

CHAPTER 4.0

ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

4.1 AESTHETICS

4.1.1 SETTING

For the purposes of a CEQA environmental review, the term “aesthetics” pertains to the visual quality of an area. Visual quality is the character, condition, and quality of a scenic landscape or other visual resource and how it is perceived and valued by the public. The loss or alteration of natural aesthetic features, reduction of or intrusion upon vistas, or introduction of contrasting urban features could diminish the value of aesthetic resources in the project area.

Within the project area, aesthetically significant features occur in a diverse array of environments, from urban centers to rural agricultural lands to natural woodlands and deserts. The mix of climate, topography, and flora and fauna found in the natural environment, and the diversity of style, composition, and distribution of the built environment, provides an extraordinary range of visual features in the project area. Natural features include land and water resources such as parks and open space areas, wilderness areas (mountains and deserts), beaches, and natural water sources. Elements of the visual environment that have been constructed to resemble natural features, such as manmade lakes are also included in the aesthetic environment. Rural and agricultural settings also may include features or landscapes valued for their scenic or aesthetic qualities. Features of the built environment that may have visual significance include individual structures or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. The visually significant built environment may include architecturally appealing buildings or groups of buildings, landscaped freeways, or a location where an historic event occurred.

Throughout the project area, views of the coast and various mountain ranges are considered valuable visual resources. Views of the coast occur in locations in Marin, San Francisco, San Mateo and Santa Cruz Counties in northern California and in Los Angeles, Orange, and San Diego Counties in southern California. Views of various mountain ranges occur throughout the project area: the Coast Ranges, including the Santa Cruz Mountains and Diablo Range in the San Francisco Bay Area, the Coast Ranges and Sierra Nevada in the Central Valley, the Transverse Ranges, including the Santa Monica, San Gabriel, and San Bernardino Mountains in Los Angeles and San Bernardino Counties, and the Peninsular Ranges, including the Santa Ana

and San Jacinto Mountains, paralleling the coast in Orange and San Diego Counties and the western regions of Riverside and Imperial Counties.

Other natural features that may have visual significance are the numerous rivers, streams, creeks, lakes and reservoirs located within the project area, including, but not limited to, the Sacramento-San Joaquin Delta and San Francisco Bay, the Salton Sea, Pyramid Lake, Lake Arrowhead, Big Bear Lake, Lake Havasu, and multiple reservoirs throughout the state.

PROJECT AREA REGIONS

This section presents an overview of the visual setting of the project area broken into the following regions: the San Francisco Bay Area, the Central Valley, Los Angeles, Orange, and San Diego Counties, the Inland Empire, and Imperial County. The project would be located primarily in the urbanized areas of these counties.

San Francisco Bay Area

The visual setting of the San Francisco Bay Area (including the project-area counties of Marin, San Francisco, Contra Costa, Alameda, San Mateo, Santa Clara, and Santa Cruz) is dominated by the north-south trending Coast Ranges which surround San Francisco Bay, the Bay itself, and the Pacific Ocean. The Coast Ranges include the hills and headlands of Marin County, the Santa Cruz Mountains paralleling the coast along the San Mateo Peninsula, and the Berkeley-Oakland Hills and Diablo Range east of the Bay. The natural landscape of Marin County includes rolling oak-studded hills, redwood forests, intermittent stretches of beaches and rugged sea cliffs rising dramatically above the Pacific along the coast. San Francisco's distinctively hilly topography, where in some neighborhoods rows of houses border steep staircases instead of streets, contributes to the City's unique visual character. South of San Francisco, the Santa Cruz Mountains include rolling grasslands and oak studded hills at lower elevations and dense mixed-hardwood and evergreen forests in the higher elevations, extend along the San Mateo Peninsula through Santa Cruz County. The mountains, the rugged Pacific coastline, and occasional farm fields between them dominate the visual landscape along the rural western half of the peninsula. The eastern half of the peninsula along San Francisco Bay and including the Santa Clara Valley, is highly urbanized. The Diablo Range extends through much of Alameda and Contra Costa Counties, east of San Francisco Bay, and the eastern half of Santa Clara County. The Diablo Range consists mainly of grasslands, chaparral and oak savannah, reflecting the relatively sparse rainfall it receives. Both Alameda and Contra Costa Counties have a mix of highly urbanized, suburban, and rural areas. Along the San Francisco Bay Area, remnant salt marshes and wetlands also contribute to the region's scenic landscape.

