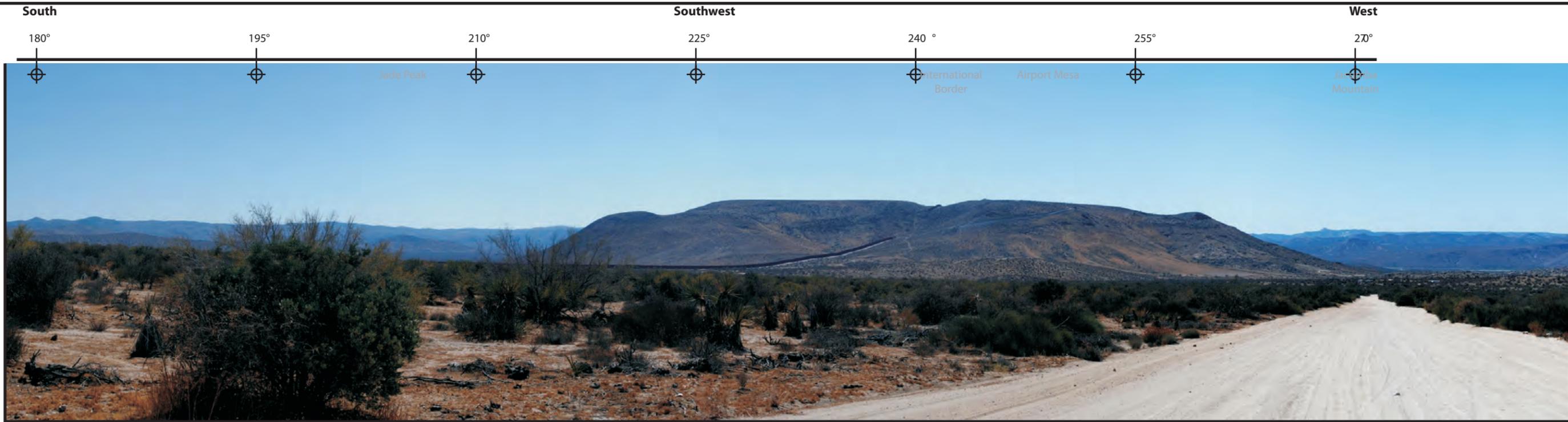


Photo 3 - 90° Panoramic View from the Northern End of the Project Site (South to West)

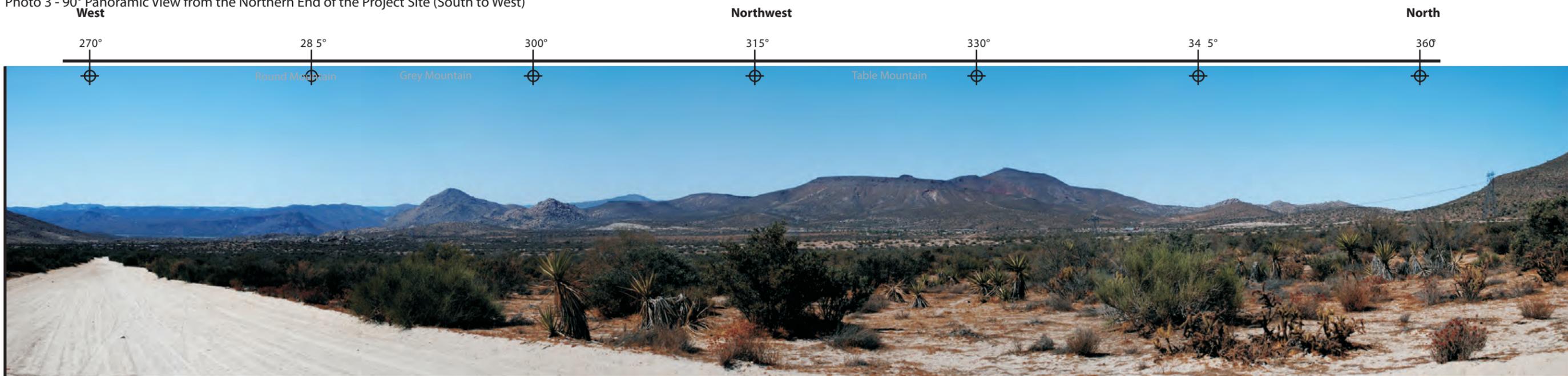
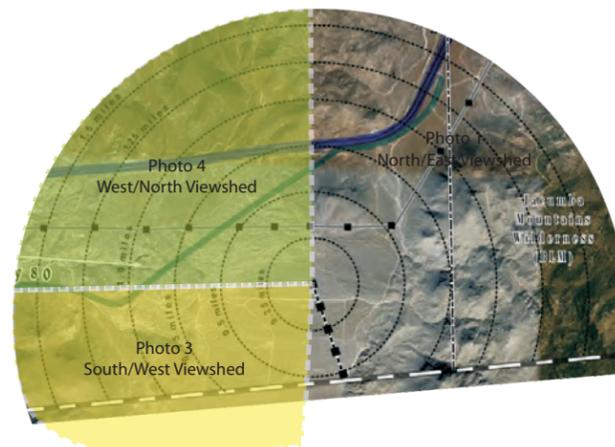


Photo 4 - 90° Panoramic View from the Northern End of the Project Site (West to North)





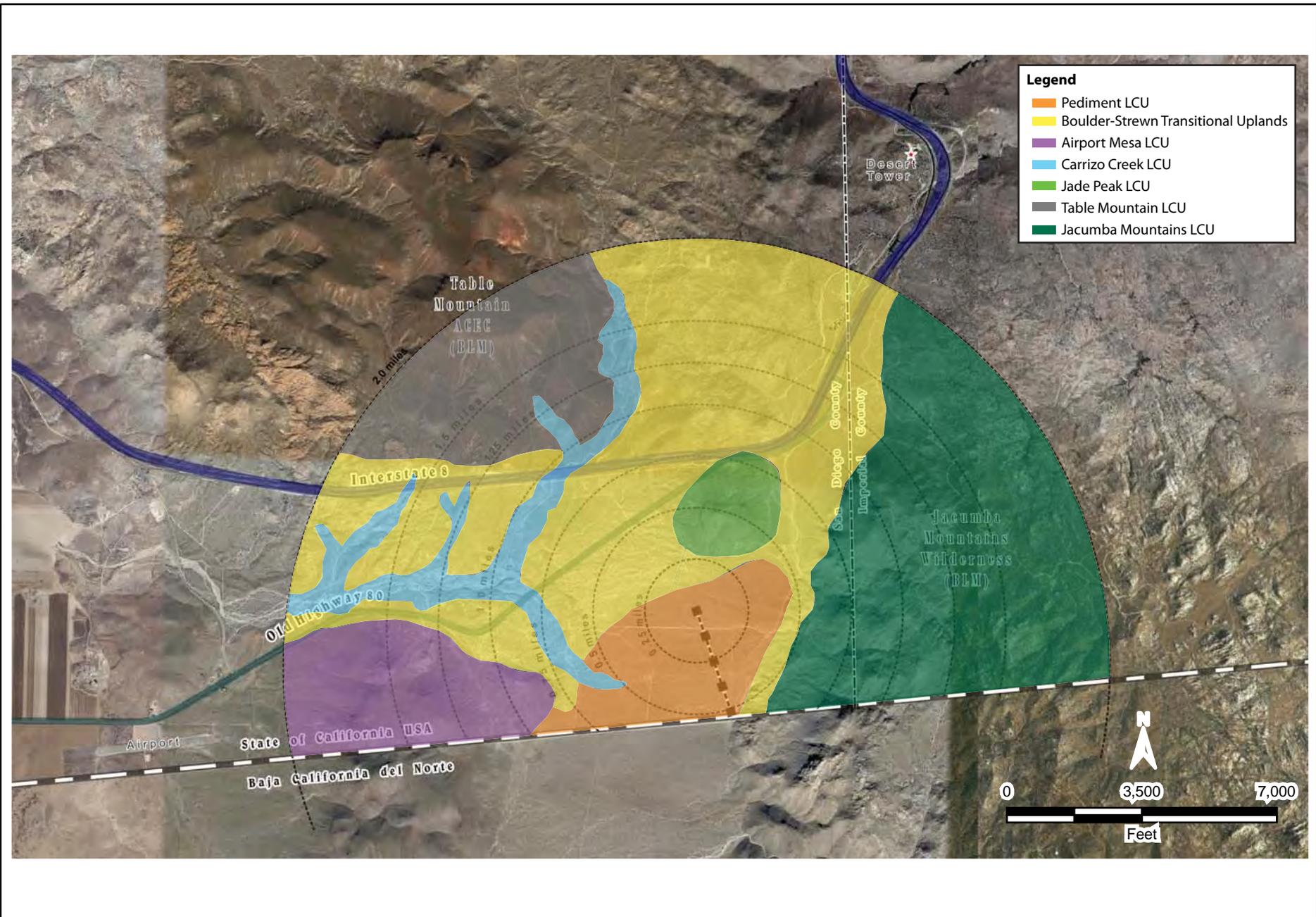


Figure 4  
Landscape Character Units Map



This LCU rises precipitously 1,000 feet out of the adjacent LCU, and exhibits a pronounced sequential pyramidal form that continues into the Sierra de Juárez Range miles into Mexico. The silhouette of the mountain's ridgeline against a brilliant blue sky can create a distinct compelling jagged line. The microwave towers at the communications facility on Nopal Peak add an unnatural vertical element to this essentially intact LCU. Very little vegetation grows on the steep rocky slopes and the sandy grey color and coarse texture are attributes of the LCU underlying landform.

## Airport Mesa LCU

The Airport Mesa LCU is a gently sloping conical landform located west of the project site. The Airport Mesa LCU, which occupies approximately 1,000 acres, has a yellow hued, soft textured façade. The border fence disrupts the uniform color and texture of the site and curved skyline created by the mountain mesa. Elevations range from 3,000 to 3,572 feet. Airport Mesa is the main physiographic feature that creates a formidable view obstruction of the project site from the Jacumba community.

The Airport Mesa LCU rises conspicuously out of the surrounding LCUs. From the mesa's base to its relatively flat top, there is over 650 feet of vertical relief to the predominately conical form. It occupies over 1,000 acres and straddles the international border. The mesa's silhouette against the sky creates a nearly 0.5-mile horizontal line, which smoothly transitions diagonally downward on the mesa's slopes. The border fence creates a distinct contrasting dark diagonal line in this LCU as it nearly bisects the mesa. The access road that parallels the U.S. side of the fence is more prominent in this LCU because of the landform's superior topographic position. This LCU is vegetated by sparse low scrub whose herbaceous understory gives the LCU its mottled tan color. The nonnative grassland gives this LCU its color, which can vary from verdant green in spring to rust as water becomes unavailable. This and the mesa's lack of boulder and rock outcrops provide a uniformly smooth texture.



Photo showing Airport Mesa LCU in the distant middleground

## Carrizo Creek LCU

Carrizo Creek is Jacumba Valley's primary ephemeral drainage. This LCU is sinuous and branching. As shown in the photo below, the LCU follows Carrizo Creek, which exhibits a dendritic drainage pattern that is similar to the branching structure of a tree. The headwater of the drainage originates just west of the project site. It is a linear and sinuous LCU that parallels the creek and its tributaries, ranging from tens to hundreds of feet wide. It represents the lowest topography of all of the LCUs. This topographically inferior position compromises viewing opportunities from the creek bed, which is constrained by



Photo showing Carrizo Creek LCU

surrounding topography. The streambed is usually flat and sandy. The banks of Carrizo Creek are typically steep and rocky. Vegetation is sparse.

The profile of the water course is U-shaped. The lines of this LCU are sinuous but slightly angular. The bed of the stream is grey in color identical to the color of the Jacumba Mountains, the source of alluvium. The banks of the creek are a darker grey similar to the boulders and outcroppings of the Boulder Strewn Transitional Uplands. The texture of the streambed is smooth and the stream banks are coarse and angular.

## Jade Peak LCU

The Jade Peak LCU is a conical hill located north of the site. Jade Peak is an erosional remnant of a volcanic cone that exhibits 350 feet of vertical relief and occupies an area of approximately 160 acres. Elevations range from 3,240 feet at the base to 3,587 at the peak. Jade Peak is defined by Interstate 8 to the north, the Jacumba Mountains to the east, and boulder-strewn transitional uplands to the south and west. There are noticeable changes in vegetation in the Jade Peak LCU as the taller and denser vegetation on the lower, flatter slopes becomes shorter and sparser on the upper peaks and more vertical slopes. Consequently, the texture of the LCU becomes smoother as the elevation increases. The color of this topographic feature is strongly influenced by the iron in the volcanic andesite, and the landform exhibits a noticeably rustier hue and darker value than the surrounding land forms.



Photo showing Jade Peak LCU

Jade Peak is one of several volcanic erosional remnants that make the topography of the Jacumba Valley unique. The Jade Peak LCU is an asymmetrically conical form; the eastern flank is less steep and more elongate than the other perimeters. The peak's silhouette is rarely skylined because it is shadowed by the more massive surrounding topography. The silhouette is a triangular line in the viewshed. The LCU exhibits a reddish hue particularly noticeable when the peak is viewed with the stark grey Jacumba Mountains as a backdrop. The texture is moderately coarse and becomes smoother as the elevation increases and the vegetation thins out.

## Table Mountain LCU

Managed by the BLM and designated as an Area of Critical Environmental Concern (ACEC), Table Mountain is a vast expanse of land located north of Interstate 8 and approximately 1.5 miles north of the project site. Table Mountain is located on the southern tip of a generally north-south trending ridge of the Jacumba Mountains. It is surrounded by Anza-Borrego Desert State Park. Recreational activities at Table Mountain include walk-in camping, hiking, and sightseeing. Table Mountain contains both slopes of the ridge and rolling land to



Photo showing Table Mountain LCU

either side. Located in a transition zone between semi-succulent desert scrub and chaparral, elevations of Table Mountain near the project site range from approximately 3,200 to 3,600 feet. Large, rounded granite boulders characteristic of the region make up the extremely rocky terrain surrounding Table Mountain (BLM 2007b).

## 4.4 Principal Viewpoints

As identified in Section 3.3 above, the segment of Interstate 8 from State Route 79 east to the Imperial County Line is identified as a Third Priority Scenic Route in the adopted Scenic Highway Element of the adopted San Diego County General Plan. Unobstructed views of the project site are available intermittently from Interstate 8 for approximately 0.6 mile in the vicinity of the Mica Gem Mine Undercrossing.

Views of the project site are also available from several viewpoints along approximately 1 mile of Old Highway 80 as it meanders through the Jacumba Valley. The unadopted Conservation and Open Space Element in the County's General Plan update identifies the segment of Old Highway 80 from State Route 79 (Pine Valley) to Interstate 8 (Jacumba) as a County Designated Scenic Highway.

Finally, the Table Mountain ACEC, Jacumba Mountains, and Airport Mesa located northwest and east, and west of the project site, respectively, provide recreationists (hikers, sightseers, recreational shooters, ATV users, etc.) with unobstructed views of the site. Viewer groups are discussed below, and Section 5 provides a detailed discussion of all identified key observation points.

## 4.5 Viewer Response

Viewer response to changes in the visual landscape is based upon a combination of factors including:

- individual viewers or groups affected by exposure to a project (viewer groups),
- viewer concern about noticeable changes to the view (viewer sensitivity),
- frequency and duration of views (viewer exposure), and
- type of activity in which individuals are engaged when viewing the landscape (viewer awareness).

### Viewer Groups

As discussed under Section 2.1, "Land Ownership and Land Use/Zoning Designations," land uses surrounding the proposed project site support a mixture of national forests and state parks, public and semi-public lands, agricultural uses, rural uses, and streets and roadways. These land uses yield the following viewer groups: motorists, recreationists, and residents. More specifically, Old Highway 80 and Interstate 8 run perpendicular to the site and provide motorists with intermittent views of the site. BLM-managed lands, including Table Mountain, Airport Mesa, and the Jacumba Mountains, offer viewing opportunities for hikers, sightseers, recreational shooters, ATV users, etc. Finally, residential receptors scattered throughout the project vicinity have views of the site.

## Viewer Sensitivity

Viewer sensitivity is associated with the viewer's concern and response to change in the visual environment. Activities such as commuting in heavy traffic can distract an observer from many aspects of the visual environment. However, recreational driving can encourage an observer to examine the view more closely and at greater length, thereby increasing the observer's attention to detail. The viewer's individual association with the visual environment determines his/her sensitivity to change in the viewshed. Typically, property owners in the area tend to take ownership of their views and are more sensitive to change than those just passing through. Thus, sensitivity ratings are based on viewer group activity and awareness typical for that activity.

## Viewer Exposure

Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, the type of viewer group activity, the duration of view, the speed at which the viewer moves, and the position of the viewer. The number of people making use of each LCU who have views of the project site have been divided into three groups: (1) less than 100 people daily, (2) between 100 and 1,000 people daily, and (3) more than 1,000 people daily.

Duration is also important in determining the effect of change to the visual environment on a viewer group.

## Viewer Awareness

Anticipated viewer awareness is determined based on the degree to which a viewer group is receptive to the visual details, character, and quality of the surrounding landscape. A viewer's ability to perceive the landscape is affected by his/her activity. For example, a vacationer in San Diego County may take pleasure in recreational driving and observing the landscape and a resident may be strongly attached to the view from his/her home, but a local county resident commuting to work may not demonstrate the same response on a daily basis.

# 5 Visual Impact Assessment

## 5.1 Candidate Key Observation Points

The project's viewshed was established over 4 days of photographic surveying in which staff reviewed the site's scenic qualities and delineated the project's viewshed. The daytime surveys, listed sequentially, were conducted on days in which climatic conditions yielded exceptional visibility: April 7, June 22, June 26, September 16, and September 26, 2009. After the preliminary photographic survey revealed the extent and complexity of the Jacumba Valley viewshed, an extensive Geographic Information System (GIS) viewshed modeling exercise was undertaken to identify where and to what extent the 150-foot-tall transmission towers would be visible to visual receptors. Given the towers' open lattice nature, a 2-mile radius was used to delineate the extent of the towers' viewshed. The base data is a 10-meter digital elevation model (DEM) that approximates the topographic conditions of the existing ground. The project components were then added to finalize the digital terrain model (DTM). This modeling exercise tends to create a worst-case scenario because the modeling does not account for vegetative screening or the built environment. The products generated after the modeling was complete were maps that graphically depicted the

results of the analysis in a geospatial environment. Figure 5 shows the results of the first modeling exercise. The model was designed to determine what portion of the base of the transmission towers could be visible from any given 30- x 30-foot cell within the 2-mile delineation area. The three scenarios were as follows:

- From ground level (0–6 feet) to the top of the tower (150 feet). This is displayed as Yellow.
- The lower half of the tower (6–75 feet) to the top of the tower (150 feet). This is displayed as Orange.
- Only the top half of the tower (75–150 feet). This is displayed as Red.

