# 6.1 Introduction

Aesthetic resources are the natural and cultural features of the landscape that can be seen and that contribute to the public's appreciation and enjoyment of the environment. Aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located. This chapter documents the visual conditions that now exist in the project area and evaluates the implications that the proposed project would have for the public's experience of the project area's aesthetic qualities. Figure 6-1 shows existing landscape features in the project area. With implementation of the proposed mitigation measures, impacts to visual resources resulting from the project would be less than significant.

### 6.1.1 Methodology

This analysis of the visual effects of changes that might occur with development of the project is based on field observations and review of the following information: local planning documents; project maps, drawings, and technical data; aerial and ground level photographs of the project area; computer-generated visual simulations; and research on design measures for integrating electric facilities into their environmental settings.

A set of photographs of representative views of the project area landscape is presented to provide a sense of the area's existing visual conditions. The locations of representative views are shown in Figures 6-2a and 6-2b. Figures 6-3a through 6.3h provide photographs of the existing conditions in the project area. In addition, a subset of these photographs has been selected to represent the "before" conditions from representative views of the substation sites and areas that will be crossed by the transmission lines. Visual simulations were produced to illustrate the "after" visual conditions from each of these points, providing the viewer with a clear image of the location, scale, and visual appearance of the proposed transmission lines and substations. These simulations are presented as the "b" part of Figures 6-4 through 6-10. The computer-generated simulations are the result of an objective analytical and computer modeling process described subsequently. The images are accurate within the constraints of the available site and project data.

Site reconnaissance was conducted to view the project area, to identify views appropriate for simulation, and to take representative photographs of existing visual conditions. A single lens reflex (SLR) 35-mm camera with a 50-mm lens (view angle 40 degrees) was used to shoot all but two of the site photographs. The photo from Route 84 looking east, Photo 22, is a panoramic photo that represents an approximate view angle of 70 degrees. This photo is also shown in the visual simulation images

presented in Figure 6-9. Photo 19, a panoramic photograph from Brushy Peak, has a view angle of 86 degrees.

Computer modeling and rendering techniques were used to produce the simulation images. Existing topographic and site data provided the basis for developing an initial digital model. PG&E project engineers provided site plans and digital data for the proposed substations, and plans and technical data for components of the transmission system. The information was used to create three-dimensional (3-D) digital models of these facilities. The project component models were combined with the digital site model to produce complete computer models of the substations and portions of the overhead transmission system.

For each selected simulation viewpoint, viewer location was digitized from topographic maps and scaled aerial photos, using 5 feet as the assumed eye level. Computer "wire frame" perspective plots were then overlaid on the photographs of the views taken from each viewpoint to verify scale and viewpoint location. Digital visual simulation images were then produced based on computer renderings of the 3-D model combined with high-resolution digital versions of base photographs. The final "hard copy" visual simulation images that appear in this chapter were produced from the digital image files using a color printer.

The visual impact assessment was based on evaluation of the changes to the existing visual resources that would result from construction and operation of the project. These changes were assessed, in part, by evaluating the "after" views provided by the computer-generated visual simulations and comparing them to the existing visual environment. In making the determination of the extent and implications of the visual changes, consideration was given to:

- The specific changes in the affected visual environment's composition, character, and any specially valued qualities
- The affected visual environment's context
- The extent to which the affected environment contains places or features that have been designated in plans and policies for protection or special consideration
- The relative numbers of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by the likely changes. Special consideration was given to effects on landscapes visible in the foreground from residential areas and scenic roadways.

# 6.2 Existing Conditions

### 6.2.1 Regional Setting

The proposed transmission lines and substations that make up the Tri-Valley Project will be developed in a portion of eastern Alameda County and a small area of adjacent Contra Costa County that includes areas of hillsides, ridgeline, and valley landscapes. Figure 6-1 shows existing landscape features found within the project area. The project's location in the larger region is identified in Figure 2-1 in Chapter 2. Figure 6-2a indicates the overall layout of the proposed Tri-Valley project components, and Figure 6-2b shows the locations of the South Area project components. These maps indicate the locations of the proposed transmission lines and substations and their relationship to the major topographic features, roadways, and community areas. The maps also indicate the photo locations for the photographs presented in Figure 6-3. These photographs illustrate existing landscape conditions and were used to provide the basis for simulations of the proposed project's appearance.