Central Valley

Two project area counties, Sacramento and Fresno, are located in the Central Valley aesthetic region. Also called the Great Valley, the Central Valley consists of two distinct sub-regions, the Sacramento Valley, in the north, and the San Joaquin Valley, in the south. The wide, flat Central

Valley lies between the Sierra Nevada on the east and the Coast Ranges on the west; it is, on average, 40 miles wide and some 450 miles long from north to south, extending from Mt. Shasta (in the north) to the Tehachapi Mountains (in the south). Filled with deep alluvial soils that make it a rich agricultural region, much of the Central Valley is planted in field crops, vineyards, and orchards of fruit and nut trees; poultry, dairy, and beef cattle farms also are located here. The Valley's natural features include the two major river systems and the Sacramento-San Joaquin Delta to which they drain, stands of valley oaks, and wetlands that attract millions of migratory birds annually.

Los Angeles County

Los Angeles County is 4,081 square miles in size and has an 81-mile coastline; its topography is dominated by the Transverse Ranges and the Los Angeles Basin. Distinct geographic regions include the Antelope Valley in the northern part of the county, the Angeles National Forest-San Gabriel Mountains region south of the Antelope Valley, the highly urbanized San Fernando Valley between the San Gabriel Mountains and the Santa Monica Mountains, the Santa Monica Mountains in the westernmost part of the County, and Los Angeles Basin.

Orange County

Orange County is a geographically diverse area of mountains, hills, flatlands and shoreline. The major topographic features are the Los Angeles Basin and the Peninsular Ranges, which also extend through San Diego and Riverside Counties. The highly urbanized Los Angeles Basin dominates the northwestern part of the county. Rising above the Los Angeles Basin to the east, along the eastern boundary of the county, is the chaparral-covered slopes of the Chino Hills and Santa Ana Mountains of the Peninsular Ranges. Forested areas scatter the higher elevations along the border of Riverside County. The southern part of the county is characterized by chaparral and scrub covered slopes of the San Joaquin Hills and Laguna Hills, and a mix of open, undeveloped areas and urban centers, including the towns of Mission Viejo and Laguna Hills. Forty-two miles of beaches line the coast.

San Diego County

Along with Imperial County to the east, San Diego County is the southernmost county in the state. The visual landscape of the county is dominated by its 70 miles of coastline and the Peninsular Ranges, which include mountains of the Cleveland National Forest and the more arid mountains and valleys of the Anza Borrego Desert in the eastern half of the county. Urban development is located primarily in the western part of the county, and is most concentrated in the county's southwestern quadrant.

Inland Empire

The landscape of San Bernardino and Riverside Counties is dominated by the Transverse Ranges in southwestern San Bernardino County, the Peninsular Ranges, which extend through the western half of Riverside County, and the creosote, mesquite, and Joshua trees of the Mojave

Desert. Urban development is centered in the fast-growing metropolitan region around the cities of San Bernardino and Riverside, in the southwestern corner of San Bernardino and northwestern corner of Riverside county, respectively.

Imperial County

Located along the southern and southeastern border of California, Imperial County is a sparsely populated county located in the Colorado Desert geomorphic province. The county's visual landscape is dominated by the mountains and valleys of the Anza Borrego desert in the southwest of the county and the Salton Sea, the state's largest inland sea. In the northwest, the Imperial Valley, which is largely in agriculture is the dominant feature while in the south central region of the county, and the East Mesa and Sand Hill dunes and Chocolate Mountains represent the major feature of the eastern half of the county. Urban development is located primarily in communities of the Imperial Valley.