The areas that are colored indicate roughly from where the towers would be visible. Yellow indicates the entire structure would be visible; the other two colors are additive with the red areas being locations where only the top half of the tower can be seen. Therefore, if a model were run to show only the places where the top half of the tower would be visible, the resultant viewshed would include the orange and yellow areas as well as what is currently displayed red (e.g., if you can see the bottom of the tower from a given location you will also be able to see the tops of the towers).

The model was then refined and run again to further quantify how many of the towers would be visible from within that area. Figure 6 is slightly more intuitive and shows the locations where the upper half of the towers would be visible. This scenario includes views of the conductors as they stretch from tower to tower. A closer examination of this exhibit shows that reduced tower visibility is strongly influenced by topographic obstructions.

These viewshed layers were then combined with aerial photography, a land use layer, and U.S. Geological Society (USGS) quadrangles to identify potentially sensitive visual receptors that could be overlooked without this level of analysis. These products were used to expedite and focus subsequent field work in this large viewshed to areas identified as sensitive by the modeling exercises and subsequent analysis.

Views from candidate key observation points (cKOPs) were photographed using a >10 megapixel digital single lens reflex camera equipped with a 50 millimeter equivalent focal length lens. Camera positions were provenienced with a sub-meter differentially corrected global positioning system (GPS). The camera's horizontal and vertical azimuths were recorded with a digital compass/inclinometer. Survey control points were recorded using GPS technology.

Survey methods performed during the site visits included hiking active trails to capture recreationists' views, repeatedly driving the scenic portions of Old Highway 80 and Interstate 8 to capture motorists' views. This viewshed is widely used by tourists and recreationists; both groups are considered to be sensitive visual receptors. In addition, a review of the County's General Plan and Mountain Empire Community Plan and their respective aesthetics-related policies was conducted.

The project's viewshed includes those areas within a 2-mile radius for which the project site is a discernable element in the landscape. At distances greater than 2 miles, the mass and visibility of the project would be considered too small to be a significant portion of the total landscape.

Old Highway 80 is near to the project site and affords unobstructed views to the site. Although Old Highway 80 is not heavily traveled, a high number of receptors are offered views from this route when compared to other viewing opportunities in the vicinity. The route affords different perspectives of the proposed project site as it meanders through the Boulder Strewn Transitional

Upland LCU. The western cKOPs provide perpendicular views of the transmission alignment; the eastern cKOPs provide views along the long axis of the transmission alignment. Four cKOPs were identified along this route with clear, unobstructed views of the project site. cKOP 5 is located on a dirt road that was constructed to access the Southwest Powerlink transmission towers east of Old Highway 80.

Along Interstate 8 views to the project site are often compromised by hard rock grading that has created small canyons in which the roadbed sits. West of the Carrizo Creek exit, there is an approximately 40-foot-high rocky ridge that obscures views to the project site. As motorists approach the Mica Gem undercrossing the Interstate gains elevation and intervening topography subsides. Subsequently, the first views of the Pediment LCU and the project site become apparent.

Views to the project site from the Table Mountain ACEC are abundant and unobstructed due the low vegetation and the superior topographic position of the viewers. Views to the project site from BLM lands in the Jacumba Mountains are intermittent along the western roads and trails. Views to the project from the BLM’s Airport Mesa area are open and unobstructed on the eastern and portions of the northern slopes of Airport Mesa.

Eleven cKOPs were identified along Old Highway 80, Interstate 8, BLM-managed lands, and residential lands where unobstructed views to the project site are available. Figure 7 shows the distribution and locations of the cKOPs and their spatial relationship to the project site. The illustration also identifies scenic resources, viewer groups, and major landforms that constrict view corridors to the project site. As motorists proceed east on Old Highway 80 from the community of Jacumba, views of the project site are obstructed by Airport Mesa, a large topographic visual obstruction straddling the international border east of the Jacumba airport. The Old Highway 80 alignment transitions along the base of Airport Mesa. As the alignment turns south, the project site is visible at a distance of just over 2 miles. This is very near the junction with the dirt access road to BLM land to the south and the bridge over Carrizo Creek. The project site remains mostly visible for approximately 1 mile continuing east on Old Highway 80. After the route crosses under the Southwest Powerlink alignment, the roadbed becomes increasingly cut into the rising topography south of the road. Consequently, the unobstructed middleground views of the project site gradually become less frequent as motorists continue eastward. As motorists approach the Border Patrol checkpoint, the land rises precipitously and all views to the south are obscured by the 400-foot tall conical mountain (Jade Peak) south of the checkpoint. Table 1 provides a description of the eleven cKOPs.

**Table 1. Summary of cKOPs**

Key View Number	Location	Associated Viewer Group	Discussion	Recommended for use as KOP?
cKOP 1	Airport Mesa adjacent to Old Highway 80 (scenic highway)	Recreational Motorists	View of project from 1.16 miles west of site from BLM Land at Airport Mesa.	Not recommended for use as KOP because cKOP 3 represents most detailed view of project site from comparable azimuth.

Key View Number	Location	Associated Viewer Group	Discussion	Recommended for use as KOP?
cKOP 2	Old Highway 80 (scenic highway)	Recreational Motorists	View of project from 1.00 miles west of site from Old Highway 80.	Not recommended for use as KOP because cKOP 3 represents most detailed view of project site from comparable azimuth.
cKOP 3	Old Highway 80 (scenic highway)	Recreational Motorists	View of project from 0.93 mile west – northwest of site from Old Highway 80.	Recommended for use as KOP because it represents most clear and detailed view of the site as the viewpoint is slightly elevated and not obstructed by vegetation.
cKOP 4	Old Highway 80 (scenic highway)	Recreational Motorists	View of project from 0.55 mile northwest of site from Old Highway 80.	Not recommended for use as KOP because vegetation in foreground obscures views to the site. Also, cKOP 6 is from a similar azimuth, but is topographically superior.
cKOP 5	SWPL access road	Recreationists	View of project from 0.28 mile northwest of site from SWPL access road.	Not recommended for use as KOP because cKOP 6 is from a similar azimuth but is topographically superior.
cKOP 6	Interstate 8 (scenic highway)	Motorists/ Commuters	View of project from 0.97 mile west–northwest of site from Interstate 8.	Recommended for use as KOP because it has similar azimuth as cKOP 4 and cKOP 5, but is topographically superior.
cKOP 7	Table Mountain (ACEC)	Recreationists	View of project from 1.13 miles north–northwest of site from Table Mountain.	Not recommended for use as KOP because it is located approximately 1.2 miles from the site, and project elements lack detail.
cKOP 8	Jacumba Mountains	Recreationists	View of project from 1.07 miles east–northeast of site from Jacumba Mountains.	Not recommended for use as KOP because its elevated nature makes site details less discernable than views available from cKOP 9.
cKOP 9	Eastern foothills of Jacumba Mountains	Recreationists	View of project from 0.49 mile east–northeast of site from Jacumba Mountains.	Recommended for use as KOP because it provides project-elevation perspective, and project elements would be discernable.
cKOP 10	Airport Mesa	Recreationists	View of project from 1.11 miles west of the site from Airport Mesa landform.	Recommended for use as KOP because of proximity and view clarity of the site and because of the value of the adjacent scenery.

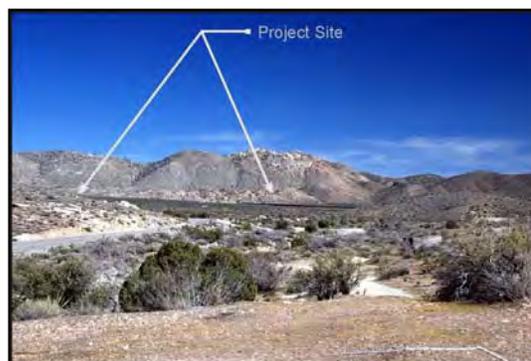
Key View Number	Location	Associated Viewer Group	Discussion	Recommended for use as KOP?
cKOP 11	Jacumba Water Reservoirs	Residents	View of project from 4.25 miles west of site from Jacumba Water Reservoirs.	Not recommended for use as KOP because views of the site from Jacumba are blocked by the Airport Mesa landform.

The following sections describe the existing landscape conditions at each of the cKOPs. As stated above, Figure 7 depicts the cKOPs in relation to the project site. Viewshed components are described in terms of their proximity to the KOP location. The project’s viewshed extends approximately 2 miles because it is relatively flat and topographic influences do not obstruct views until the viewer is over 2 miles from the area. Distances from the KOPs are discussed in terms of foreground, middleground, and background. For this analysis the foreground is defined as less than 0.5 mile from the KOP; the middleground is from 0.5–1.0 mile; and the background is greater than 1.0 mile.

The still photographs presented do not capture the dynamic nature of the commuter/travel activities on Interstate 8. The vehicles are in motion, and motion inherently attracts attention and distracts the viewer.

### cKOP 1

cKOP 1 is located on the Airport Mesa landform where the landform adjoins Old Highway 80, approximately 0.25 mile before the roadway curve transitions to the northeast. The view from this cKOP was captured in the spring, and the vegetation exhibits a green color. This vegetation will transition to hues of brown and blend in with the sand-grey mountains as the seasons change to summer and fall. The photograph to the right shows the view of the existing visual conditions from this vantage point. The foreground of this viewshed consists of scattered vegetation and intervening rock outcroppings, with Old Highway 80 introducing a winding grey-colored cultural modification in the left portion of the frame. The southern portion of the middleground is obscured by a low hill of the Airport Mesa landform. The remainder of the middleground includes views of the pediment surface and its existing vegetation cover, with the international border fence creating a strong black horizontal line through the visible middleground. Finally, the Jacumba Mountains frame the background of this view. The project feature nearest to this vantage point would be located approximately 6,864 feet, or 1.3 miles, to the east in the view’s middleground.



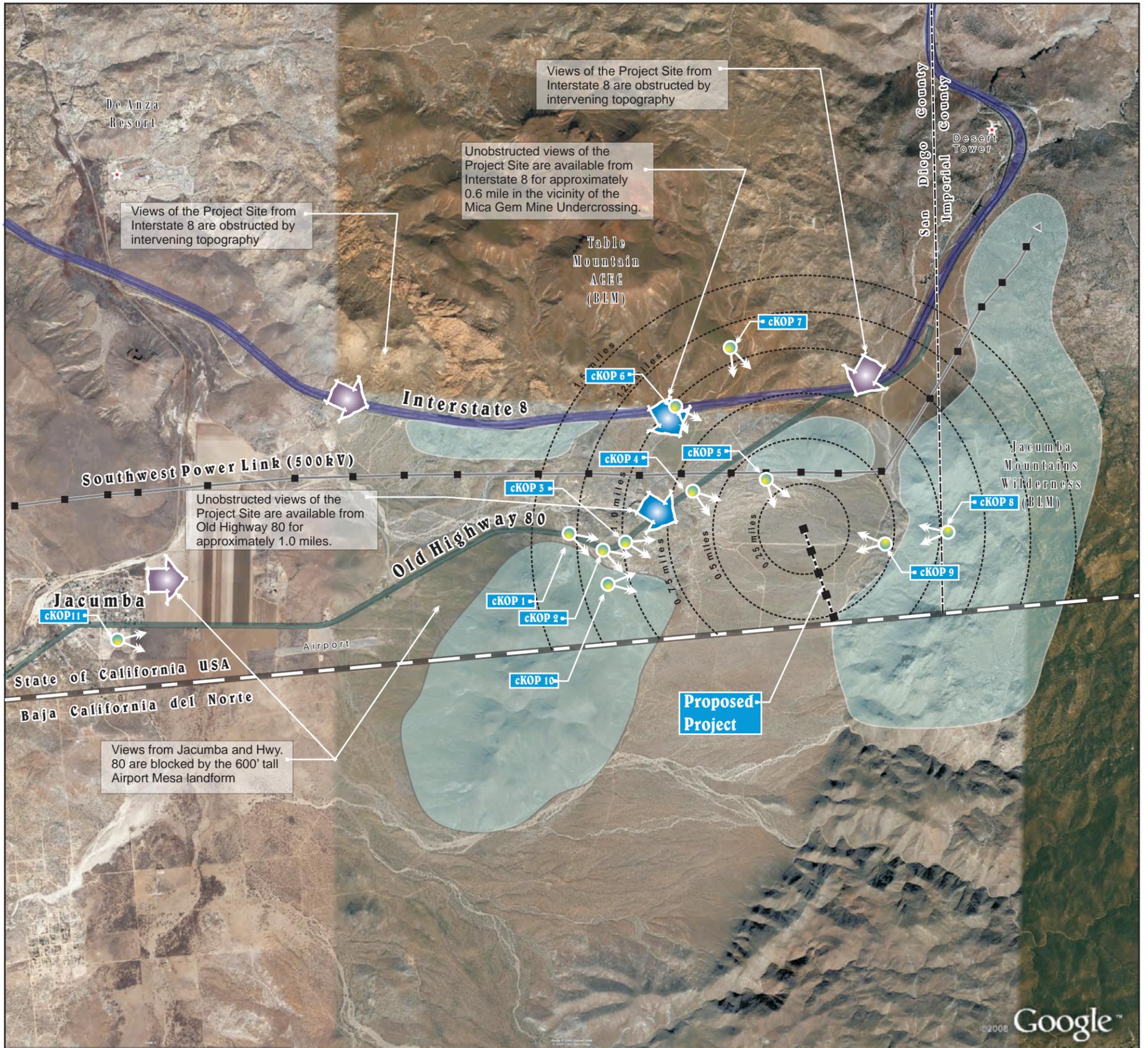
cKOP 1—View towards the project site from BLM land at Airport Mesa; view direction is east; project features are 1.30 miles (6,864 feet) distant; camera azimuth is 85°



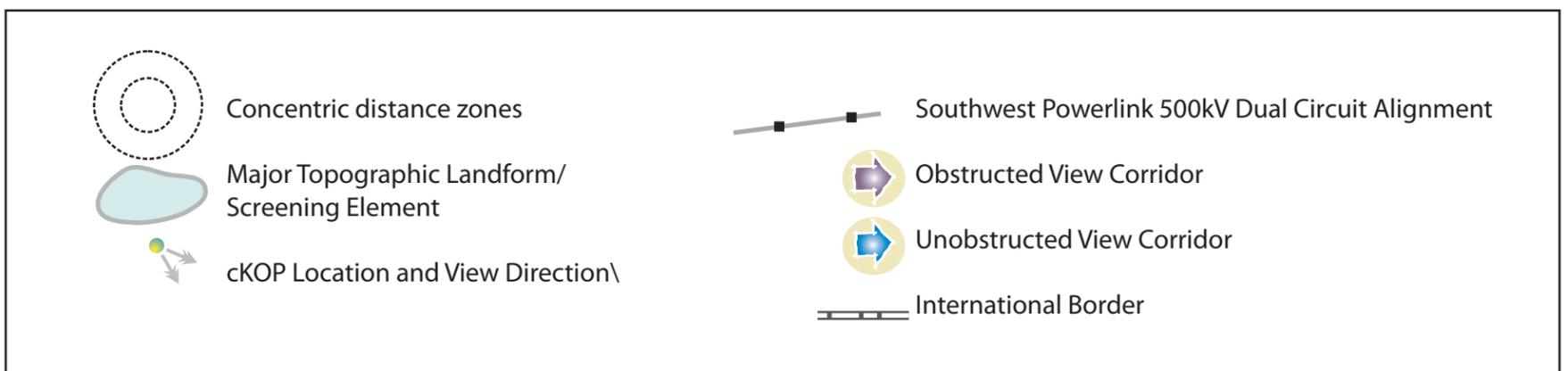
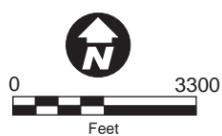








Source Google Earth Pro and ICF Jones & Stokes





## cKOP 2

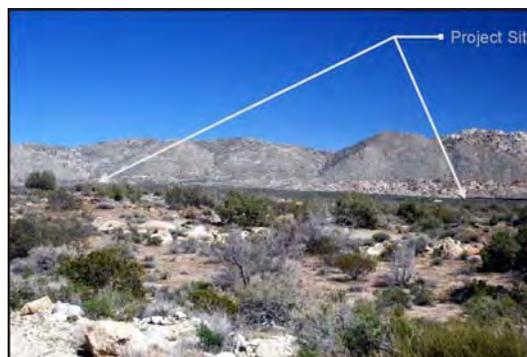
cKOP 2 is located along Old Highway 80 approximately 0.10 mile before the roadway curve transitions to the northeast. As shown in the photograph to the right, the foreground of this viewshed includes a segment of Old Highway 80 as it curves to the northeast, scattered vegetation to the right of the frame, and an old portion of Old Highway 80 adjoining the existing Old Highway 80 to create a white- and sand-colored element that dominates the foreground. The middleground of this viewshed is composed of the site’s planar pediment, the vegetation coverage of which creates a green-colored horizontal expanse from the left to right edges of the frame. The existing east–west access road creates a sand-colored U-shaped cutout in the distant middleground’s scrub vegetation, visible in the left portion of the frame. In addition, the international border fence introduces a strong black horizontal line in the right portion of the frame. Similar to cKOP 1, the background is dominated by the Jacumba Mountains. The project feature nearest to this vantage point would be located approximately 5,808 feet, or 1.1 miles, to the east in the distant middleground of the view.



cKOP 2—View towards the project site from Old Highway 80; view direction is east; project features are 1.1 miles (5,808 feet) distant; camera azimuth is 92°

## cKOP 3

Similar to cKOP 2, cKOP 3 is located along Old Highway 80 approximately 0.25 mile from where the roadway curve transitions to the northeast. The photograph below shows the existing visual conditions from this vantage point. This viewshed’s foreground consists of scattered vegetation intermixed with large rock outcroppings and boulders. These elements create variety and add visual interest to the diagonally trending foreground which is the Boulder Strewn Transitional Upland LCU. The view from this cKOP was captured in the spring, and the vegetation is verdant and green. After a summer’s heat, the color of this vegetation will become brown and will contrast less with the sand-grey mountains. A large portion of the middleground is obscured by the low hill at the distant edge of the foreground. The visible portion of the middleground includes a long expanse of scrub vegetation on the pediment surface up to the strong black horizontal line that is created by the international border fence. This view is closer than the previous cKOPs to the foothills in the distant middleground on either side of the border fence, which become more distinctive triangular forms in the landscape, mimicking the shape and color of the lofty peaks behind them. From this vantage point the Jacumba Mountains are a sequential series of relatively distinct pyramidal forms. Similar to cKOPs 1 and 2, the rugged silhouette of the Jacumba Mountains contrasts strongly against the brilliant blue sky and creates a positive memorable landscape view exhibiting vividness and unity.