The North Area Phase 1 and 2 transmission line route extends approximately 15 miles from the Tesla Substation in the east to the proposed Dublin Substation about 1 mile east of Tassajara Road. The corridor encompasses a long segment through the Altamont Hills, a small area at the north end of the Las Positas Valley, and a long segment through the southern foothills of Mount Diablo. The South Area Project occupies a corridor that extends approximately 4.5 miles from the hills along Vallecitos Road (Route 84) to the Vineyard Substation in central Pleasanton. This corridor starts at the existing transmission line corridor south of Route 84 and extends northward over the hills south of Pleasanton. It then continues underground along a ridgeline and city streets to the Vineyard Substation.

The larger landscape zone, in which the two project areas are located, is the region that centers around the Livermore-Amador Valley, the broad alluvial plain that extends 10 miles from the Pleasanton Ridge on the west to the Altamont Hills on the east. This large valley is surrounded by a number of smaller subsidiary valleys on the north and south and is bordered on all sides by steeply sloped hillsides. The heavily forested slopes of Pleasanton Ridge and the parallel ridges to the west extend up to over 1,800 feet in elevation and separate the Livermore-Amador Valley area from the region around the San Francisco Bay. The hills surrounding the valley on the north are part of the foothills of Mount Diablo. On the east, the hills of the Altamont range extend up to 2,000 feet in elevation and separate the Livermore-Amador Valley from the San Joaquin Valley. The hills that frame the valley on the south are outliers of the high, steep ridges that occupy Alameda County's undeveloped southeast corner.

The Livermore-Amador Valley is a transition zone between the area around the San Francisco Bay on the west, where marine-influenced climatic conditions make for relatively verdant landscapes, and the dry landscapes of the San Joaquin Valley to the east. This transition is visible on the slopes of the hills surrounding the valley. On the west, where there is more marine influence, the hillsides are covered with thick oak forests. Moving eastward, annual rainfall levels taper off, trees on the hillsides become more sparse, and brushlands and grasslands begin to dominate the landscape.

For the most part, the hillsides surrounding the Livermore-Amador Valley have a natural appearance. Toward the western end of the valley, most of the hillsides are characterized by a mosaic of natural appearing oak woodlands and grasslands. Further to the east, most of the hillsides have the appearance of open grasslands used for cattle ranching. The Altamont Hills on the region's eastern end have a special visual character related to the large infrastructure facilities that coexist with the ranching landscape. Because of the presence of these highly visible facilities that include major railroad corridors, Interstate 580, elements of the California Water Project, the 500 kV Tesla

substation, a network of major transmission lines, and over 5,000 wind turbines, the resulting landscape scene is a mix of both rural and technological elements.

The flat valley floor of the Livermore-Amador Valley and the smaller valleys that merge into it are characterized by a mix of recent suburban development and areas devoted to gravel extraction, field crops, vineyards, and grazing. The suburban development is most heavily concentrated in the San Ramon Valley (including the communities of San Ramon and Dublin) and in the areas south of Interstate 580 that center on Pleasanton and Livermore. The vineyards are concentrated on the flat valley lands and adjacent hillsides east and south of Livermore and extend into the valleys along the Arroyo Mocho and the Arroyo del Valle (see Figure 6-1).

## 6.2.2 Planning and Future Development Context

The project area landscape is a landscape in transition. Large-scale suburban development has been occurring in the area over the past 30 years, transforming it from an agricultural region to one that is now a mix of rural and suburban. The adopted community plans for Dublin, Pleasanton, and Livermore all provide for substantial community expansion into the surrounding valley floor and hill lands. As a result, much of the flat valley land that now remains open and appears rural will likely be converted to subdivisions, industrial parks, and community facilities. In addition, it can be anticipated that some of the hills in Dublin and Pleasanton will be developed for residential use, and as a consequence, the hillsides in these areas can be expected to take on a more suburban appearance. The one exception to these trends is likely to be in the vineyard areas to the east and south of Livermore where there is strong public sentiment for the preservation of the area's wine industry and development of wine-related tourism. Policies adopted for this by both the City of Livermore and Alameda County protect the vineyard lands from urbanization and impose design standards to protect the landscape's visual character.

## 6.2.3 Summary of Adopted Plans and Policies

This section provides an overview of adopted visual and urban design policies that pertain to the proposed project. The Tri-Valley jurisdictions affected by the project have adopted various plans enumerating goals and guiding policies regarding utility lines and scenic resources. As described in Chapter 5, Land Use, the Tri-Valley Capacity Increase Project lies within three distinct jurisdictions: the City of Pleasanton, as well as Alameda and Contra Costa Counties. However, because the project is potentially visible from areas which lie outside of these jurisdictions, pertinent policies for the Cities of Dublin and Livermore are also provided in this chapter. The policies summarized reflect a variety of sources including the Alameda County General Plan, the Alameda County East County Area Plan, the Contra Costa County General Plan, the Dublin General Plan, the Eastern Dublin Specific Plan, the Eastern Dublin Scenic Corridor Policies and Standards, the Pleasanton General Plan, the Pleasanton Zoning Code, the Livermore General Plan, the North Livermore Land Use Plan, and the South Livermore Valley Specific Plan.