4.1.2 REGULATIONS, APPROVALS, AND PERMITS APPLICABLE TO AESTHETICS

There are no federal aesthetics permits or regulations applicable to the proposed project. The California Department of Transportation (Caltrans) has a State Scenic Highways program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The program entails the regulation of land use and density of development, attention to the design of sites and structures, attention to and control of signage, landscaping, and grading, and the undergrounding of utility lines within the view corridor of designated scenic roadways. The local jurisdiction is responsible for adopting and implementing such regulation. The project area has roads that are either designated or eligible to be designated state scenic highways (see **Table 4.1-1**). Section 320 of the California Public Utilities Code requires that all new or relocated electric and communication distribution facilities within 1,000 feet of an officially designated scenic highway and visible from that highway be buried underground where feasible.

Various jurisdictions within the project area, such as some cities, counties, and regional agencies, provide guidelines within their general plans or regulations to preserve and enhance visual quality and aesthetic resources.¹ Because of the size and diversity of the project area, there are no uniform standards that apply to all regions within it. As will further be discussed in Land Use and Planning, Section 4.9 of this chapter, the zoning ordinance is the primary mechanism used by jurisdictions to implement the goals and objectives of the general plan. The value attributed to a visual resource generally is based on the characteristics and distinctiveness of the resource and the number of persons who view it. Vistas of undisturbed natural areas, unique or unusual features forming an important or dominant portion of a viewshed, and distant vistas offering relief

¹ California cities and counties are not required to include visual quality elements in their General Plans, although many do. However, the General Plans are required to include a Conservation Element, which includes resources such as waterways and forests that frequently are also scenic resources.

**TABLE 4.1-1
ROUTES DESIGNATED OR ELIGIBLE TO BE DESIGNATED
STATE SCENIC HIGHWAYS**

County	Officially Designated State Scenic Highways	Eligible State Highways Not Officially Designated as Scenic	Other Designated Scenic Routes
Alameda	I-580, I-680	I-80, SR 84, I-580	
Contra Costa	SR 24	SR 160	
Fresno		SR 168, SR 180, SR 198	
Imperial		I-8, SR 78, SR 111	
Los Angeles	SR 2	SR 1, SR 27, SR 39, SR 57, US 101, SR 118, SR 126, I-210	Historic Parkway-I 110
Marin		SR 1, SR 37, US 101	
Orange	SR 91	SR 1, SR 57, SR 74, SR 91	
Riverside	SR 62, SR 74, SR 243	I-10, I-15, SR 62, SR 71, SR 91, SR 74, SR 111	
Sacramento	SR 160		County Scenic Road
San Bernardino	SR 20	SR 2, I-10, I-15, SR 28, I-40, SR 62, SR 91, SR 127, SR 138, SR 142, SR 173, SR 189, SR 330, SR 247	
San Diego	SR 75, SR 78, SR 125	I-5, I-8, SR 52, SR 76, SR 78, SR 79, SR 94, SR 163	
San Francisco		SR 1, I-80	
San Mateo	SR 1, SR 35, IS 280	SR 1, SR 92	
Santa Clara	SR 9	SR 17, SR 35, SR 152, SR 280	
Santa Cruz		SR 1, SR 9, SR 17, SR 35, SR 129, SR 152, SR 236	

SR = State Route
US = US Highway
I = Interstate Highway

NOTE: Designation or eligibility may apply only to sections of a given route within a county. In some cases, within the same county some sections of a route may be designated and other sections eligible but not designated.

from less attractive nearby features are frequently considered to be scenic resources. In some instances a case-by-case determination of scenic value may be needed, but often there is agreement within the relevant community about which features are valued as scenic resources.

4.1.3 IMPACTS AND MITIGATION MEASURES

APPROACH TO ANALYSIS

To analyze the aesthetics impacts of the proposed project, the visual changes expected to result from project implementation were identified based on information presented in Chapter 3, Project Description, and the significance of such changes were evaluated based on the significance criteria (below).

SIGNIFICANCE CRITERIA

The analysis of the significance of project impacts is based on the CEQA Environmental Checklist criteria (CEQA Guidelines Appendix G). A project could have a significant effect on visual quality if it:

- has a substantial adverse effect on a scenic vista;
- negatively affects or damaged aesthetically significant resources;
- substantially degrades the existing visual character or quality of the project site; or
- creates a new source of light or glare.