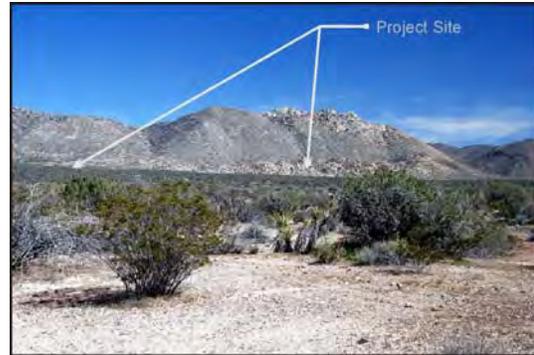


cKOP 3—View towards the project site from Old Highway 80; view direction is east–southeast; project features are 1.01 miles (5325 feet) distant; camera azimuth is 97°

The nearest structure proposed by the project would be approximately 5,325 feet, or just over 1 mile, to the east in the middleground of the view.

#### cKOP 4

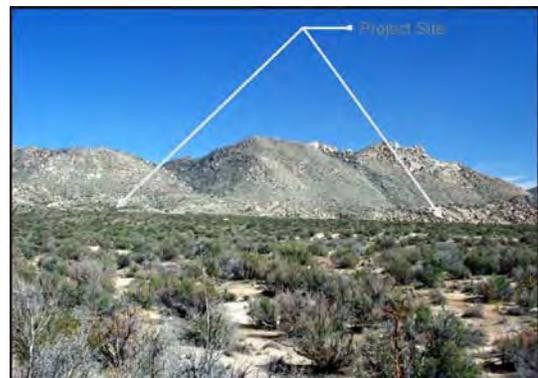
cKOP 4 is also located along Old Highway 80, approximately 0.55 mile after the roadway transitions to the northeast. The foreground consists of open floor including scattered vegetation up to 5 feet in height that obscures views of the site. The middleground includes an expansive view of the green-colored horizontal plane created by the vegetative cover of the planar pediment. The Jacumba Mountain foothills are also a visible element in the viewshed's middleground. The middleground is dominated by the uprising Jacumba Mountains. Views of the lower half of the background are blocked by the Jacumba Mountains, and the upper portion of the background is composed of the open sky. Although this view is closer than the previous cKOPs to the foothills, the foreground vegetation landscape obscures middleground details visible from the previous cKOPs. The photograph to the right provides a view of the existing visual conditions from this vantage point. The nearest structure proposed by the project would also be located in the middleground of the view.



cKOP 4—View towards the project site from Old Highway 80; view direction is southeast; project features are 0.55 mile (2,915 feet) distant; camera azimuth is 117°

#### cKOP 5

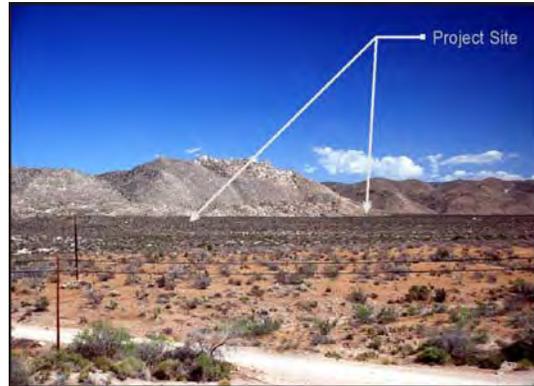
cKOP 5 is located on an existing SWPL access road, approximately 0.3 mile north-northwest of the project site. The existing visual conditions from this vantage point are shown in the photograph to the right. The foreground of this viewshed includes an expanse of the planar site pediment, whose vegetation coverage creates a patchwork effect with varying hues of green and a coarse texture. The near middleground exhibits a scattered vegetated patchwork effect similar to foreground; however, the vegetative coverage looks denser as the middleground extends further to the southeast and the texture becomes less coarse. This vantage point is at nearly the same elevation as the project site, or a neutral topographic position, so the vegetative over cover screens the border fence from view. The Jacumba Mountains form the backdrop of this vantage point. The nearest structure proposed by the project would be located approximately 1,475 feet, or just over 0.28 mile, to the south.



cKOP 5—View towards the project site from SWPL access road; view direction is south-southeast; project features are 0.28 mile (1,475 feet) distant; camera azimuth is 166°

## cKOP 6

cKOP 6 is located along eastbound Interstate 8 near the Mica Gem Mine Undercrossing, approximately 0.97 mile west-northwest of the site. It is anticipated that the nearest project element would be located approximately 5,325 feet, or approximately 1 mile, to the east-southeast. This view is representative of what is afforded to motorists traveling on eastbound I-8. This viewshed's foreground consists of an extremely habitable portion of the Boulder Strewn Transitional Uplands, which includes a patchwork of green, brown, and grey-colored vegetation. Existing dirt roads create light sand-colored lines in the lower foreground, which contrast with the browner, more copper-hued dirt floor that dominates the foreground. Also, existing wooden pole utility lines introduce both strong vertical and horizontal elements into the foreground. The middleground is composed of an expanse of denser, coarser, multi-hued vegetative cover up to the point where the pediment meets with the strong black horizontal element created by the international border fence. Although somewhat transparent, an existing SWPL lattice tower is noticeable in the center of the near middleground. From this perspective the interface between the pediment surface and the Jacumba Mountain foothills creates a strong horizontal line that appears to be an extension of the border fence. The distant middleground is composed of the Jacumba Mountains as they extend into Mexico. The lower background of this vantage point is blocked by the Jacumba Mountains, and the open sky comprises the upper portion of the background. The background of this view exhibits visual variety in that the Sierra de Juarez appear much smoother and browner than the Jacumba mountains. Their ridgeline creates a pleasing silhouette along the horizon. The photograph to the right provides a view of the existing visual conditions from this vantage point.



cKOP 6—View towards the project site from Interstate 8; view direction is south-southeast; project features are 0.97 mile (5,096 feet) distant; camera azimuth is 136°

## cKOP 7

cKOP 7 is located on the Table Mountain ACEC, approximately 1.13 miles north-northwest of the site. The existing visual conditions from this vantage point are depicted in the photograph to the right. The nearest structure proposed by the project would be located over 5,940 feet, or just over 1.13 miles, to the south-southeast. This viewshed's foreground consists of scattered vegetation intermixed with small rocks, with the brown and copper-colored soil dirt dominating the foreground. The motion of the vehicles along the roadway can distract the viewer and draw attention. Behind the travel way several SWPL towers are nearly indiscernible as they cross the

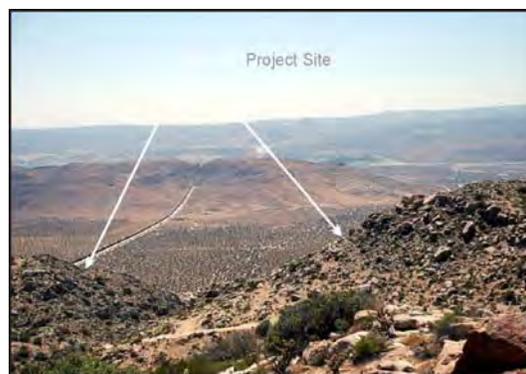


cKOP 7—View towards the project site from BLM Table Mountain ACEC; view direction is south-southeast; project features are 1.13 miles (5,940 feet) distant; camera azimuth is 160°

near middleground. Interstate 8 is a noticeable horizontal element in the distant foreground. The majority of the middleground is composed of a long expanse of scrub vegetation on the pediment surface up to the strong black horizontal line that is created by the international border fence. The base of Jade Peak can be seen rising up in the left portion of the near middleground, and the Jacumba Mountains are a strong, visible vertical element in the distant middleground. This viewshed's background is comprised of the rocky-textured Jacumba Mountains, which change to a darker, smooth textured mountain range as they extend into Mexico.

### cKOP 8

cKOP 8 is located on an elevated portion of the Jacumba Mountains, approximately 1.07 miles east-northeast of the site. The photograph on the right shows a view of the existing visual conditions from this vantage point. The immediate foreground displays the jagged-rocky nature of the Jacumba Mountains, with small clusters of sparse vegetation cropping up in between the small to large boulders strewn throughout the foreground. A small portion of the northern half of the middleground is obscured by the Jacumba Mountains. The visible portion of the middleground, displayed from an elevated viewpoint (topographically superior position), shows vegetation that becomes less dense as it extends to the west.



cKOP 8—View towards the project site from BLM land in the Jacumba Mountains; view direction is west-southwest; project features are 1.07 miles (5,669 feet) distant; camera azimuth is 258°

The international border fence and adjacent access road splits the middleground into the Mexican and U.S. sides. The Airport Mesa landform rises up in the background and obscures views of the background, including the Jacumba community. This background includes the community of Jacumba, and the large mountain ranges that establish the background silhouette.

### cKOP 9

cKOP 9 is located on the Jacumba Mountain Foothills (Boulder Strewn Transitional Uplands LCU) approximately 0.5 mile west-northwest of the project site. The nearest project element proposed for construction would be located 2,750 feet (approximately 0.5 mile) to the east-southeast. The photograph to the right shows the existing visual conditions from this vantage point. The immediate foreground is the dirt road that provides an access route to the upper reached of the Jacumba Mountains. Further into the foreground the land slopes downward to meet the Pediment LCU. The distant foreground of this viewshed is composed of the gently sloping planar pediment, with scattered vegetation and occasional rock outcroppings

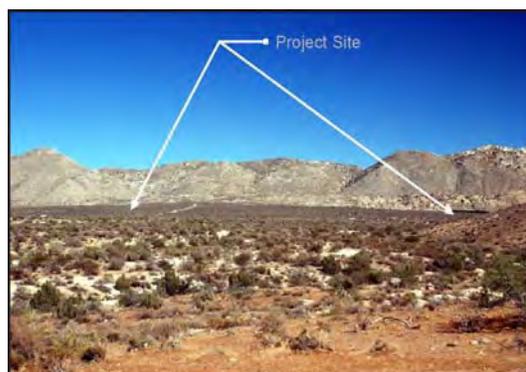


cKOP 9—View towards the project site from the Foothills of the Jacumba Mountains; view direction is west-southwest; project features are 0.49 mile (2,570 feet) distant; camera azimuth is 250°

located throughout the foreground. In addition, dirt roads used to access the Jacumba Mountains and the existing east-west access road create irregular patterns of light sand-colored patches of ground. The middleground is composed of an expanse of verdant and green vegetation, which exhibits a denser, coarser look and feel than in the immediate foreground. The international border fence disrupts the continuity of vegetative land-cover in the southern segment of this viewshed. Additionally, the yellow-colored herbaceous vegetation on the Airport Mesa landform juts into the middleground, blocking the majority of the distant background from this view. The background, which is visible to the north and south of the Airport Mesa landform, includes the skyline created by the East County and Mexican Mountains. This viewshed offers visual variety primarily because of the three distinct LCUs and the expansive long-distant views.

### cKOP 10

cKOP 10 is located on the eastern portion of the Airport Mesa landform approximately 1.1 miles west of the project site. The existing visual conditions from this vantage point are shown in the photograph to the right. A scattered patchwork of vegetation in alternating hues of brown and green establish this viewshed's foreground as the Airport Mesa LCU transitions to the Pediment LCU. The underlying land surface ranges from a harder textured, yellowish brown color in the immediate foreground to a sand-colored, smoother textured cover in the distant foreground. The existing east-west access road is a somewhat visible sand-colored interruption in the grey/green vegetation. A small segment of the international border fence disrupts the continuous earth-toned landscape character in the viewshed's distant middleground in the extreme south (right) of the frame. The rugged silhouette and sequential pyramidal forms of the Jacumba Mountains compose the background. Much like cKOP 9, this view has visual variety with views of four LCUs.



cKOP 10—View towards the project site from BLM land Airport Mesa; view direction is east; project features are 1.11 miles (5,869 feet) distant; camera azimuth is 86°

### cKOP 11

Finally, cKOP 11 is a view of the project site from the Jacumba water reservoirs located off of Hill Street, approximately 4.25 miles west of project site. This viewshed's foreground consists of scattered vegetation intermixed with large rock outcroppings and boulders. The international border fence divides this viewshed's middleground and background into two portions: the U.S. (northern) and Mexican (southern) portions. The northern portion of the middleground shows intensively farmed agricultural uses in the middleground, as well as



cKOP 11—View towards the project site from Jacumba Water Reservoirs off Hill street, showing Airport Mesa as a Visual Topographic Obstruction; view direction is east; project features are 4.25 miles (22,413 feet) distant; camera azimuth is 83°; ESJ Gen-Tie would not be visible from this location

the operational Jacumba Airport in the distant middleground. The southern half of the middleground for this viewshed is established by the international border fence, and is composed of mostly scattered vegetation, with a couple of scattered residential units adjacent to the border fence. The background of this viewpoint, the 600-foot-tall Airport Mesa landform, blocks all views of the project site from the Jacumba community. The photograph to the right shows the existing visual conditions from this vantage point.

### Key Observation Points

Key observation points (KOPs) are the cKOPs that were determined to be most representative of the proposed project’s potential effects on the viewshed. The factors taken into consideration for selecting the KOPs were proximity/distance, scenic quality, viewer concern levels, duration of the view, intactness, and uniqueness of the view. Table 2 provides a matrix quantifying these qualities from the perspective of viewers at each cKOP towards the project area. These values are based on a 1 to 5 ascending scale. The cKOPs with the highest total values were selected as critical vantage points and designated as KOPs for each area.

**Table 2. Key Observation Point Selection Criteria**

Vantage Point	Proximity/ Distance	Scenic Quality	Concern Level	Duration	Intactness	Number of Viewers	Total Points
cKOP 1	1	3	2	3	2	3	14
cKOP 2	2	2	4	2	1	3	14
cKOP 3	3	4	4	2	3	3	19
cKOP 4	4	3	4	2	2	3	18
cKOP 5	5	3	2	3	4	1	18
cKOP 6	3	3	4	1	2	5	19
cKOP 7	2	4	4	3	2	2	17
cKOP 8	3	5	4	3	2	1	18
cKOP 9	5	3	4	4	2	2	20
cKOP 10	2	4	4	4	3	2	19
cKOP 11	1	3	4	5	1	0	14

## 5.2 Guidelines for Determining Significance

The visual impact assessment is based on an evaluation of project impacts on several visual resource categories including visual quality, landform quality, view quality, and community character. The following significance guidelines provide guidance for the evaluation of significant impacts to visual resources that would result from implementation of the proposed project. A project is considered to have a significant effect on visual resources if it would result in any of the following:

- The project would introduce features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area by conflicting with important visual elements or the quality of the area (such as theme, style, setbacks, density, size, massing, coverage, scale, color, architecture, building materials, etc.) or by being inconsistent with applicable design guidelines.

- The project would result in the removal or substantial adverse change of one or more features that contribute to the valued visual character or image of the neighborhood, community, or localized area, including but not limited to designated landmarks, historic resources, trees, and rock outcroppings.
- The project would substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from a public road, a trail within an adopted County or State trail system, a scenic vista or highway, or a recreational area.
- The project would not comply with applicable goals, policies, or requirements of a County Community Plan, Subregional Plan, or Historic District's Zoning related to visual quality.

These guidelines address three of the four Appendix G CEQA Guidelines for Determination of Significance, listed in Section 3.2 above. The first guideline protects the existing visual character and visual quality by rejecting adverse changes or contrasts. This guideline ensures that the community and/or neighborhood will maintain its particular character, which is likely to be a rural setting or country town.

The second guideline addresses potential substantial damage to particular scenic resources that characterize or represent a community or neighborhood. Loss or damage to one or more particular resources can cause a change in the visual character and may also degrade the visual quality.

Guideline three is related to potentially substantial adverse effects from travel ways to recreational areas and particular scenic vistas. Many people can be exposed to scenic views from public vantage points, such as roads and trails. Some scenic views are so important to people that highways and viewpoints are sometimes designated as scenic by the County for County routes, or Caltrans for state routes. Adverse changes to these resources could be significant depending on the nature and degree of the change, and whether or not the view is obstructed.

The documents listed in the fourth guideline have been developed to maintain the visual character and quality of communities and neighborhoods currently regulated by the County's General Plan and/or Zoning Ordinance. Projects that substantially stray from the regulations listed in the General Plan and/or Zoning Ordinance may result in significant adverse effects, depending on the degree of variation.

Cumulative impacts must be evaluated for the first three guidelines. A project may contribute to a significant adverse cumulative effect even though the project itself does not cause a significant adverse impact.

This report does not analyze light and glare impacts, as outlined in guideline four in Appendix G of the State CEQA Guidelines, because the project towers will not exceed the 200-foot-tall maximum threshold for FAA lighting requirements.

## Definition of Visual Impact Levels

The following rating system will be used in subsequent sections of this report. Visual impact levels represent the combined evaluation of changes in visual quality and anticipated viewer response to those changes, as described in Section 5.3, "Visual Assessment." Impact levels are based on principles utilized in the most widely used visual resource assessments including the U.S. Department of Transportation, Federal Highway Administration (FHWA) Visual Impact Assessment for Highway Projects; the U.S. Department of Agriculture, Forest Service (USFS) Visual Management

System; and the U.S. Department of the Interior, Bureau of Land Management (BLM) modified Visual Management System. These three agencies share similar concepts and comparable methodologies regarding visual resource analysis.

**Low Visual Impact**—None to a low level of change in visual quality is expected with none to a low level of negative viewer response. Construction of the project would not result in any noticeable change in visual quality of the area.

**Moderately Low Visual Impact**—A low to moderately low level of change in visual quality is expected with a low to moderately low level of negative viewer response. Adverse changes to the existing visual quality would not be perceived negatively by the viewers or the contrast is too small and occurs in an area with low visual quality and low sensitivity to visual changes. A moderately low visual impact would not require mitigation.

**Moderate Visual Impact**—A moderately low to moderate level of change in visual quality is expected with a moderately low to moderate level of negative viewer response. Noticeable changes to the existing visual quality would be perceived negatively by the viewer; however, the changes would not be so adverse as to warrant mitigation.