A number of the jurisdictions' policies address transmission lines specifically. For example, Contra Costa County (1996) recognizes that "developments such as power

Insert Figure 6-1 (11 x 17)

### Figure 6-2a (11 x 17)

Figure 6-2b

## Figure 6-3a

Figure 6-3b

## Figure 6-3c

Figure 6-3d

## Figure 6-3e

Figure 6-3f

## Figure 6-3g

Figure 6-3h

Figure 6-4a (color) Figure 6-4b

6-5a

6-5b

## Figure 6-6a

Figure 6-6b

## Figure 6-7a

Figure 6-7b

## Figure 6-8a

Figure 6-8b

## Figure 6-9a

Figure 6-9b

## Figure 6-10a

Figure 6-10b

Extra page for even page (6-10b)

lines can degrade the scenic quality of an area if they are not carefully designed, located, and landscaped." As a mitigation, the county indicates that new power lines shall be located parallel to existing lines in order to minimize their visual impact. The Scenic Route Elements of both the City of Livermore (1995) and Alameda County (1974) state that new overhead transmission towers and lines should not be located within designated scenic corridors. The Pleasanton Zoning Code (1998) specifies that transmission towers be located in non-residential districts on sites at least 1,000 feet away from the Interstate 580 right-of-way. The Code also calls for a visual analysis of new towers demonstrating that views of structures are "minimized or are substantially screened from residential land uses, or other sensitive land uses...and an engineering analysis justifying the height of the proposed tower." In the Pleasanton area, part of the new transmission line would be underground.

Distribution lines are also addressed in several policies. Generally, the Tri-Valley communities prefer to place as many lines underground as possible to preserve and enhance the scenic quality of the region. The Alameda Scenic Route Element (1974) established a guideline that "new, relocated, or existing utility distribution lines should be placed underground whenever feasible."

Review of the various documents reveals that Tri-Valley jurisdictions share a common value in the scenic characteristics of the region. Each plan partially attributes the attractiveness of the area to the undisturbed natural ridgelines and scenic views of the hills, which in turn provide a semi-rural and open feeling. Aesthetic views and open space are considered an important part of each jurisdiction's identity. For example, the Alameda East County Area Plan (1993) states, "The East County has many visual features—prominent peaks and ridgelines, rolling hills, agricultural lands, picturesque canyons, arroyos, and reservoirs—that are integral to the visual character of the area."

Because the ridgelines provide scenic views and are considered one of the main natural resources in the area, the planning documents discuss overall goals and specific policies relating to ridgelines. A primary goal of all the plans is to retain the character of natural slopes and natural formations. Several significant ridgelines within the project area are recognized and setback zones have been established. The Contra Costa General Plan, for example, strongly discourages the building of structures on the top of any designated scenic ridgeline. As a rule, Tri-Valley policies disallow creation of artificial skylines through alterations and development. Additionally, in the Tri-Valley area, the jurisdictions encourage property owners to consider scenic easements, land dedications and/or enhancement of areas with scenic values.

The Alameda County East County Area Plan contains a number of policies intended to provide protection to visually sensitive viewsheds. Areas defined as visually sensitive that would be crossed by the project or which are in close proximity to it include:

- The ridgelines above Donlan Canyon east of Dublin
- The ridgelines above Collier Canyon and Vasco Road, and the ridgelines surrounding Brushy Peak north of Livermore
- The ridgelines above the vineyards south of Livermore

Scenic route and scenic corridor designations are designed to protect the visually sensitive viewsheds of a region. The guiding planning policies of the Tri-Valley governments, in an effort to maintain and enhance scenic values, use the designations to provide guidance for development and conservation of land. The North Area Project components are within unincorporated areas of Alameda County. The Scenic Route Element of the Alameda County General Plan (1974) identifies many of the major roadways in the unincorporated east county as scenic and establishes scenic corridor policies for the areas extending up to 1,000 feet from the edge of the right-of-way. In the areas potentially affected by the project, the designated scenic routes include: Interstate 580, Highway 84, and Dougherty, Tassajara, Collier Canyon, Manning, Morgan Territory, North Livermore, Vasco, Altamont Pass, Tesla, Mines, and Arroyo Roads. Figure 6-1 shows the location of designated scenic routes in relation to the proposed project elements.