In general, the project would be considered to have a significant aesthetic impact if it would result in the addition of significant structures that conflict visually with the existing setting, added substantial visual clutter or disorder, or substantially disrupted the surrounding visual context, especially if such changes were of more than temporary duration.

IMPACT MECHANISMS

A project may involve changes to the natural or built environment and thereby cause impacts on the visual environment. Visual impacts of the proposed project could potentially result from construction-related ground disturbance or vegetation removal, installation of cable markers, or construction of regenerator/OP-AMP stations. The significance of an impact would be based on several factors, such as the existing visual character of the area, the expectations and number of individuals viewing the area, and the location of the impact (foreground, middle ground, or background).

IMPACT ASSESSMENT

The following presents a programmatic-level discussion of potential project impacts on aesthetic resources. The aesthetic values that are important in one area can be relatively less important in another location, indicating the complex nature of aesthetics. Preferred architectural style, expectations for landscaping and tolerance for visual clutter is commonly a discriminator of

aesthetic values. Context is also an important consideration in assessing aesthetic impacts. For example, construction of an OP-AMP station could be expected to have little if any visual impact in an industrial area, but might have a significant visual impact if located in an area of otherwise undisturbed vegetation.

In general, the proposed project would have minimal aesthetic impact. Fiber optic cable facilities could be located within the viewshed of residential neighborhoods, housing developments, schools, commercial and industrial centers, roadways, and recreational and open space land uses; streets where facilities may be proposed may be developed with trees and landscaping that could be impacted by construction. The fiber optic cable facilities may be installed underground within existing roadway, utility, or railroad rights of way or overhead on transmission line towers or utility distribution poles.

If installed underground, the facilities would not be visible following construction, although ground disturbance from installation could potentially remain. Visible effects from disturbance of vegetation may be particularly long-lasting in arid areas (e.g., much of the southern California portion of the project area), where vegetation is slow to regenerate. Where other underground utility lines are already present, signs indicating their presence would already be visible at intervals along the alignment. For bridge crossings, facilities may be attached to the exterior of the bridge structure or installed in an existing cell within the bridge, as described in Chapter 3, Project Description. An exterior attachment would have the potential to conflict visually with the architecture of the bridge. Such conflict would be more likely in cases of historic or architecturally distinctive bridges.

If the fiber optic cable facilities were installed overhead, it would be placed with already existing overhead lines, rather than introducing new visual elements to the particular landscape. Cable installed on transmission line towers could be located at a different level from the electric wires, potentially contributing to “visual clutter,” depending on the setting. As indicated in Chapter 3, Project Description, the structural modifications to transmission towers to support OPGW would be minor and would not be visible to the casual observer. Because electric transmission corridors in general constitute substantial features of the settings in which they are located, the potential for the addition of fiber optic cable – even when hung at a different level from existing wires – to substantially degrade visual resources in such settings would likely be small.

Splice boxes and regenerator and OP-AMP stations would be above-ground structures and therefore would have the potential to conflict with the visual quality of both natural and built environments in which they are located. Splice boxes are approximately 3 feet square and 10 inches deep and look similar to the electrical boxes commonly attached to utility poles. Because the splice boxes also would be attached to existing utility poles or transmission towers, they would not constitute a substantial new element to the visual environment and therefore would not constitute a significant adverse impact on visual quality. To the extent feasible, OP-AMP and regenerator stations would not be located in areas that are designated as scenic. The lighting at each OP AMP and regenerator station would be equipped with sky shielding and

night timers or motion detectors to minimize night light pollution. Utility access vaults would be flush with ground level or in otherwise unobtrusive locations.