**Moderately High Visual Impact**—A moderate to moderately high level of change in visual quality is expected with a moderate to moderately high level of negative viewer response. Adverse changes to the existing visual quality would be perceived negatively by the viewers and mitigation would be required to reduce the impact to a less-than-significant level.

**High Visual Impact**—A moderately high to high level of change in visual quality is expected with a moderately high to high level of negative viewer response. For a visual impact to be considered significant two conditions generally exist: 1) the existing landscape is of reasonably high quality and is relatively valued by viewers; and 2) the perceived incompatibility of one or more elements or characteristics of the project tends toward the high extreme, leading to a substantial reduction in visual quality. Mitigation would be required to reduce the impact to a less-than-significant level.

## 5.3 Visual Assessment

### Methodology

The visual impacts associated with project elements are determined by assessing the visible change in existing environmental conditions caused by the project and by predicting viewer response to that change. As described above, KOPs 3, 6, 9, and 10 were selected as representative viewpoints for area users, which include motorists and recreationists. The following analysis method was used to identify existing visual resources and assess the level of impact due to project implementation at each representative KOP. It should be noted that the analysis included visual quality and viewer response ratings that were determined by four members of an interdisciplinary team. Use of an interdisciplinary team to rate visual quality is a BLM visual resource management approach that ensures a representative and defensible rating because team members have different educations, expectations, experiences, and biases. The team members did their ratings individually and discussed their rationale and reasoning for their perceptions as a group. This dialogue proved particularly useful when a team member felt strongly about a landscape that perhaps other members found less memorable. Their averaged ratings were used in this process. The completed compiled visual quality assessment forms are included as Appendix A.

- The visual character of existing views from each KOP was identified and the views were evaluated for visual quality. The analysis included an assessment of key components of the landscape including line, color, texture, and form and how these attributes are expressed in the view in terms of dominance, scale, diversity, and continuity. Visual quality was evaluated by identifying distinctive landscape features, and evaluating the overall composition of the landscape for visual coherence and intactness. Visual quality from each KOP was rated on a scale of 0 (none) to 5 (high).
- Visualizations were developed to illustrate changes in the landscape that would occur with the project in place. The view from each KOP was re-rated based upon the visualizations. The difference between existing and proposed ratings represents the level of change in visual quality that would occur as a result of the project. These visualizations were used by the interdisciplinary team in the visual quality evaluation.
- Anticipated viewer response to changes in visual quality was rated based upon a combination of viewer sensitivity, viewer exposure, and duration of view, as described in Section 4.5, “Viewer Response.” The ratings for viewer groups by KOP are included in Appendix A. Ratings were averaged into an overall viewer response rating.
- The level of impact was determined by combining the severity of adverse change in the view with the degree to which the viewer would likely perceive the change. Thus, in order for the determination to be significant, the existing views must be relatively high quality and valued by the viewers, and proposed project elements must be perceived as incompatible elements that substantially reduce the existing visual quality of the resource.

## Analysis

### KOP 3—Existing Conditions

#### Orientation

KOP 3 provides a representative view for motorists on Old Highway 80. The KOP is at an elevation of approximately 3,075 feet. The project site rises 70 to 170 feet and is located approximately 0.80 mile away. The Transitional Uplands, Pediment, and Jacumba Mountains LCUs are within the viewer’s focal range from this KOP.

#### Visual Quality/Character

As shown in Figure 8a, the view from KOP 3 is characterized as an undisturbed desert pediment and associated mountain range. The coarse structure of desert vegetation, solid rock outcrops, and pale arid soils are detailed in the foreground. The mass and structure of the background and texture and rugged detail of the foreground are dominant visual zones.

**Vividness (Rated 4.00).** The change in patterns of texture, color, form, and line that define distance zones makes this a memorable view. Unique in the landscape is the rock ridgeline to the observer’s right and its likeness in the tumbled mountain base below. The convergence of the linear border fence with the angular lines and steep eroding slopes of the mountain face provides a captivating juxtaposition of temporal cultural modifications and change over geologic time.

**Intactness (Rated 3.42).** The site appears to be a natural, undisturbed setting. The road scars that cut through the Pediment LCU are not visible from this viewpoint. The border fence penetrates the site from the south; however, it tends to visually recede in the expansive beauty of the view.

**Unity (Rated 4.08).** KOP 3 offers a high quality view made memorable by the power of the composition. The view naturally divides into three distance zones defined by inherent landscape features. In the foreground is the coarse-textured, low-profile ground plane, stippled with randomly spaced vegetation, rock out crops, and boulders. Colors include the sandy and earth-toned ground plane, and the olive, grey, and brown-green vegetation. There is a slight break in topography that differentiates the foreground from the middleground, which comprises a continuous strip of more finely textured grey green. The middleground plane drapes across the Pediment LCU to form a front with the background Jacumba Mountains, the third element of the composition. Visual coherence is reinforced by the repetition of colors. Middleground greens are repeated in the foreground, and the foreground beiges circle to the background to become the sand-colored tones of the mountains.

### **KOP 3—With Project Conditions**

#### **Orientation**

A visualization of the proposed project from KOP 3 is provided in Figure 8b. The proposed transmission line corridor would be located in the Pediment LCU, which forms the finely textured middleground. The northernmost transmission tower would be located approximately 1 mile east of the viewer. The southern tower would be located approximately 1.3 miles to the southeast. The proposed tower pads would be between 185 and 285 feet above the KOP.

#### **Visual Character/Visual Quality**

By definition, any visible human-made changes in a natural setting are going to change the character of the view. KOP 3 appears to be a pristine setting because road scars are not visible and the border fence recedes almost out of the frame of view. As shown in Figure 8b, the introduction of vertical transmission line towers would be visible, and the character of this natural landscape would change as a portion of the view transitions to its function as a utility corridor.

**Vividness (Rated 3.75).** The proposed project would not have a significant effect on the essential components that contribute to the vividness of the view. The project towers would not penetrate the visual breaks in distance zones and any changes to texture, color, form, and line that define these zones would be indistinguishable. The project would not block or detract from views to the jumbled rock mountain slopes, although the lattice towers would be somewhat discernable. The patterns and elements that make this a distinctive view would remain visually dominant, and the proposed project would have only minor influence on the vividness of the site.

**Intactness (Rated 2.92).** As shown in the visualization, the project would be partially hidden from view by the foreground topography, and the textured and grey-toned mountains would visually absorb the steel latticework towers, reducing their appearance in the landscape. Additionally, as exhibited in the existing landscape, road scars from this viewpoint are not distinguishable. Likewise, the cleared pads and service road proposed by the project would appear diminished and somewhat blurred by the intervening vegetation. The transmission line corridor would introduce an incongruent engineered element, decreasing the visual integrity of the natural viewscape.



Existing Conditions KOP 3 - View towards the Project Site from Old Highway 80, View Direction is East





Design Visualization KOP 3 - View towards the Project Site from Old Highway 80, View Direction is East



**Unity (Rated 3.33).** The proposed project would have an adverse effect on the compositional harmony of the view. The project would be located in the middleground zone. Although a subdominant zone, the fluid plane of color and texture that comprise the middleground functions to visually separate foreground from background zones, and provide depth to the view; although it comprises a small percentage of the view, its contrasting features are an important component of the composition. Any visible change to the texture, color, and height of the middleground would have an adverse effect on the composition. As shown in the visualization, and as discussed above under Intactness, the proposed project would result in minor changes to the view from KOP 3; intervening topography and vegetation would help screen cleared roads and pads and the transmission towers would recede into the mountain backdrop. However, the project would introduce incongruent elements into the composition that would diminish the aesthetic coherence of the view.

#### **Viewer Response (Rated 2.4)**

Anticipated viewers from KOP 3 include recreational motorists. Viewers travelling Old Highway 80 would be sensitive to changes in the view as it is anticipated that motorists have chosen this slower road to enjoy its scenic surroundings.

### **KOP 6—Existing Conditions**

#### **Orientation**

KOP 6 provides a representative view for motorists on Interstate 8. The KOP is at an elevation of approximately 3,100 feet. The project site rises 70 to 170 feet above the KOP and is located 1 to 1.5 miles away. The Transitional Uplands, Pediment, and Jacumba Mountains LCUs are within the viewer's focal range from this KOP.

#### **Visual Character/Visual Quality**

As shown in Figure 9a, the visual character from KOP 6 is a rural desert landscape. Major components in the view include the open and arid desert pediment, which supports utility lines, roads, a transmission corridor, and the border fence; and the Jacumba Mountains. The SWPL Transmission Line runs perpendicular across the length of this viewshed 0.5 mile distant in the distant foreground. There is one SWPL tower that is barely discernable in the left-center portion of the view frame. The proposed project is located 0.5 mile farther in the middleground of the view.

**Vividness (Rated 3.17).** The Transitional Uplands and barren Jacumba Mountain LCUs are distinct and commanding features in the view. Combined with the gently sloping Pediment LCU, they form an intact representation of eroding mountain slopes and sediment deposition over geologic time. In contrast are the much more recent service corridors and human-made features that dominate the foreground and detract from the quality of the view. The uniform ground plane and sparse vegetation lacks visual interest.

**Intactness (Rated 2.25).** Human-made features are a prominent component of the foreground; roads, fence lines, wood utility poles, and a metal lattice transmission tower introduce vertical and horizontal lines that contrast with the stippled and textured ground plane and rugged edges of the mountain backdrop. These modifications are highly visible on the desert floor, whose low profile, evenly distributed low-growing vegetation, and contrasting soils have little ability to absorb visual changes.

**Unity (Rated 2.42).** The visual composition is a combination of the natural forms of the mountains and desert pediment in the middle- to background views and foreground views that have been altered by features of rural development and service. Middleground views are clearly demarcated by a change in color on the ground plane, as vegetation becomes less distinct and colors merge. The middleground comprises the Pediment LCU. Its vegetative cover forms a coarsely textured tapestry on what appears to be a flat and slightly ramplike surface. The background comprises both the Transitional Uplands and Jacumba Mountain LCUs. Their massive forms, tumbled landscape, and jagged lines contribute a rugged and imposing element to the landscape setting. While the overall unity of the desert view is compromised by encroaching human-made features, there is an interesting compositional harmony. Distant horizontal lines created by the border fence and visual break where the pediment and mountain meet are repeated in the foreground by roads, utility lines, and the property fence. These horizontal lines tend to unify the composition. Overall, however, the integrity of the view is diminished by the influence of disparate cultural elements and the lack of visual attributes on the ground plane.

## **KOP 6—With Project Conditions**

### **Orientation**

A visualization of the proposed project from KOP 6 is presented in Figure 9b. As shown in the figure, the proposed transmission corridor would be located in the background and would be visually framed by the Pediment and Jacumba Mountains LCUs. The northernmost transmission tower would be approximately 1 mile southeast of the viewer, and the southernmost tower would be located further southeast at approximately 1.45 miles from the viewer.

### **Visual Character/Visual Quality**

As shown in Figure 9b, the proposed project would add five transmission line towers and associated cleared pads and service road to an open desert landscape that already supports similar uses. The project would be located in the middleground of the view, which is currently undeveloped. This change would have an influence on the impact of built elements over the existing condition and alter the overall character of the view by extending the zone of the built environment. The proposed towers would be consistent in line and form and constructed with similar materials as the existing SWPL towers.

**Vividness (Rated 2.75).** The steep slopes of the Jacumba Mountains and the jagged ridgeline in the center of the frame are memorable components of the view. Although the ridgeline and mountain face would be unaffected by project elements, the Transitional Uplands would be partially blocked by the somewhat transparent towers. Low in contrast, the towers would interfere with the view of these uplands, which appear as the tumbled reflection of the ridgeline above. The service road, angling down towards the viewer, is a visible scar in the landscape and detracts from the solid interface of the mountain front and pediment floor.

**Intactness (Rated 1.42).** The project would introduce human-made elements in the middleground view, extending the zone of the built environment horizontally and vertically and encroaching on the relatively undeveloped pediment. Consequently, the project would compromise the integrity of the view as represented by this KOP.

**Unity (Rated 1.67).** From this distance, the project would be noticeable, though somewhat subdued. Although the transmission towers would introduce elements disparate to the landscape,



Existing Conditions KOP 6 - View towards the Project Site from Interstate 8, View Direction is South Southeast





Design Visualization KOP 6 - View towards the Project Site from Interstate 8, View Direction is South Southeast



including geometric vertical lines and a smooth engineered steel texture that would contrast with the coarsely textured landscape, these features would partially fade into the background patterns of the rocky slopes of the Transitional Uplands LCU. The concrete tower foundations, cleared pads, and the service road would be located in the Pediment LCU; these cleared areas would appear as permanent scars resulting from the contrast in color, density, and texture on the ground plane. The arbitrary relationship between the existing Southwest Powerlink transmission tower and proposed project towers confuses the middleground view; and the visible cut of the service road, angling at an angle that is contrary to the horizontal flow of the pediment, further disrupts the unity of the composition.

#### **Viewer Response (Rated 2.4)**

Anticipated viewers from KOP 6 are motorists and commuters. In general, motorists have a low sensitivity to visual changes in the environment because their attention is focused on the road and their destination. However, this segment of Interstate 8 has been designated by the County as a scenic highway and, by definition, views are highly sensitive. Viewer awareness of the proposed project from KOP 6 is likely to be moderately low due to highway speeds and short viewing duration, and minimal visual disturbance. Additionally, more dominant features in the viewshed would likely attract attention, including visual disturbance in the foreground and magnificent views of the mountains with their ragged interface with the sky.

### **KOP 9—Existing Conditions**

#### **Orientation**

KOP 9 provides a representative view for recreationists on the eastern foothills of the Jacumba Mountains (see Figure 10a). The KOP is at an elevation of approximately 3,446 feet, and the project site is from 110 to 210 feet below. The KOP is located 0.5 mile away from the project site. The Airport Mesa and Pediment LCUs are within the viewer's focal range from this KOP.

#### **Visual Character/Visual Quality**

The view from KOP 9 is characterized as an undeveloped desert landscape disturbed by the visual scars of social, political, and geologic activities. These include a crisscross of access and undesignated recreational roads, the heavily eroded pit on the face of Airport Mesa, and the international border fence that bisects the view in disregard of the natural contours of the land.

**Vividness (2.58).** Airport Mesa is a dominant and vivid element in this landscape. Although memorable, it tends to detract from the view. Visually damaged by the border fence and its concave front, the mesa lacks stature and its vividness rating is moderate low. Layered mountains in the distance define the far edge of the panorama and define a memorable context for the view.

**Intactness (1.75).** The view is dominated by elements that diminish its visual integrity. Natural features are compromised by human-made alterations, which are major impositions to the view, including the straight but discontinuous line of the borderline fence that bisects Airport Mesa, the adjacent border patrol road and others that round up the mesa, and recreational roads in the foreground of the view.

**Unity (1.75).** The view is composed of incongruous elements scattered throughout the landscape. Some visual containment is provided by the skyline of the distant mountains in East County, but for the most part, landscape components are disjointed and random and there is little visual harmony.

The awkward form of Airport Mesa dominates the middleground and is a massive visual obstruction in an otherwise pleasant panoramic view.

## **KOP 9—With Project Conditions**

### **Orientation**

A visualization of the proposed project from KOP 9 is provided as Figure 10b. The proposed transmission line corridor would be located in the Pediment LCU, which forms the coarsely textured foreground of the view. The northernmost tower would be located approximately 0.52 mile northwest of the viewer, and the southernmost tower would be located approximately 0.5 mile southwest of the viewer. The proposed project would appear to run almost perpendicular to the view, with a slight angle from northwest to southeast. The proposed tower pads would be between 110 and 210 feet below the KOP.

### **Visual Character/Visual Quality**

As shown in the visualization in Figure 10b, the project would contribute visible human-made changes in a landscape already characterized by cultural modifications. These changes would be foreground elements in this panoramic view. This change represents a moderate increase in the scale and impact of built elements in the landscape.

**Vividness (2.25).** The essential component of vividness in the landscape, Airport Mesa, is already compromised by its awkward structure and the straight line of the border fence that indiscriminately bisects it. From this viewpoint, the evenly spaced transmission line towers would interrupt the expansiveness of the view by presenting a tall, implied horizontal line in the foreground view.

**Intactness (1.08).** The proposed project would decrease the visual integrity of the site by encroaching on the already disturbed environment. The project service road and pads would contribute geometric and high contrast forms on the desert pediment. Existing cultural modifications on the site, including roads and the border fence, fall horizontally on the ground plane. The transmission line towers would introduce vertical structures in the foreground view that would dominate the low-profile desert floor and interrupt the line of site from this elevation.

**Unity (0.92).** The proposed project would have a noticeable adverse impact on the composition of the view. Overall unity of the view would remain random and disjointed with the project in place. Based on the visualizations, the proposed towers and cleared service road and pads would contribute to the compositional disarray. Because of the proximity of the project and the viewer's elevated location, physical changes resulting from the project would be clearly evident. The evenly spaced geometric pads and linear service road would be prominent visual scars. Additionally, the towers, whose steel latticework would be partially absorbed by the grey tones and rough texture of the backdrop, would be located in the foreground. The viewer is considered a participant in the foreground view, and details and scale of the towers would be clearly noticeable.

### **Viewer Response (3.2)**

KOP 9 is a representative viewpoint for visitors to the multiuse BLM lands on the foothills of the Jacumba Mountains. BLM lands are heavily used by local recreationists seeking the freedom and openness of public lands. Activities generally include sightseeing and hunting. These viewers tend to be most sensitive to changes in the landscape that would restrict their activities; it is anticipated



Existing Conditions KOP 9 - View towards the Project Site from Jacumba Mountain Foothills, View Direction is Southwest





Design Visualization KOP 9 - View towards the Project Site from Jacumba Mountain Foothills, View Direction is Southwest



that viewers would have a low sensitivity to visual changes resulting from the proposed project. However, these viewers would have a slight higher sensitivity rating because their proximity would increase visibility and provide a more visceral experience.

## **KOP 10—Existing Conditions**

### **Orientation**

KOP 10 provides a view east to the project site from Airport Mesa (Figure 11a). This is a representative view for recreationists in this area. Orientation and elevation of KOP 10 approximates KOP 3. The KOP is located approximately 1.2 miles from the project site. The Transitional Uplands, Pediment, and Jacumba Mountains LCUs are within the viewer's focal range from this KOP.

### **Visual Character/Visual Quality**

The view from KOP 10 is characterized as a desert pediment enclosed by barren and rocky mountains that rise 1,000 feet. The mountains provide visual diversity, mass, and a backdrop for the low-profile and uniform ground plane. Although a relatively undisturbed setting, the desert road and border fence are visual clues of nearby development.

**Vividness (3.75).** The backdrop of the Transitional Uplands and Jacumba Mountains LCUs are a striking component of the view. As discussed under KOP 3, their rugged rock skyline and tumbled rock foothills have a commanding influence and are considered highly vivid features in this landscape.

**Intactness (3.67).** From KOP 10, the desert floor is a continuous, open, horizontal plane. As illustrated by the dirt road to the left of the view, ground plane modifications oriented downslope are clearly visible from this viewpoint. The border fence and a desert road intersect the middleground and encroach upon an otherwise intact landscape.

**Unity (3.67).** The desert floor forms an extensive plane of continuous and repetitive pattern across the landscape. The coarse rigid structure of vegetation and mottled contrasting colors of exposed soils in the foreground make a gradual transition across the desert floor to merge in a fluid plane of blended colors and fine texture in the distance. Sharp contrasts in color, texture, and form separate the pediment floor from the rising mountain slopes. This contrast creates a clear break in the mountain front, creating a horizontal line that appears as distinct as the border fence to the south. Combined with the rising topography that frames the view to the right, the mountains provide enclosure, mass, scale, and diversity in the composition. The color of the sandy desert floor in the foreground view is repeated in the barren slopes of the mountain backdrop and helps unify the overall composition.

## **KOP 10—With Project Conditions**

### **Orientation**

A visualization of the proposed project from KOP 10 is provided in Figure 11b. The proposed transmission line corridor would be located in the Pediment LCU, which forms the middleground of the view. The northernmost tower would be located approximately 1.1 miles northeast of the viewer, and the southernmost tower would be located approximately 1.3 miles southeast of the viewer. The proposed project would appear to run almost perpendicular to the view, with a slight

angle from northwest to southeast. The proposed tower pads would be between 180 and 280 feet above the KOP.

### **Visual Character/Quality**

As discussed under KOP 3 and shown in Figure 11b, the proposed project would change the character of the view by introducing service-related elements in a predominantly natural desert landscape.

**Vividness (3.17).** The Jacumba Mountains are key components that contribute to the vividness of the view. Their most outstanding feature, the craggy ridgelines, would remain untouched by the project. The Transitional Uplands would also appear to be unaffected because at this distance the project towers located in front of them would be barely distinguishable. However, as the project corridor moves forward in the view, the transmission towers would become more visible. The evenly spaced vertical grey lines and pyramidal towers would interrupt views to the barren mountain face that flanks the pediment and diminish the vividness of this otherwise unspoiled mountain front.

**Intactness (2.83).** KOP 10 would provide an unobstructed view to the project. Project features would be incongruent with the natural setting. While existing human-made features hug the ground, the transmission line towers would rise 150 feet and introduce structured, geometric, vertical lines that are discordant with the low-profile, horizontal pediment. As discussed under Unity, below, the contrast of these vertical lines would be subdued by the angular lines, coarse texture, and grey tones of the mountain backdrop. Although visual disruption would be minimized, the project would still encroach upon the view, compromising the integrity of this largely intact desert setting.

**Unity (3.00).** The proposed project would have an adverse effect on the composition of the view represented by KOP 10. The mountains form a backdrop and enclose the pediment, whose ramped and low profile functions as a stage in the composition. Consequently, any project features located on the pediment would be highlighted, as demonstrated in Figure 11b.

Because of distance and backdrop, the three nearest towers have the greatest influence on the view; the eye is quick to form a connection to the towers that recede toward the border and trace the project's linear corridor that angles across the plane. The sequence of transmission towers is incongruent to the composition because of its diagonal angle through a predominantly horizontal plane, the engineered and vertical lines of the steel towers, and the symmetrical placement of the pads. The overall unity of the composition would be compromised.

The degree to which the project would affect the aesthetic of the composition is determined by the visibility of the incongruent components. Although visible, the project components tend to recede into the landscape. The steel lattice work towers are observed against a highly textured background that diminishes their visibility. Additionally, the rectangular pads and service road are evident as cleared vegetation; however, just as perspective compressed the widely spaced vegetation into a fluid swath of color, the depth of the pads are also compressed and not as visible as they would be from other viewing positions. Additionally, these sand-colored soils are a repetitive theme in the foreground and background of this landscape, and are not an incongruent color in the landscape, although the geometric lines that give shape to the color are unnatural in the composition.



Existing Conditions KOP 10 - View towards the Project Site from Airport Mesa, View Direction is East Northeast





Existing Conditions KOP 10 - View towards the Project Site from Airport Mesa, View Direction is East Northeast



### Viewer Response (3.1)

The multiuse BLM lands at KOP 10 would attract similar viewers as KOP 9. Similarly, it is anticipated that viewers would have a low sensitivity to visual changes resulting from the proposed project. However, project features would be located farther away decreasing the response rating when compared to KOP 9.

## Summary of Project Impacts

### Visual Quality

Representative views from four KOPs were evaluated and rated for visual quality both before and after the project. Visual quality criteria were separated into the three categories of vividness, intactness, and unity. Ratings for each viewpoint are shown in Table 3. The table also rates the predicted change in visual quality, which was determined by subtracting the rating assigned to after project conditions from the rating assigned to existing conditions.

**Table 3. Visual Quality Assessment**

Visual Quality	Ratings for KOP 3			Ratings for KOP 6			Ratings for KOP 9			Ratings for KOP 10		
	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change
Vividness	4	3.75	0.25	3.17	2.75	0.42	2.58	2.25	0.33	3.75	3.17	0.58
Intactness	3.42	2.92	0.50	2.25	1.42	0.83	1.75	1.08	0.67	3.67	2.83	0.84
Unity	4.08	3.33	0.75	2.42	1.67	0.75	1.75	0.92	0.83	3.67	3.00	0.67
Combined Rating	11.5	10	1.5	7.84	5.84	2.0	6.08	4.25	1.83	11.09	9	2.09

Rating:

0 = None

1 = Low

2 = Moderately Low

3 = Moderate

4 = Moderately High

5 = High

As demonstrated, the greatest change in visual quality would occur in views from KOPs 6 and 10. The proposed project would have the greatest effect on the intactness of the views at these two KOPs, followed by the changes in compositional unity. Although the project would add new visual elements that would alter the appearance of the area, the assessment indicates that overall change in the quality of the view would be low to moderately low.

### Viewer Response

Each of the KOPs were also evaluated and rated for viewer response. Viewer response ratings were determined based upon a combination of viewer sensitivity/awareness, viewer exposure, and duration of view (see Appendix A). Table 4 below identifies the viewer response ratings for each of the KOPs.

**Table 4. Viewer Response Ratings**

Viewer Response	KOP 3	KOP 6	KOP 9	KOP 10
Rating	2.4	2.4	3.2	3.1

Rating:  
 0 = None  
 1 = Low  
 2 = Moderately Low  
 3 = Moderate  
 4 = Moderately High  
 5 = High

### Summary of Visual Impacts

The level of visual impact was determined by combining the change in visual quality with the viewer response rating according to the following equation:

$$VI = CVQ \times VR$$

where VI represents visual impacts, CVQ represents the change in visual quality, and VR represents viewer response. Thresholds for significant impacts were assessed by determining the greatest potential change in visual quality combined with the greatest potential viewer response, as relevant to the project site. Taken into consideration was the fact that existing cultural modifications within the project area detract from the scenic quality of the area, which reduces the capability to obtain the highest possible point values for existing visual quality. This calculation yielded a spread of 15 total points.

The following rating system was used to assess the significance of changes to visual resources that would occur with the project in place. A project was determined to have a significant visual quality impact if the change in visual quality combined with viewer response yielded a total point value greater than 9.5. This determination was made by taking the total fifteen point impact scale and dividing by the five impact levels described in Section 5.2, "Guidelines for Determining Significance." This yielded a three point spread for each impact level.

**Table 5. Significance of Impact Ratings**

Impact Level	Rating	Significance
Low Visual Impact	1-3	Less Than Significant
Moderately Low Visual Impact	4-6	Less Than Significant
Moderate Visual Impact	7-9	Less Than Significant
Moderately High Visual Impact	10-12	Significant
High Visual Impact	13-15	Significant

As shown in Table 5, impacts were significant if they reached moderately high visual impacts, which would occur at a point value of 9.5 or higher. If the project were to result in a combined visual impact rating between 10 and 15 points (moderately high or high visual impact), mitigation measures would be necessary, if feasible, to reduce impacts to less than significant. The results are

shown in Table 6, below. (Note: in order to determine impacts, decimal numbers were rounded to the nearest whole number.)

The assessment indicates that the project would result in the following: moderately low impacts on visual quality from KOPs 3, 6, and 9; and a moderate visual impact from KOP 10.

**Table 6. Visual Impact Assessment**

Visual Impact	KOP 3	KOP 6	KOP 9	KOP 10
Change in Visual Quality	1.5	2.0	1.8	2.1
Viewer Response Rating	2.4	2.4	3.2	3.1
Visual Impact (Visual Quality x Viewer Response)	3.6	4.8	5.8	6.5
Evaluation Thresholds:				
1-3 = Low visual impact				
4-6 = Moderately low visual impact				
7-9 = Moderate visual impact				
10-12 = Moderately high visual impact				
13-15 = High visual impact				

## 5.4 Determination of Significance

**Guideline 1: Would the project introduce features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area by conflicting with important visual elements or the quality of the area (such as theme, style, setbacks, density, size, massing, coverage, scale, color, architecture, building materials, etc.) or by being inconsistent with applicable design guidelines?**

### Impact Analysis

The proposed project would place a transmission line corridor in a relatively undisturbed area of a desert pediment. The project would change the aesthetic of the site by introducing visual elements incongruent with the setting. This includes five transmission line towers that would rise 150 feet above the desert floor, a service road, and five 50- x 50-foot transmission tower pads cleared of vegetation. These features would result in a moderate change in the aesthetic of the landscape.

The degree to which these changes would be noticeable, and the effect of these changes on existing visual resources, are evaluated from four viewpoints as discussed in Section 5.3, “Visual Assessment.” These viewpoints were selected as representative views to the site for motorists from Interstate 8 (KOP 6), recreational motorists from Old Highway 80 (KOP 3), and recreationists on BLM lands at Airport Mesa (KOP 10) and the foothills of the Jacumba Mountains (KOP 9).

A four-member interdisciplinary team rated existing visual resources based on the criteria of vividness, intactness, and unity. They then rated the view based on photographs that simulated the proposed transmission facilities in place. The difference between ratings represented the level of change that would occur as result of the project. Ratings were compiled as an average visual quality rating for each viewpoint. In a last step, ratings were modified based upon the anticipated viewer response to project-induced changes in the view. The final rating determined the level of impact.

As noted, a moderate change in the aesthetic of the landscape would occur at all KOPs.

- In views of transmission line towers, this impact is typically related to the influence of tall vertical lines placed on a low-profile ground plane. From three of the viewpoints (KOPs 3, 6, and 10), the barren, rocky slopes of the Jacumba Mountains would form the backdrop to the project, reducing the scale of the towers; contrast would be reduced by the mottled grey and sand-toned backdrop. The steel latticework would start to recede into the background, minimizing their individual influence. The degree to which this occurred depended on the visual relationship between viewer, tower, and mountains. The towers located farther away from the viewer were less discernible. As expected, the towers in the foreground view from KOP 9 would have the greatest influence.
- In views of the cleared service road and tower pads, the impact typically related to the visibility of breaks on the low-growing vegetative cover of the pediment floor. The introduction of conflicting lines, colors, and forms was pronounced because of the stark contrast in color between native soils and the vegetative cover. The most obvious changes occurred where the cleared road and repeating pads appeared to run at an odd angle to the predominately horizontal lines of the pediment and its interface with the mountains. The incompatibility of the clearings was emphasized by their linear and geometric forms.
- Overall, project-induced changes would have the greatest effect on the intactness of the views, in large part because the project would be located on a relatively undisturbed natural element of the view. No matter what the degree of visibility, the project would be noticeable as a cultural modification and would influence the view with its functional corridor.

As shown in Table 6, moderate changes in visual quality would be greatest for KOPs 10 and 6 followed by KOPs 9 and 3. The level of visual impact was determined by overlaying user response ratings (viewer receptivity to changes in the view) on visual quality changes. When considering viewer response to project-induced changes, visual impacts would be greatest at KOPs 10 and 9 followed by KOPs 6 and 3.

The assessment of visual quality conducted by the team concluded that the project would not have a significant impact on visual quality from the four representative viewpoints. Views from KOPs 6 (Interstate 8) and 3 (Old Highway 80) are predominantly windshield views by motorists focused on the road and their destination. Consequently, users would not be as aware of changes in the view, and when combined with visual quality ratings, the overall level of impact would be lowest from these KOPs.

The project would have the greatest impact from KOP 10 followed by KOP 9. Project-induced changes to visual quality would be most noticed from these viewpoints because users, comprising recreationists, would have a longer and more tangible relationship to the view than motorists; however, the impacts would be moderate based on the significance thresholds and would not require mitigation. This determination was based on the fact that the existing cultural modifications, shown in Figure 2, detract from the scenic quality of the viewshed. Also, although visible, the project components tend to recede into the landscape

Finally, the project would be consistent with applicable design guidelines, as determined under Guideline 4, below.

## **Significance of Impact**

The project would result in moderate changes in visual quality; however, these changes would be less than significant based on the impact thresholds described in Section 5.2, above.

## **Mitigation Measures**

Impacts would be less than significant and no mitigation is required. However, there would be a moderate change in the aesthetic of the landscape from all KOPs. Moderate effects of the project on visual quality would be primarily the result of incompatible changes to the natural colors, lines, textures, and form in the desert environment. Design features to reduce contrast and emulate these visual elements would help reduce undesirable aesthetic changes resulting from the project. Design features are discussed in Section 7, "Design Considerations."

## **Guideline 2: Would the project result in the removal or substantial adverse change of one or more features that contribute to the valued visual character or image of the neighborhood, community, or localized area, including but not limited to landmarks (designated), historic resources, trees, and rock outcroppings?**

### **Impact Analysis**

The proposed project is located on a planar pediment that is covered by low-profile vegetation with no designated landmarks, historic resources, or trees. Construction of the proposed project would include vegetation clearing and limited grading necessary for construction of pads and a fire safety buffer for the transmission line towers, a new north-south access road, and a staging/laydown area. Construction would also include installation of the transmission line towers. Although project construction would require vegetation clearing and limited grading activities, it would not result in the removal of any existing scenic features that contribute to the visual character or image of the project area. Project construction would result in moderate changes to the planar pediment due to grading activities, vegetation removal, and installation of the towers; however, these changes would not be significant since the scale of the vertical towers on the low-profile ground plane would be reduced by the rocky slopes of the Jacumba Mountains that form the backdrop to the project. Furthermore, existing cultural modifications in the area, such as the east-west access road shown in Figure 2, detract from the visual character of the planar pediment. The project would not remove or change any features of the Jacumba Mountains because no construction would occur on the mountains, and the mottled grey and sand-toned backdrop created by the mountains would reduce the contrast of the lattice towers. Finally, the project would not disturb or adversely affect any existing rock outcrops within the project area. Thus, substantial adverse changes to one or more features that contribute to the valued visual character or image of the community would not occur as a result of the project.

## **Significance of Impact**

Impacts would be less than significant.

## **Mitigation Measures**

No significant impacts have been identified. Thus, no mitigation measures are necessary.

**Guideline 3: Would the project substantially obstruct, interrupt, or detract from a valued focal point and/or panoramic vista from a public road, a trail within an adopted County or State trail system, a scenic vista or highway, or a recreational area?**

**Impact Analysis**

Changes in visual quality were addressed under Guideline 1, and the project was assessed to determine its effect on representative views. It was determined that the project would not have a significant adverse effect on these views. Additionally, the project would not block views from any of the representative viewpoints.

**Significance of Impact**

Impacts would be less than significant.

**Mitigation Measures**

No significant impacts have been identified. Thus, no mitigation measures are necessary.

**Guideline 4: Would the project comply with applicable goals, policies or requirements of an applicable County Community Plan, Subregional Plan, or Historic District's Zoning?**

**Impact Analysis**

Construction and operation of the proposed project would be generally consistent with the goals, policies, and requirements of the Mountain Empire Subregional Plan and the Scenic Area Zoning regulations. As listed in Section 3.4 above, Goals 1 through 3 of the Mountain Empire Subregional Plan address land development within the Mountain Empire community.

The project would comply with Goals 1 through 3 by developing the site in accordance with its current Multiple Rural Use designation, which would help maintain the rural character of the Mountain Empire community. Construction of the project would not require hillside grading; thus, the existing landform of the Jacumba Mountains would be protected as specified in Goal 2. Moreover, the project would promote the policies and recommendations listed under Goal 3 by ensuring that graded access roads follow the natural contours of the pediment to the greatest extent possible. As further detailed under Guideline 2 above, the project would retain significant existing natural features including rock outcroppings and the majority of vegetation around the project site, thus fulfilling the policies and recommendations of Goal 3. Additionally, project construction would require only limited grading; in accordance with Goal 3, no extensive or severe grading would occur.

The project would be in substantial conformance with Goal 4 of the Mountain Empire Subregional Plan because it aims to develop transmission lines in order to satisfy the energy needs of the Mountain Empire subregion and greater San Diego area. The project would maintain unobstructed access to and along the path of proposed transmission facilities in accordance with the policies and recommendation of Goal 4.

The project would comply with Goals 5 and 7 of the Mountain Empire Subregional Plan by preventing the degradation of existing environmental resources within a protected scenic area. The

project would not require lighting on the towers/poles based on the FAA determination of no hazard to air navigation, thereby ensuring that the subregion's dark night sky is preserved in accordance with the policies and recommendations of Goal 5. Additionally, the project would not construct artificial drainage structures and would utilize natural channels for drainage, further complying with Goal 5 of the Mountain Empire Subregional Plan. Finally, the project would minimize development effects impacting recreational resources and designated scenic highways in accordance with the policies and recommendations of Goal 7 by incorporating design features (see Section 7, "Design Considerations") intended to reduce visual changes that would occur as a result of the project.

In addition to complying with the Mountain Empire Subregional Plan, the project would be in substantial conformance with the applicable Special Area Regulations. The proposed project site is not protected under a Historic District special area designator; however, the Scenic Area special area designator applies to the project. All required processes, as described in Sections 5200 through 5212 of the County's Zoning code, have been completed for the project. Specifically, in accordance with Zoning Ordinance Section 5210, the project has prepared a site plan for review. The project would, to the maximum extent feasible, protect visual features of the site and adjacent lands that contribute to scenic attractiveness, as viewed from Interstate 8, Old Highway 80, and BLM managed lands surrounding the site, by avoiding extensive and severe grading activities, preserving the site's existing natural features such as rock outcroppings and most of the existing vegetation, reducing the visual contrast of grading and vegetation removal activities, preserving the site's dark night sky, and ensuring that existing views would not be blocked.