The construction phase would be the source of much of the disturbance to the visual setting associated with the proposed project. Underground installation of the fiber optic cable facilities would be accomplished using open trenching, plow and trench installation, or directional boring techniques, and would cause surface disturbance for a short period during installation, as described in Chapter 3, Project Description, but otherwise would have minimal, if any, long-term visual impacts. Overhead installation would be accomplished by attaching suspension clamps on poles and stringing the cable with the use of bucket trucks and cable reel trucks or cable trailers. This equipment could constitute additional “visual clutter” in the roadways or other utility rights of way where cable installation is taking place. However, because installation would proceed at an average rate of 100 to 300 feet per day, the effects of such installation on the visual landscape in any particular location would be quite temporary and therefore minor. Helicopters could be used to install the majority of the proposed OPGW on transmission towers. A helicopter would constitute a substantial physical component in almost any project-area landscape. However, because the use of helicopters would significantly shorten construction time, the short duration of a helicopter’s present in any single location would likely reduce to insignificance its impact on visual quality. A potential exception to this assessment may occur if helicopters were used for cable installation over a particularly wide and open area that was part of a scenic view. In such a case, the visual disruption would be of longer duration than normally would be expected. The likelihood of such a scenario is remote, however, since transmission towers and corridors are not generally considered visually appealing and would likely already be considered visual disruptions of the scenic landscape in which they occurred.

As discussed in Chapter 3, Project Description, Sempra Communications would employ construction, maintenance, and operations protocols to avoid or minimize impacts to visual resources.

Impact AES-1: The project could have an adverse effect on a scenic vista or damage a scenic resource. (Potentially Significant)

As discussed above, in general the proposed project is unlikely to substantially degrade or damage scenic resources because of the nature of the project, because protocols would be followed to minimize possible construction-related impacts, and because construction-related impacts on scenic resources would be of short duration. The fiber optic cable facilities could be installed underground within existing rights-of-way or overhead with existing electric distribution or transmission lines, attached to either existing or new brackets. However, the project could have significant impacts on scenic resources if regeneration and OP-AMP stations or other substantial aboveground project components were located close to or within a scenic vista or scenic resource area.

Mitigation Measure AES-1a: Sempra Communications shall identify scenic resources within 1,500 feet of the proposed activity and attempt to locate all permanent substantial aboveground features a minimum of 1,000 feet away from scenic resources.

Section 320 of the CPUC code requires new or relocated electric and communication distribution facilities to be buried underground when located within 1,000 feet of a designated scenic highway and visible from that highway. **Table 4.1-1** presents of preliminary list of potentially affected scenic routes within the project area.

Significance after Mitigation: Less than significant.

Impact AES-2: Minor changes in the existing visual character or quality of a site could result from project construction and operation. (Potentially Significant)

As discussed above, in general, the proposed project would not substantially degrade existing visual character or quality within the project area due to the nature of the project and because protocols would be followed to minimize possible construction-related impacts, which, it is noted, also would be of short duration, and operational protocols would be followed to minimize the project's potential long-term effects on visual quality.

Cable installation could occur underground primarily within existing rights-of-way or overhead with existing electric distribution or transmission lines. The underground facilities would therefore not be visible after the site is cleaned up and restored; site clean-up and restoration procedures are part of the proposed project. Trenches and potholes excavated as part of the construction process could constitute negative aesthetic features, albeit of temporary duration. Depending on the location of subsequent activities and the regeneration and OP-AMP stations, there is a possibility that the project could have significant visual quality impacts if these facilities conflicted with the architecture of existing structures or with the natural setting in which they are located. As described Chapter 3, Project Description, and noted above in this section, the proposed project includes management, construction and operational protocols to avoid or minimize impacts beyond the construction period and ensure compliance with applicable standards and regulations.

Mitigation Measure AES.2a: Sempra Communications shall minimize visual impacts of fiber optic cable facilities and comply with local regulations concerning architectural design and landscaping, shall keep construction and staging areas orderly and free of trash and debris, and shall restore areas disturbed by project construction along the proposed route to their pre-project condition to the extent feasible.

Significance after Mitigation: Less than Significant.

REFERENCES – Aesthetics

California Department of Finance (DOF), “E-1 City/County Population Estimates, with Annual Percentage Change, January 1, 2000 and 2001,”
<http://www.dof.ca.gov/HTML/DEMOGRAP/E-1table.xls> (website accessed 11 April 02).