### **Significance of Impact**

The proposed project would be developed in a manner that is consistent with the goals, policies, and requirements of the Mountain Empire Subregional Plan and the applicable Scenic Area zoning regulations. The project would, to the maximum extent feasible, protect scenic views from designated scenic highways and recreational areas, while providing for the future energy demand, in accordance with the abovementioned regulatory documents. Therefore, impacts would be less than significant.

### **Mitigation Measures**

No significant impacts have been identified. Thus, no mitigation measures are necessary.

## **5.5 Cumulative Impacts**

### **Connected Actions**

A project's connected actions include other projects that are necessary in order to fulfill the intended utilization of the original project. Section 1508.25 of the National Environmental Policy Act defines connected actions in the following manner:

Connected actions are those actions that are closely related and therefore should be discussed in the same impact statement. Actions are considered to be connected if they:

- (i) Automatically trigger other actions which may require environmental impact statements.
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.

(iii) Are interdependent parts of a larger action and depend on the larger action for their justification

Connected actions to the ESJ Generation-Tie Line (Gen-Tie) project include other projects that will make ESJ Generation-Tie Line a viable project. These include the following: ESJ Wind Energy is a 58-turbine wind energy generating facility planned for the Sierra de Juárez Mountains north of the Mexican community La Rumorosa. Gen-Tie is an extension of the Gen-Tie that will be south of the Mexican border and traverse the base of the mountains transitioning eastward up a canyon to a tie-in point with the electrical generating component of the related action. These project components are currently under environmental review and will be presented in an overarching Department of Energy Environmental Impact Statement (EIS). However, in an effort to thoroughly disclose the effects of the project these connected actions are being presented in design visualizations.

KOPs 3, 9, and 10 are focused on the Gen-Tie project as it is relevant to this Visual Resources Report, and the connected actions are not in the field of view. KOP 6 from Interstate 8 is oriented to the southeast and offers expansive views into Mexico. Two other cKOPs were selected to be presented: cKOP 7 is considered to have a high viewer sensitivity because of its location in the BLM's Table Mountains ACEC; cKOP 11 was also selected because of the sensitive residential receptors in the community of Jacumba.

See Figures 12, 13, and 14 for simulations showing the connected actions listed above from KOPs 6, 7, and 11.

Pursuant to CEQA Guidelines Sections 15130 and 15355, this section analyzes the significance of the project's visual impact on a cumulative level. According to CEQA Guidelines Section 15335(b), the cumulative impact from several projects is the change in the environment which results from the incremental impacts of the project when added to other closely related past, present, and reasonable foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. The cumulative impacts analysis presented below is based on the potential effects of the proposed project when added to impacts from other actions in the vicinity of the project site.

## Methodology

For purposes of this cumulative impact analysis, cumulative visual effects are evaluated for the period of project construction (approximately 6 months—completion anticipated in early 2012), and for the post-construction (operations) period of the project. In addition, the Jacumba Valley viewshed will serve as the physical boundary for determining cumulative visual effects. This boundary includes the project-specific viewshed and areas to the west, incorporating the community of Jacumba and other land along the Interstate 8 and Old Highway 80 corridors. The cumulative study area boundary extends approximately 4 miles west, 1.25 miles east, and 2 miles north of the project site. This was determined to be an appropriate cumulative boundary based on the type and geographic extent of the project's visual impacts, further described below, and because it would encompass projects that would have the potential to change the visual character along the Interstate 8 and Old Highway 80 corridors as motorists travel through the valley and approach the project site.

As stated above, an individual project may contribute to cumulative impacts when the project's incremental impacts are added to other closely related past, present, and reasonable foreseeable future projects. The term "reasonably foreseeable" refers to projects that federal, state, or local













agency representatives have knowledge of resulting from pre-application meetings or the formal application process. Three projects have been identified within the Jacumba Valley viewshed. The projects in the cumulative scenario are new renewable-energy generation and transmission projects similar to the proposed project. A review of the County of San Diego's GIS-based discretionary projects database and KIVA-Net permitting system revealed that there are no recently approved, pending, or future projects under the County's jurisdiction in the cumulative study area (SanGIS 2009).

## Reasonably Foreseeable Projects

The following projects have been evaluated as reasonably foreseeable within the temporal and spatial limits established for this cumulative impact analysis and are thus included in the analysis of cumulative impacts in conjunction with the proposed project.

### **San Diego Gas & Electric (SDG&E) Sunrise Powerlink Transmission Line**

SDG&E has proposed to construct a new 150-mile long transmission line between the Cities of El Centro and San Diego. The project would bring renewable energy sources into San Diego from Imperial County, reduce energy costs, and improve the reliability of electrical service in the San Diego area. SDG&E has filed an application with the California Public Utilities Commission (CPUC) to construct the Sunrise Powerlink Project (SRPL). A joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) has been prepared.

The environmental documentation for Sunrise Powerlink's southern alternative was not specific regarding tower placement or the location in the right-of-way (SDG&E 2008). This level of information is typically fleshed out when the project engineering work is undertaken. When a new line is added to a right-of-way, the location of the current infrastructure (access roads) is typically taken into consideration for new tower locations. Topographic variations may affect tower locations as it affects tower spacing. In the 2-mile radius sphere of influence for Gen-Tie, there are 17 SWPL lattice tower structures along its angular 4.28-mile route. It could be assumed a similar number of new towers would be required for SRPL. Tower spacing for SWPL varies with the topographic placement of the tower and ranges from just under 1000 feet to nearly 2000 feet of separation. If the same tower size is used for SRPL, it could be assumed that the placement of the tower would be in a similar area to utilize portions of the existing access road.

The towers vary in their vertical presence because of their topographic orientation and inherent engineering design considerations. Only three of the existing SWPL towers were measured during the field visits to the project site. The measurements of the tower heights were taken with a digital laser range finder with an internal gyrocompass and inclinometer that is accurate to about 0.1 feet. Tower 203 is located adjacent to and east of Carrizo Creek Road and measured 155 feet in height. There are five SWPL towers between Tower 203 and Old Highway 80 that appear to be taller by as much as 30 feet. These towers are on particularly rugged portions of the Boulder Strewn Transitional Upland and the adjacent Carrizo Creek LCUs. These taller structures are required where the span between adjacent towers is greater and the additional height is needed to accommodate conduct line sag. Tower 210 adjacent to and east of Old Highway 80 was recorded at 115 feet. Tower 211 is a peculiarity in that its topographic position on the southwestern slope of the Jade Peak LCU requires only a diminutive vertical structure that is approximately 50 feet tall. Tower 212 is the eastern most tower and is approximately 129 feet tall. The towers within the visual sphere become shorter and their spacing is more consistent east of Tower 212 as the right-of-way transitions into

the foothills of the Jacumba Mountains LCU. The direct horizontal footprint, pier foundation to pier foundation, of the structures varies with the height of the tower with taller towers having larger footprints. Tower 210 (115 feet) occupies 1,225 square feet whereas Tower 202 (155 feet) has a 2,302-square-foot horizontal presence.

The EIR/EIS for the Sunrise Powerlink project identified significant and unavoidable impacts for several elements of this project due to the large-scale change in visual character caused by incompatible industrial structures and the lack of mitigation available for the impact.

### **San Diego Gas & Electric (SDG&E) East County Substation (ECO Sub)**

SDG&E has proposed a new substation that would be split into two separate yards—a 500 kV yard and a 230/138 kV yard—and occupy approximately 58 acres. This substation would provide an interconnection hub for renewable generation that would eliminate the need for multiple generator-owned or -operated switching stations along SDG&E's existing SWPL 500 kV transmission line. The project would require construction of permanent cut-and-fill slopes, a new access road, drainage facilities, retention basins, and a design/construction buffer around the substation. The substation would be enclosed by a chain-link fence.

Electrical facilities to be installed include 500 kV, 230 kV, and 138 kV air-insulated electrical buses, steel support structures, transformers, capacitors, reactors, circuit breakers, disconnect switches, communication equipment, control equipment, and protective relays. This project was analyzed as a part of the Sunrise Powerlink project in the EIS/EIR prepared for that project (named Jacumba Substation in that document), and was noted as resulting in a significant and unavoidable impact due to the large-scale change in visual character caused by incompatible industrial structures and the lack of mitigation available for the impact.

### **Energía Sierra Juárez (ESJ) Wind Energy Project**

Energía Sierra Juárez U.S. Transmission, LLC (ESJ, formerly Baja Wind U.S. Transmission, LLC), has applied to Department of Energy's (DOE's) Office of Electricity Delivery and Energy Reliability (OE) for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line on either lattice towers or steel monopoles. ESJ's proposed transmission line would connect wind turbines to be located in the vicinity of La Rumorosa, Baja California, Mexico (the ESJ Wind Energy Project), to the existing SWPL 500-kV transmission line in the U.S. at a new substation described below.

One portion of the proposed transmission project would consist of 2 miles of transmission located in Mexico that would be constructed, owned, operated, and maintained by a subsidiary of Sempra Energy Mexico and would be subject to the permitting requirements of the Mexican Government. The remaining portion of the proposed transmission project would consist of a 1-mile transmission line constructed by ESJ within the U.S. on private land. The entire electrical output of the ESJ Wind Energy Project (1,250 megawatts) would be dedicated to the U.S. market and delivered using the proposed international transmission line.

### **Additional Considerations**

In addition to the reasonably foreseeable actions described above, there are more generally defined possible actions in the project area which may contribute to cumulative impacts. Such actions include an increase in operations of the U.S. Border Patrol given current heightened security

concerns. U.S. Border Patrol activities that have the potential to contribute to cumulative visual impacts include vegetation clearing to construct additional roads and driving at high speeds on dirt roads.

## Cumulative Impact Analysis

The existing visual quality of the Jacumba Valley viewshed is altered by established utility corridors allowing transmission lines, distribution lines, and graded access roads; Border Patrol activities; and roadway developments including Interstate 8 and Old Highway 80. Further west within the cumulative study area, the viewshed is characterized by a moderate amount of rural and semi-rural development in the community of Jacumba, which is visible from Old Highway 80 and, more distantly, from Interstate 8. Development of the proposed project would introduce a powerline corridor in a relatively undisturbed area of a desert pediment in the eastern portion of the cumulative study area. The project would change the aesthetics of the site by introducing visual elements that would be incongruent with the natural lines, textures, colors, and forms of the setting; however, impacts on the overall visual quality of the project area were determined to be less than significant because the total change in visual quality would be low to moderate, based on the established thresholds. In addition, existing cultural modifications in the project viewshed detract from the scenic nature of the site.

As discussed above, there are three cumulative energy infrastructure projects that would share many of the same characteristics of the proposed project and be located within the same field of view as the project. These projects are all anticipated to occur in the general vicinity of the project site and would exhibit similar vertical structural form, structural complexity, and industrial character as the project. Additionally, the ECO Sub project would create a large substation that would cover approximately 58 acres of undeveloped valley floor immediately north of the project site. Because of the large-scale, interconnected changes that these cumulative projects would involve, there is a significant and unavoidable cumulative impact. This cumulative impact would be noticeable throughout the eastern portion of the cumulative study area, including from Interstate 8 and Old Highway 80, as well as off-road areas surrounding the project site.

Cumulative impacts would be more noticeable in areas where there are currently no existing transmission lines and where the new aboveground facilities would introduce new features into the landscape. Cumulative visual impacts would increase with effects to views from highways, residences, recreational areas, and on natural scenic quality. In addition to these permanent impacts, the presence of construction equipment and ground disturbance during construction, including vegetation clearing, grading, and excavation, would also introduce visual elements on a temporary basis that would be incompatible with the existing setting. It is possible that the three cumulative projects and the proposed project would be constructed at the same time; therefore, the potential exists for temporary cumulative impacts to occur. Because of the extensive area of cumulative project construction and the lack of mitigation measures to adequately reduce its visibility, this temporary impact is also significant and unavoidable.

## Short Term

Construction activities for other projects—including those outlined above—could be cumulatively visible in the vicinity of the project. Though these impacts would be temporary, they would be extensive in area and visibility. If the project is constructed concurrently with the cumulative

projects listed above, the project would contribute to this significant and unavoidable cumulative impact.

### **Long Term**

The cumulative projects represent large-scale industrial projects with tall, highly visible vertical elements that would adversely affect visual character. In each case, the proposed project and the cumulative projects combined would result in a perceived increase in industrialization of the landscape, diminution of visual quality, and increase in visual contrast. A substantial increase in industrial character, structure prominence, and view blockage would occur in the vicinity of the project with construction of the cumulative projects, and the project would contribute to this cumulative impact. Overall, the project's contribution to the cumulative impact is minor, as the small scale of project construction would be overshadowed by the large substation, the new transmission line proposed parallel to the Southwest Powerlink, and the hillside and ridgeline construction of the wind turbines. However, the project would be a part of this large-scale change in the existing visual environment.

## **5.6 Summary of Project Impacts, Significance, and Conclusions**

Overall, the proposed project would not result in individually significant impacts on the existing visual environment because cultural modifications in the project viewshed detract from the site's scenic quality. In addition, as discussed in Section 5.3, "Visual Assessment," above, the project components tend to recede into the landscape. Application of the design considerations listed in Section 7, "Design Considerations," below, would ensure that the proposed project would avoid impacts on the visual quality of the site.

Finally, as described in Section 5.5, "Cumulative Impacts," the project's contribution to cumulative impacts is minor, but it is a part of the large-scale change in the existing visual environment that would result in a cumulatively considerable significant impact. Cumulative impacts would not be mitigated and would remain significant and unavoidable.

## **6 Design Alternatives**

Alternative design scenarios for the proposed project are limited. Site-specific design considerations that would reduce the project's visual intrusion are documented in Section 7 of this report.

**Alternative Tower Design**—There are two primary tower designs that satisfy the engineering requirements for the project. The open design of steel lattice tower structures creates an illusion of transparency that, when viewed from certain perspectives, causes the structures to blend well with the backdrop and visually recede into the landscape. Steel monopole structures are the alternative to steel lattice structures. Monopoles customarily are tapered semi-tubular poles that have twelve sides (dodecagonal). They are typically used in an urban environment. Their less bulky form may be considered more desirable in the built environment where the viewshed is generally more compact due to the cultural modifications of the anthropogenic environment, and where view distance is characteristically foreground-oriented. Monopoles are approximately 2 feet in diameter at the base. The opaque mass of the monopole tends to be quite visible, particularly when the towers are skylined (fully or partially silhouetted against the sky) or back-lit. The dodecagonal shape of the monopole structure creates a unique phenomenon when viewed from different angles and lighting

conditions. When side-lit (i.e., the viewer is located at an azimuth of 90° away from the incident sunlight), the angles of the poles create hard, defined shadow lines. A tubular monopole under similar lighting conditions would exhibit a graduated transition from the lit color of the pole to the fully shadowed side color of the pole, making the shadow more transitional in nature.

A four-member interdisciplinary team contrast rating exercise was completed for the monopole design alternative utilizing the same methodology that was conducted for the steel lattice structure previously described in Chapter 5.3. The completed compiled visual quality assessment forms for the monopole design alternative are included as Appendix B. The same reviewing team members were involved and care was taken to replicate the methods of the previous analysis in a non-biased evaluation of the alternative design structure.

For the sake of brevity, the numerical discussion and the narrative description of the existing scenic quality and viewer response from each KOP (“Existing Conditions”) are not reiterated here. For evaluation consistency, the numerical values previously assigned to these two constants are presented in the tables that are the basis for the equation in the “Summary of Project Impacts” for this alternative. This discussion is limited to the affects of the project implementation as it relates to the monopole design alternative (“With Project Conditions”).

## Monopole Design Alternative Analysis

### KOP 3—Existing Conditions

Refer to Section 5.3, “Visual Assessment,” for the numerical discussions and narrative description of the existing scenic quality and viewer response from KOP 3. In addition, refer to Figure 8a for a view of the site’s existing conditions from KOP 3.

### KOP 3—With Monopole Design Alternative Conditions

#### Orientation

A visualization of the monopole design alternative from KOP 3 is provided in Figure 15. The monopole design alternative transmission line corridor would be located in the Pediment LCU, which forms the finely textured middleground. The northernmost monopole would be located approximately 1 mile east of the viewer. The southern monopole would be located approximately 1.3 miles to the southeast. The proposed tower pads would be between 185 and 285 feet above the KOP.

#### Visual Character/Visual Quality

By definition, any visible human-made changes in a natural setting are going to change the character of the view. KOP 3 appears to be a pristine setting because road scars are not visible and the border fence recedes almost out of the frame of view. As shown in Figure 15, the introduction of vertical monopoles would be visible, and the character of this natural landscape would change as a portion of the view transitions to its function as a utility corridor.

**Vividness (Rated 3.06).** The monopole design alternative would have a negative aesthetic effect on the essential components that contribute to the vividness of the view. The monopoles would introduce distinct vertical elements in the view, which would contrast with the angular and curving lines of the Jacumba Mountains in the background. The introduction of the monopoles would result

in a moderate interference with the patterns and elements of the Jacumba Mountains, the landscape feature that makes this a vividly memorable view. Since the monopoles would create a series of new landscape focal points, the monopole design alternative would have a negative aesthetic influence on the vividness of the site.

**Intactness (Rated 2.56).** As shown in the visualization, the monopole design alternative would introduce prominent vertical lines and repeating patterns that would disrupt the intactness of the view. The solid lines would contrast with the textured and grey-toned mountains in the background, introducing visually distinct and incompatible forms that would decrease the visual integrity of the natural viewscape.

**Unity (Rated 2.9).** The monopole design alternative would have an adverse effect on the compositional harmony of the view. The monopoles would be introduced into the view's middleground plane, which would disrupt the existing compositional harmony by creating tall vertical lines that would rise above the middleground. The fluid plane of color and texture that comprise the middleground functions to visually separate foreground from background zones, and provide depth to the view. The flat and solid texture of the monopoles would be incongruent with the texture, color, and height of the existing middleground views. As shown in the visualization, the monopole design alternative would introduce incongruent elements into the composition, which would diminish the aesthetic coherence of the view.

## **KOP 6—Existing Conditions**

Refer to Section 5.3, “Visual Assessment,” for the numerical discussions and narrative description of the existing scenic quality and viewer response from KOP 6. In addition, refer to Figure 9a for a view of the site's existing conditions from KOP 6.

## **KOP 6—With Monopole Design Alternative Conditions**

### **Orientation**

A visualization of the monopole design alternative from KOP 6 is presented in Figure 16. As shown in the figure, the monopole design alternative transmission corridor would be located in the background and would be visually framed by the Pediment and Jacumba Mountains LCUs. The northernmost monopole would be approximately 1 mile southeast of the viewer, and the southernmost monopole would be located further southeast at approximately 1.45 miles from the viewer.

### **Visual Character/Visual Quality**

As shown in Figure 16, the monopole design alternative would add monopoles and associated cleared pads and service road to an open desert landscape that already supports similar uses. The monopole design alternative would be located in the middleground of the view, which is currently undeveloped. This change would have an influence on the impact of built elements over the existing condition and alter the overall character of the view by extending the zone of the built environment. The monopoles would be inconsistent in line, form, and texture with the existing SWPL towers.

**Vividness (Rated 2.5).** The steep slopes of the Jacumba Mountains and the jagged ridgeline in the center of the frame are memorable components of the view. The strong, opaque vertical and horizontal forms of the monopoles and monopole arms would interrupt the tumbled rock face of the



Design Visualization KOP 3 (Monopole Design Alternative) - View towards the Project Site from Old Highway 80, View Direction is East





Design Visualization KOP 6 (Monopole Design Alternative) - View towards the Project Site from Interstate 8,  
View Direction is South Southeast



Jacumba Mountains. The vertical lines would appear to slice through this vividly significant background and would be incongruent with the light color and angular lines of the Transitional Uplands LCU. The monopoles would introduce tall, vertical elements onto a flat and horizontal ground plane, which would increase their visibility in this view.

**Intactness (Rated 1.3).** Although the foreground view is currently influenced by cultural modifications, the horizontal plane of the middleground view would be negatively affected by the introduction of monopoles. The angular lines and visible service road associated with the monopoles would further reduce the intactness of this view. The introduction of monopoles would extend the zone of the built environment into the middleground and would encroach on the relatively undeveloped pediment. Consequently, the monopole design alternative would compromise the integrity of the view as represented by this KOP.

**Unity (Rated 1.56).** From this distance, the monopole design alternative would be highly noticeable. The monopoles would introduce elements disparate to the landscape, such as opaque vertical lines and a smooth engineered steel texture that would negatively contrast with the coarsely textured landscape. These opaque features would not fade into the background patterns of the rocky slopes of the Transitional Uplands LCU. The strong vertical lines created by the monopoles would disrupt the unity of the horizontal lines of the desert floor, border fence, and existing utility lines, thereby reducing the unity of the view. The monopole foundations, cleared pads, and service road would be located in the Pediment LCU; these cleared areas would appear as permanent scars resulting from the contrast in color, density, and texture on the ground plane. The conflicting relationship between the existing SWPL lattice tower and the monopoles would confuse the middleground view. The visible cut of the service road, whose angled layout runs contrary to the horizontal flow of the pediment, further disrupts the unity of the composition.

## **KOP 9—Existing Conditions**

Refer to Section 5.3, “Visual Assessment,” for the numerical discussions and narrative description of the existing scenic quality and viewer response from KOP 9. In addition, refer to Figure 10a for a view of the site’s existing conditions from KOP 9.

## **KOP 9—With Monopole Design Alternative Conditions**

### **Orientation**

A visualization of the monopole design alternative from KOP 9 is provided as Figure 17. The monopole design alternative transmission corridor would be located in the Pediment LCU, which forms the coarsely textured foreground of the view. The northernmost monopole would be located approximately 0.52 mile northwest of the viewer, and the southernmost monopole would be located approximately 0.5 mile southwest of the viewer. The monopole design alternative would appear to run perpendicular to the view, with a slight angle from northwest to southeast. The monopole pads would be between 110 and 210 feet below the KOP.

### **Visual Character/Visual Quality**

As shown in the visualization in Figure 17, the monopole design alternative would contribute visible human-made changes in a landscape already characterized by cultural modifications. These changes would be foreground elements in this panoramic view. This change represents a moderate increase in the scale and impact of built elements in the landscape.

**Vividness (1.9).** Airport Mesa, the most vivid component of the view, is already compromised by its awkward manipulated topography and the straight line of the border fence that indiscriminately bisects its slope. The repeating vertical lines and horizontal drape of the monopoles and transmission wires would form an implied screen that would tend to distract the viewer from the view. The monopole design alternative would interrupt the expansiveness of the view by introducing mass, height, and geometric lines in the foreground view.

**Intactness (1).** The monopole design alternative would decrease the visual integrity of the site by encroaching on the already disturbed environment. The opaque monopole towers would introduce mass and vertical lines that incrementally disrupt the natural textural patterns in the middleground, and contribute negatively to the intactness of the landscape. The service road and pads would contribute geometric and high contrast forms on the desert pediment. Existing cultural modifications on the site, including roads and the border fence, fall horizontally on the ground plane. The monopoles would introduce strong vertical elements in the foreground view that would dominate the low-profile desert floor and interrupt the line of site from this elevation.

**Unity (0.87).** The monopole design alternative would have a noticeable aesthetic impact on the composition of the view by introducing inharmonious vertical and horizontal lines that intersect at awkward angles with the border fence. Based on the visualizations, the monopoles and cleared service road and pads would contribute to the compositional disarray. Because of the proximity of the project and the viewer's elevated location, physical changes resulting from the monopole design alternative would be clearly evident. The monopole pads and linear service road would create prominent visual land scars. Additionally, the monopoles, whose opaque mass would contrast with the grey tones and rough texture of the backdrop, would be located in the foreground. The viewer is considered a participant in the foreground view, and details and scale of the monopoles would be clearly noticeable.

## **KOP 10—Existing Conditions**

Refer to Section 5.3, “Visual Assessment,” for the numerical discussions and narrative description of the existing scenic quality and viewer response from KOP 10. In addition, refer to Figure 11a for a view of the site's existing conditions from KOP 10.

## **KOP 10—With Monopole Design Alternative Conditions**

### **Orientation**

A visualization of the monopole design alternative from KOP 10 is provided in Figure 18. The monopole design alternative transmission corridor would be located in the Pediment LCU, which forms the middleground of the view. The northernmost monopole would be located approximately 1.1 miles northeast of the viewer, and the southernmost monopole would be located approximately 1.3 miles southeast of the viewer. The monopole design alternative would run perpendicular to the view, with a slight angle from northwest to southeast. The monopole pads would be between 180 and 280 feet above the KOP.

### **Visual Character/Quality**

As discussed under KOP 3 and shown in Figure 18, the monopole design alternative would change the character of the view by introducing service-related elements in a predominantly natural desert landscape.



Design Visualization KOP 9 (Monopole Design Alternative) - View towards the Project Site from Jacumba Mountain Foothills, View Direction is Southwest





Design Visualization KOP 10 (Monopole Design Alternative) - View towards the Project Site from Airport Mesa,  
View Direction is East Northeast



**Vividness (2.95).** The Jacumba Mountains are key components that contribute to the vividness of the view. Their most outstanding feature, the craggy ridgelines, would be partially obstructed by the opaque masses introduced by the monopoles. The strong vertical and horizontal lines created by the monopoles and transmission lines would interfere with views of the memorable pyramidal forms of the Jacumba Mountain foothills. Overall, the evenly spaced, vertical monopoles would conflict with the random angular lines of the barren mountain face that flanks the pediment and diminish the vividness of this otherwise unspoiled mountain front.

**Intactness (2.78).** KOP 10 would provide an unobstructed view to the project site. Features introduced by the monopoles would be incongruent with the natural setting. While existing human-made features hug the ground, the monopoles would rise 150 feet and introduce strong, opaque vertical lines that are discordant with the low-profile, horizontal pediment. These vertical lines would contrast with the angular lines, coarse texture, and grey tones of the mountain backdrop. The monopoles would encroach upon the view by introducing geometric forms in this predominantly natural environment. In addition, the grading of pads and roads would disrupt the intactness of the consistent texture and color of the pediment surface. Overall, the monopole design alternative would encroach upon the view, compromising the integrity of this largely intact desert setting.

**Unity (2.66).** The monopole design alternative would have an adverse effect on the composition of the view represented by KOP 10. The mountains form a backdrop and enclose the pediment. The ramped and low profile of the pediment ground plane functions as a stage in the composition. Consequently, any project features located on the pediment would be highlighted, as demonstrated in Figure 18. The low profile of the desert floor would be punctuated by the repeating sequence of monopoles that would disrupt the unity of the view by introducing vertical mass. The geometric lines of the monopoles are evident against the tumbled and angular lines of the Jacumba Mountain backdrop. The eye is quick to form a connection to the monopoles that recede toward the border and trace the linear corridor that angles across the plane. The sequence of monopoles is incongruent with the compositional harmony of the view because of its vertical angle through a predominantly horizontal plane, its engineered and vertical lines, and the symmetrical placement of the monopole pads. The overall unity of the composition would be compromised.

The degree to which the project would affect the aesthetic of the composition is determined by the visibility of the incongruent components. The monopoles are observed against a highly textured background. The contrast between the two contributes to their visibility. Additionally, the rectangular pads and service road are evident as cleared vegetation; however, just as perspective compresses the widely spaced vegetation into a fluid swath of color, the depth of the pads is also compressed and the pads are not as visible as they would be from other viewing positions. Additionally, the sand-colored soils are a repetitive theme in the foreground and background of this landscape, and are not an incongruent color in the landscape, although the geometric lines that give shape to the color are unnatural in the composition.

## Summary of Monopole Design Alternative Impacts

### Visual Quality

Representative views from four KOPs were evaluated and rated for visual quality both before and after the monopole design alternative. Visual quality criteria were separated into the three categories of vividness, intactness, and unity. Ratings for each viewpoint are shown in Table 7. The

table also rates the predicted change in visual quality, which was determined by subtracting the rating assigned to after-project conditions from the rating assigned to existing conditions.

**Table 7. Visual Quality Assessment for Monopole Design Alternative**

Visual Quality	Ratings for KOP 3			Ratings for KOP 6			Ratings for KOP 9			Ratings for KOP 10		
	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change	Existing	With Project	Change
Vividness	4	3.06	.94	3.17	2.5	.67	2.58	1.9	.68	3.75	2.95	.80
Intactness	3.42	2.56	.86	2.25	1.3	.95	1.75	1	.75	3.67	2.78	.89
Unity	4.08	2.9	1.18	2.42	1.56	.86	1.75	.87	.88	3.67	2.66	1.01
Combined Rating	11.5	8.52	2.98	7.84	5.36	2.48	6.08	3.77	2.31	11.09	8.39	2.7

Rating:  
 0 = None  
 1 = Low  
 2 = Moderately Low  
 3 = Moderate  
 4 = Moderately High  
 5 = High

As demonstrated, the greatest change in visual quality would occur in views from KOPs 3 and 10. The steel monopoles proposed as part of the monopole design alternative would have the greatest effect on the unity of the views at these two KOPs, followed by changes in compositional intactness. The monopole design alternative would add new visual elements that would alter the appearance of the area. The overall change in the quality of the view would be moderately low to moderate.

**Viewer Response**

Each of the KOPs were also evaluated and rated for viewer response. Viewer response ratings were determined based upon a combination of viewer sensitivity/awareness, viewer exposure, and duration of view (see Appendix B). Table 8 below identifies the viewer response ratings for each of the KOPs.

**Table 8. Viewer Response Ratings**

Viewer Response	KOP 3	KOP 6	KOP 9	KOP 10
Rating	2.4	2.4	3.2	3.1

Rating:  
 0 = None  
 1 = Low  
 2 = Moderately Low  
 3 = Moderate  
 4 = Moderately High  
 5 = High

**Summary of Visual Impacts for Monopole Design Alternative**

The level of visual impact was determined by combining the change in visual quality with the viewer response rating according to the following equation:

$$VI = CVQ \times VR$$

where VI represents visual impacts, CVQ represents the change in visual quality, and VR represents viewer response. Thresholds for significant impacts were assessed by determining the greatest potential change in visual quality combined with the greatest potential viewer response, as relevant to the project site. Taken into consideration was the fact that existing cultural modifications within the project area detract from the scenic quality of the area, which reduces the capability to obtain the highest possible point values for existing visual quality. This calculation yielded a spread of 15 total points.

A project was determined to have a significant visual quality impact if the change in visual quality combined with viewer response yielded a total point value greater than 9.5. See Sections 5.2, “Guidelines for Determining Significance” and 5.3, “Visual Assessment” above for a detailed discussion regarding the determination of significant impacts with the project in place. If the project were to result in a combined visual impact rating between 10 and 15 points (moderately high or high visual impact), mitigation measures would be necessary in order to reduce impacts to less than significant. The results are shown in Table 9, below. (Note: in order to determine impacts, decimal numbers were rounded to the nearest whole number.)

The assessment indicates that the monopole alternative would result in the following: moderately low impacts on visual quality from KOP 6; and moderate visual impacts from KOPs 3, 9, and 10.

**Table 9. Visual Impact Assessment for Monopole Design Alternative**

Visual Impact	KOP 3	KOP 6	KOP 9	KOP 10
Change in Visual Quality	2.98	2.48	2.31	2.7
Viewer Response Rating	2.4	2.4	3.2	3.1
Visual Impact (Visual Quality x Viewer Response)	7.15	5.95	7.39	8.37
Evaluation Thresholds:				
1-3 = Low visual impact				
4-6 = Moderately low visual impact				
7-9 = Moderate visual impact				
10-12 = Moderately high visual impact				
13-15 = High visual impact				

It should be noted that the alternative assessment was primarily concerned with evaluating the change in scenic quality from each KOP that would result from project implementation of the monopole design alternative. The type of structure introduced into the landscape does not affect the existing scenic resources of the view nor does it affect the viewer response to that view, both of which play a role in the quantitative numerical evaluation in the visual impact assessment equation.

### Comparison of Anticipated Visual Impacts of the Steel Lattice and Monopole Structures

Table 10 is a matrix summarizing the results of a four-person interdisciplinary team contrast rating exercise that compares the visual change of the two tower types for ESJ Gen-Tie. The monopole structures would introduce strong, distinct vertical elements into the view; they would not retreat into the landscape as lattice structures tend to do in this visual environment. The empirical values of

the monopole contrast rating range from 0.5 to 1.5, and the monopole design alternative received higher ratings at all four KOPs.

**Table 10. Visual Change Comparison**

Observation Point	Visual Change with Lattice Towers	Visual Change with Monopoles	Visual Change Variation
KOP 3	1.5	3.0	+1.5
KOP 6	2.0	2.5	+0.5
KOP 9	1.8	2.3	+0.5
KOP 10	2.1	2.7	+0.6

Table 11 summarizes the visual impact assessment, which introduces the viewer response rating into the formula for calculating impacts and threshold of significance from each of the KOPs. As previously mentioned, viewer response is a non-variable value for each KOP and is a constant for both tower types. The monopole alternative has higher visual impact values than the lattice structures from each of the KOPs analyzed. The greatest change would be from KOP 3, with an increase of 3.6; KOP 10 increased 1.9; KOP 9 increased 1.6; and KOP 6 increased 1.1. In the case of KOPs 3 and 9, the increase in value also moved the severity of the effect into a higher impact threshold category, transitioning from a moderately low to moderate impact.

**Table 11. Visual Impact Comparison**

Observation Point	Visual Impact with Lattice Towers	Visual Impact with Monopoles	Threshold with Lattice Towers	Threshold with Monopoles
KOP 3	3.6	7.2	Moderately Low	Moderate
KOP 6	4.8	5.9	Moderately Low	Moderately Low
KOP 9	5.8	7.4	Moderately Low	Moderate
KOP 10	6.5	8.4	Moderate	Moderate

Although it was determined that neither alternative would have a significant impact on visual quality, visual change and impacts for all the KOPs increased substantially under the monopole alternative; thus, this analysis concluded that the lattice towers would be environmentally superior to the monopole structures at the project site. It is duly noted that this analysis is centered on 4 KOPs and the project setting in the Pediment LCU. The LCU is topographically inferior to the surrounding LCUs. Consequently, the lattice tower are rarely in a perspective where they are not back dropped (having landforms with vegetation behind them as opposed sky [skylined]). The guidance provided by BLM’s VRM and USFS’s Scenery Management Systems (SMS) stresses that, in order to enhance a project’s congruency with the landscape, the project should be designed to mimic the form, line, color and texture that currently exists. SWPL’s steel lattice structures have been a part of the fabric of the Jacumba Valley landscape for decades. The structural elements have weathered and the hue, value, and chroma are harmonious with the existing landscape elements. These attributes, combined with the open structural form, cause the SWPL structures to dramatically retreat into the landscape under certain lighting conditions. The existing SWPL structures do not draw the viewer’s attention or create an undesirable focal point. The use of lattice towers for the

proposed project would closely mimic the existing form, line, and texture created by the SWPL structures. The color of the new towers is expected to be of a lighter value and hue than the existing oxidized structures, but they are expected to weather to more closely resemble SWPL over time. The use of monopoles for the proposed towers would introduce a new architectural form that does not currently exist in the landscape. It is the conclusion of this report that the introduction of a new, large industrial form into the landscape would be contrary to federal guidance regarding the reduction of contrast in a viewshed. Thus, the use of lattice towers would be more congruent and consistent with the existing viewshed conditions.

**Self-Weathering Steel**—A design alternative that can be used with both types of structures is self-weathering steel, which receives a special coating that causes the surface of the structure to oxidize or rust, creating a patina on the structure surfaces. This trademarked product is commonly called Corten (COR-TEN) steel. The hue and value of the patina is dependent on local environmental variables, which include available moisture and the pH of the atmosphere. It is the opinion of the authors of this report that the rust colored patina of a Corten design solution for either structure type may weather to a hue and color value that may be too dark to blend harmoniously with the predominant colors of the Jacumba Valley landscape character unit.

## 7 Design Considerations

The following design considerations shall be applied to the project site plans:

**Reduce visibility of construction activities and equipment.** All staging and material and equipment storage areas including storage sites for excavated materials shall be appropriately located away from areas of high public visibility. If visible from nearby roads, residences, recreational areas, facilities, or trails, construction sites and staging areas shall be visually screened using temporary screening fencing. Fencing shall be of an appropriate design and color for the project location. Additionally, construction in areas visible from recreation facilities and areas during holidays and periods of heavy recreational use shall be avoided.

**Reduce views of land scars.** Contour grading shall be used where possible to better blend graded surfaces with existing terrain as well as to limit any County of San Diego landscaping and irrigation requirements that require that slopes over 3 feet be planted and have an irrigation system installed. Access roads should be graded to follow the natural contours of the pediment surface to the greatest extent possible to reduce landform alteration. **Reduce visual contrast from unnatural vegetation lines.** At the towers' locations, selective vegetative thinning or feathering shall be applied to the boundaries of disturbed areas to reduce the visual contrasting hard edge and create a more natural-appearing line. The outer 20 feet would incorporate landscaped feathering that includes removal of highly flammable vegetation while leaving succulents and other less flammable vegetation. **Reduce color contrast of land scars.** The disturbed soils at the towers' locations shall be topped with gravel that closely resembles the hue/value of the surrounding vegetation as opposed to the underlying light sand-colored soil.

**Reduce visual contrast of towers and conductors.** Towers shall be dull gray galvanized steel that will not reflect sunlight. All new conductors are to be non-specular in design in order to reduce conductor visibility, glint, glare, and visual contrast.

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Appendix A

**Visual Quality Assessment and  
Viewer Response Worksheets (Steel Lattice Towers)**

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# Visual Quality Assessment Worksheet

Project Name: E-SJ Gen-Tie

Date: 2009-10-06 Lisa Randall,

KOP: 3

Analyst: Peter Langenfeld, Maura Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: Rocky ridgeline & sequence in Pyramidal forms of Juncum Mtns. creates memorability

Intactness: Cultural modifications including border fence, dirt access roads, and cumper in foreground detracts from intactness.

Unity: Good unity because there are not too many hard lines - Lines transition into one another.

### Numerical Evaluation

Vividness: 4

Intactness: 3.42

Unity: 4.08

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: Landscape components remain intact - new components are similar. No effect on silhouette encroachment or land scars. Project is sequential in form.

Intactness: Horizontal line of conductors are noticeable against the mountains detracts from intactness.

Unity: Powerlines & access roads disrupt the compositional harmony. Powerlines impact the natural line of mountains

### Numerical Evaluation

Vividness: 3.75

Intactness: 2.92

Unity: 3.33

# Viewer Response Worksheet

Project Name: ESJ Gen-Tie

Date: 2009-10-06 Lisa Randall,  
Analyst: Peter Langenfeld, Maura Medel

KOP: 3

- 5 - High
- 4 - Moderately High
- 3 - Moderate

- 2 - Moderately Low
- 1 - Low
- 0 - None

**Viewer Sensitivity** - Viewer sensitivity is both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

**Viewer Exposure** - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

**Duration of View** - The amount of time the view is available

**Viewer Awareness** - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity.

## Viewer Groups

Types of Viewer	Rating
<u>Motorists (Recreational)</u>	_____
Viewer Sensitivity/Awareness <u>moderate low/moderate</u>	<u>2.6</u>
Viewer Exposure <u>moderate low</u>	<u>2</u>
Duration of View <u>moderate low</u>	<u>1.9</u>
Total	<u>6.5</u>
Product(total/3)	<u>2.2</u>

Types of Viewer	Rating
<u>Bicyclists</u>	_____
Viewer Sensitivity/Awareness <u>moderate/mod. high</u>	<u>3.6</u>
Viewer Exposure <u>low</u>	<u>1.25</u>
Duration of View <u>moderate</u>	<u>3</u>
Total	<u>7.85</u>
Product(total/3)	<u>2.6</u>

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

# Visual Quality Assessment Worksheet

Project Name: E.S.J Gen-Tie

Date: 2009-10-06 Lisa Randall,

KOP: 6

Analyst: Peter Langenfeld, Mayra Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: Horizontal lines and pyramidal forms create memorable views - but, lack of shadows create less visual interest.

Intactness: Cultural modifications in foreground create distraction - horizontal line is detractive.

Unity: visual harmony is disrupted by incongruent cultural modification in foreground.

### Numerical Evaluation

Vividness: 3.17

Intactness: 2.25

Unity: 2.42

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: Transitional uplands impacted by convergence of project components with SWPL.

Intactness: View looking down horizontal axis of the tie line. No horizontal separation between poles make the project more noticeable. Disruption of middle ground texture.

Unity: Grading impacts harmony, texture, and color of Pediment. Diagonal line draws attention to right side of photo - away from view.

### Numerical Evaluation

Vividness: 2.75

Intactness: 1.42

Unity: 1.67

# Viewer Response Worksheet

Project Name: ESJ Gen-Tie

Date: 2009-10-06 Lisa Randall,

KOP: 6

Analyst: Peter Langenfeld, Mayra Medel

- 5 - High
- 4 - Moderately High
- 3 - Moderate

- 2 - Moderately Low
- 1 - Low
- 0 - None

*Viewer Sensitivity* - Viewer sensitivity is both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

*Viewer Exposure* - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

*Duration of View* - The amount of time the view is available.

*Viewer Awareness* - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity.

## Viewer Groups

	Rating
Types of Viewer <u>Motorists</u>	_____
Viewer Sensitivity/Awareness <u>Low/mod. low</u>	<u>1.75</u>
Viewer Exposure <u>moderately high</u>	<u>4.25</u>
Duration of View <u>low</u>	<u>1.2</u>
Total	<u>7.2</u>
Product(total/3)	<u>2.4</u>

	Rating
Types of Viewer _____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

	Rating
Types of Viewer _____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

# Visual Quality Assessment Worksheet

Project Name: E SJ Gen-Tie

Date: 2009-10-06 Lisa Randall,

KOP: 9

Analyst: Peter Langenfeld, Mayra Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: NO dramatic elevation change - large topographic intrusion detracts from memorability

Intactness: Burden fence introduces a strong, hard line in the foreground. Boulder patrol roads also in view.

Unity: not unified, because lines not harmonious. too many cultural modifications present.

### Numerical Evaluation

Vividness: 2.58

Intactness: 1.75

Unity: 1.75

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: Project detracts viewer, but does not change the vividness.

Intactness: View already disrupted, but graded roads, lines, and towers affect intactness.

Unity: Project introduces incongruous element into foreground & middle ground views. detracts from unity.

### Numerical Evaluation

Vividness: 2.25

Intactness: 1.08

Unity: 0.92

# Viewer Response Worksheet

Project Name: ESJ Gen-Tie

Date: 2009-10-06 Lisa Randall,

KOP: 9

Analyst: Peter Langerfeld, Mayra medel

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

*Viewer Sensitivity* - Viewer sensitivity is both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

*Viewer Exposure* - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

*Duration of View* - The amount of time the view is available

*Viewer Awareness* - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity.

## Viewer Groups

Types of Viewer	Rating
<u>Recreationists</u>	<u>3.0</u>
Viewer Sensitivity/Awareness _____	<u>1.0</u>
Viewer Exposure _____	<u>4.5</u>
Duration of View _____	<u>9.5</u>
Total	<u>3.2</u>
Product(total/3)	<u>3.2</u>

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

# Visual Quality Assessment Worksheet

Project Name: E.S.J Gen-Tie

Date: 2009-10-06 Lisa Randall,

KOP: 10

Analyst: Peter Langenfeld, Maurya Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: Background views are distinctive pyramidal forms

Intactness: Panoramic views from two KOP - view is intact but existing border fence detracts from complete intactness.

Unity: Planar pavement in middle ground is unified - vegetation cover creates unity, but border fence disrupts unity.

### Numerical Evaluation

Vividness: 3.75

Intactness: 3.67

Unity: 3.67

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: Towers not extremely visible, but graded roads detract from middle ground - new incongruous elements, but towers blend into background

Intactness: Project components detract from intactness because of new lines & textures introduced by project.

Unity: Planar pavement loses unity because of roads / other project components.

### Numerical Evaluation

Vividness: 3.17

Intactness: 2.83

Unity: 3

# Viewer Response Worksheet

Project Name: ESJ Gen-Tie

Date: 2009-10-06 Lisa Randall,

KOP: 10

Analyst: Peter Langenfeld,  
Mayra Medel

- 5 - High
- 4 - Moderately High
- 3 - Moderate

- 2 - Moderately Low
- 1 - Low
- 0 - None

*Viewer Sensitivity* - Viewer sensitivity is both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

*Viewer Exposure* - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

*Duration of View* - The amount of time the view is available.

*Viewer Awareness* - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity.

## Viewer Groups

Types of Viewer	Rating
<u>Recreationists</u>	<u>          </u>
Viewer Sensitivity/Awareness <u>Moderate</u>	<u>3.25</u>
Viewer Exposure <u>Moderately Low</u>	<u>2</u>
Duration of View <u>Moderately High</u>	<u>4</u>
Total	<u>9.25</u>
Product(total/3)	<u>3.01</u>

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

Appendix B

**Visual Quality Assessment and  
Viewer Response Worksheets (Steel Monopole Towers)**

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# Visual Quality Assessment Worksheet

Project Name: E3J Gen-Tie

Date: 2010-01-28 Lisa Randall, Tom Cherns

KOP: 3

Analyst: Peter Langenfeld, Mayra Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: Rocky ridgeline and sequence in pyramidal forms of Jacumba mountains create memorability and vividness.

Intactness: Cultural modifications including border fence, dirt access roads, and camper in foreground detract from intactness.

Unity: Good unity because there are not too many hard lines - LCU's transition into one another.

### Numerical Evaluation

Vividness: 4

Intactness: 3.42

Unity: 4.08

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: Monopoles are distinct vertical elements in the view whose dark vertical lines contrast with the angular and curving lines of the Jacumba mountains, which are what makes this a vividly memorable view. The vertical elements create a series of new landscape focal points that reduce vividness of the view.

Intactness: Monopoles introduce prominent vertical lines and repeating patterns which disrupt the intactness of the view because they are incompatible elements. Monopoles don't blend into background. Solid vertical nature of monopoles is a noticeable incongruent element.

Unity: The compositional harmony of middleground plane is interrupted by the monopoles. Tall vertical lines rise above the middleground. The darker colors, flat and solid texture are incongruent.

### Numerical Evaluation

Vividness: 3.06

Intactness: 2.56

Unity: 2.9

# Viewer Response Worksheet

Project Name: ESJ Gen-Tie

Date: 2010-01-28 Lisa Randall, Tom Cherry,

KOP: 3

Analyst: Peter Langenfeld, Mayra Medel

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

**Viewer Sensitivity** - Viewer sensitivity is both the viewers concern for scenic quality and the viewers response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

**Viewer Exposure** - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

**Duration of View** - The amount of time the view is available

**Viewer Awareness** - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity.

## Viewer Groups

Types of Viewer	Rating
<u>Motorists (Recreational)</u>	_____
Viewer Sensitivity/Awareness <u>Moderately low / Moderate</u>	<u>2.6</u>
Viewer Exposure <u>Moderately Low</u>	<u>2</u>
Duration of View <u>Moderately Low</u>	<u>1.9</u>
Total	<u>6.5</u>
Product(total/3)	<u>2.2</u>

Types of Viewer	Rating
<u>Bicyclists</u>	_____
Viewer Sensitivity/Awareness <u>Moderate / Moderately High</u>	<u>3.6</u>
Viewer Exposure <u>Low</u>	<u>1.25</u>
Duration of View <u>Moderate</u>	<u>3</u>
Total	<u>7.85</u>
Product(total/3)	<u>2.6</u>

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

# Visual Quality Assessment Worksheet

Project Name: E SJ Gen-Tie

Date: 2010-01-28 Lisa Randall, Tom Cherry,

KOP: 6

Analyst: Peter Langenfeld, Mayra Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: Horizontal lines and pyramidal forms create memorable views, but lack of shadows create less visual interest.

Intactness: Cultural modifications in foreground create distraction - horizontal line is attractive.

Unity: Visual harmony is disrupted by incongruent cultural modification in foreground.

### Numerical Evaluation

Vividness: 3.17

Intactness: 2.25

Unity: 2.42

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: Monopole design adds a vertical element into a very horizontal landscape, which makes monopole more visible. The strong opaque vertical and horizontal forms of monopoles and monopole arms interrupt the textured rock face, which is a vivid component of the view.

Intactness: Although the view is influenced by cultural mods in foreground, the horizontal plane of middle ground view would also be affected by monopoles - whose angular lines and visible service road would further reduce intactness of view.

Unity: Horizontal lines of desert floor, border fence, and utility lines conflict with the vertical lines of the monopoles, reducing unity of the view. Also, monopoles are inconsistent with existing swpl lattice tower visible in this view, which affects the unity.

### Numerical Evaluation

Vividness: 2.5

Intactness: 1.3

Unity: 1.56

# Viewer Response Worksheet

Project Name: ESJ Gen-Tie

Date: 2010-01-28 Lisa Randall, Tom Cherry,

KOP: 6

Analyst: Peter Langenfeld, Mayra Medel

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

*Viewer Sensitivity* - Viewer sensitivity is both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

*Viewer Exposure* - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

*Duration of View* - The amount of time the view is available

*Viewer Awareness* - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity

## Viewer Groups

	Rating
Types of Viewer <u>Motorists</u>	_____
Viewer Sensitivity/Awareness <u>Low/Moderately Low</u>	<u>1.75</u>
Viewer Exposure <u>Moderately High</u>	<u>4.25</u>
Duration of View <u>Low</u>	<u>1.2</u>
Total	<u>7.2</u>
Product(total/3)	<u>2.4</u>

	Rating
Types of Viewer _____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

	Rating
Types of Viewer _____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

# Visual Quality Assessment Worksheet

Project Name: E.SJ Gen-Tie

Date: 2010-01-28 User: Reindall, Tom Cherry,

KOP: 9

Analyst: Peter Langefeld, Mayra Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: NO dramatic elevation change - large topographic intrusion detracts from memorability

Intactness: Border fence introduces a strong, hard line in the foreground. Border patrol roads also in view.

Unity: view is not unified because lines are not harmonious. Too many cultural modifications present in view.

### Numerical Evaluation

Vividness: 2.58

Intactness: 1.75

Unity: 1.75

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: Airport Mesa, most vivid component of view is already compromised by its awkward topography and border fence that bisects its slope. The repeating vertical lines and horizontal drapes of monopoles and wires form a screen that disrupts the viewer from view. Poles accentuate border fence and vertical monopoles.

Intactness: View is already compromised by cultural modifications and road scars and border fence, but introduction of opaque towers contribute mass that, in conjunction with cleared pads and grading, starkly contrast with and reduce intactness of view. Poles and grading incrementally disrupt the natural textural patterns in the midground.

Unity: Monopoles would have a noticeable impact on view's unity by introducing inharmonious vertical & horizontal lines that intersect at awkward angles with the border fence.

### Numerical Evaluation

Vividness: 1.9

Intactness: 1

Unity: .87

# Viewer Response Worksheet

Project Name: ESJ Gen-Tie

Date: 2010-01-28 Lisa Randall, Tom Cherry

KOP: 9

Analyst: Peter Imgenfeld, Mayra Medel

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

**Viewer Sensitivity** - Viewer sensitivity is both the viewers concern for scenic quality and the viewers response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

**Viewer Exposure** - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

**Duration of View** - The amount of time the view is available

**Viewer Awareness** - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity.

## Viewer Groups

Types of Viewer	Rating
<u>Recreationists</u>	<u>3.1</u>
Viewer Sensitivity/Awareness <u>Moderate</u>	<u>1.9</u>
Viewer Exposure <u>Moderately Low</u>	<u>4.5</u>
Duration of View <u>Moderately High/ High</u>	<u>9.5</u>
Total	<u>3.2</u>
Product(total/3)	

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

Types of Viewer	Rating
_____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

# Visual Quality Assessment Worksheet

Project Name: ESJ Gen-Tie

Date: 2010-01-28 Lisa Randall, Tom Cherry,

KOP: 10

Analyst: Peter Langenfeld, Mayra Medel

Vividness - The visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness - The visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.

Unity - The visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

## Existing Visual Quality

### Qualitative Evaluation

Vividness: Background views are distinctive pyramidal forms.

Intactness: Panoramic views from this KOP. Views are intact, but existing border fence detracts from complete intactness.

Unity: Planar pediment in middleground is unified. Vegetation cover creates unity, but border fence disrupts unity.

### Numerical Evaluation

Vividness: 3.75

Intactness: 3.67

Unity: 3.67

## Resultant Visual Quality with Project Implementation

### Qualitative Evaluation

Vividness: The strong horizontal lines created by transmission line towers punctuate views of memorable pyramidal forms of Jacumba Mountain foothills. Opaque vertical mass of the monopoles compromise vividness of Jacumba Mtns. by introducing incongruent lines and forms. Evenly spaced poles conflict with random angular lines of mountain background.

Intactness: Monopole features are incongruent with setting because repeating vertical lines of monopoles contrast with horizontal lines of ground plane and low-growing desert vegetation. Grading of pads and roads disrupt intactness of consistent color/texture of pediment surface.

Unity: Low profile of desert floor would be punctuated by repeating monopoles which would disrupt unity of view by introducing vertical mass. Geometric lines of monopoles are evident against the jumbled, tumbled, and angular lines of the Jacumba Mountain backdrop.

### Numerical Evaluation

Vividness: 2.95

Intactness: 2.78

Unity: 2.66

# Viewer Response Worksheet

Project Name: E.S.J Gen-Tie

Date: 2010-01-28 Lisa Randall, Tom Chern

KOP: 10

Analyst: Peter Langenfeld, Mayra medel

5 - High

2 - Moderately Low

4 - Moderately High

1 - Low

3 - Moderate

0 - None

**Viewer Sensitivity** - Viewer sensitivity is both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

**Viewer Exposure** - The number of viewers and the duration of view are also important to analyzing impacts. The number of viewers in nearby residences (stationary view), and the duration of their view of a project would be very different than the number of people who see a project from a highway or roadway (moving view). Whether the viewers on the highway are residents of the local community or visitors may also affect their responses to a viewshed.

**Duration of View** - The amount of time the view is available

**Viewer Awareness** - A viewer's response is also affected by the degree to which he/she is receptive to the visual details, character, and quality of the surround landscape. A viewer's ability to perceive the landscape is affected by his/her activity.

## Viewer Groups

	Rating
Types of Viewer <u>Recreationists</u>	<u>          </u>
Viewer Sensitivity/Awareness <u>moderate</u>	<u>3.25</u>
Viewer Exposure <u>Moderately low</u>	<u>2</u>
Duration of View <u>Moderately high</u>	<u>4</u>
Total	<u>9.25</u>
Product(total/3)	<u>3.1</u>

	Rating
Types of Viewer _____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____

	Rating
Types of Viewer _____	_____
Viewer Sensitivity/Awareness _____	_____
Viewer Exposure _____	_____
Duration of View _____	_____
Total	_____
Product(total/3)	_____