The policies applicable to scenic views within Alameda County are designed to provide for normal uses of land, to protect against unsightly features in scenic corridors, and to preserve and enhance natural scenic qualities in areas beyond the scenic corridor. Other Tri-Valley plans incorporate similar designations and policies for visually sensitive viewsheds. An overall theme throughout the planning documents is that scenic qualities should be preserved, protected, and enhanced. In particular, views of Mount Diablo, Brushy Peak, Donlan Peak, and Cresta Blanca are greatly valued.

A number of policies address the preservation of open space associated with the ridgelines. Like the ridgelines, open space is considered a natural resource to be preserved for future generations. In addition to protecting visual resources, public safety issues concerning unstable soils and steep slopes underscore the need to preserve areas as open space. Language in the plans provides for maintaining open space and prominent topographic features, as well as for managing space to afford significant corridors, trails, and a pleasing visual image.

Trees, in addition to hills and open space, are another valued aspect of visual resources. The Alameda East County Area Plan (1993) calls for "minimizing disturbances to large stands of mature, healthy trees." Any healthy trees that must be removed to make way for development should be replaced.

Tri-Valley policies address objectives for development so that the identified visual and natural resources are protected. Policies directing development indicate that structures should not obstruct views and should be compatible with natural scenes so as not to "obscure, detract from, or negatively affect the quality of views" (Livermore General Plan, 1976). The jurisdictions require that structures be visually compatible with natural scenic qualities rather than projecting above the ridgelines. Additionally, structures should not extend above the tree canopy. These goals are accomplished through various regulations of the height and area of structures.

Local policies state that grading should be minimized to the maximum extent possible to protect the aesthetic value and open space character. The overall goal is that roads should be compatible with natural features, preserving the topography and other resources such as mature trees.

The area's topography is further protected though regulations specifying that natural contours and vegetation should be preserved and enhanced. Jurisdictional permits are required for grading. Mass grading is discouraged, particularly in areas with steep slopes. For example, the Pleasanton General Plan (1996) excludes terrain exceeding 25 percent slope from developable land use designations. When grading is necessary, Tri-Valley policies generally call for minimization of off-site visibility of cut and fill and avoidance of stands of mature, healthy vegetation, scenic natural formations, and natural watercourses. According to the plans, graded areas should be restored with land sculpturing and replanted with materials compatible with the existing environment; landscaping should enhance scenic quality and screen undesirable views.

### 6.2.4 North Area—Phase 1

#### **Transmission Line**

As described in Chapter 2, the transmission line planned for Phase 1 will begin at the existing Contra Costa–Newark 230 kV line and will extend westward for approximately 7.9 miles before terminating at the proposed Dublin Substation. This line will include a 1-mile southern spur that will connect to the proposed North Livermore Substation. Figure 6-2a shows the route and the locations of the proposed substations. It also indicates the locations from which the photos were taken that were used to characterize existing landscape conditions and that serve as the basis for simulations of the completed project's appearance. Figure 6-3 presents representative photographs that depict the project area's visual character.

The North Area transmission line route begins at a point along the Contra Costa-Newark 230 kV line located on a ridge situated just west of Vasco Road. In this area, the Contra Costa–Newark line consists of two circuits carried on approximately 100-foot-high lattice towers. The towers at the connection point are visible from Vasco Road and from several rural residences located within a quarter-mile radius. Vasco Road is a heavily traveled thoroughfare and is also a designated Alameda County and City of Livermore Scenic Route. At present, the corridor along Vasco Road in this area has a rural appearance characterized by grass-covered slopes and punctuated by scattered oak trees. The roadway and the existing 230 kV line are the major built elements in the scene. A short distance north of this area, major wind turbine installations are visually prominent elements in Vasco Road's view corridor. Wind turbines in this area are approximately 60 to 80 feet in height. Photo 1 is a view from Vasco Road looking south toward the existing 230 kV transmission towers, and Photo 2 is a view toward the existing towers as seen from the south. Local plans call for this area to remain rural in the future.

To the west of the existing Contra Costa–Newark 230 kV line, the proposed transmission line will pass along the base of the low, rounded hills that define the north end of the Las Positas Valley. The spur line to the North Livermore Substation will extend south into the valley along North Livermore Avenue. The Las Positas Valley is approximately 3 miles wide and is defined by the Altamont Ridge on the east and the steep ridges that frame Collier Canyon on the west. At present, the flat valley lands and the low, rolling hills to the north are devoted to grazing, non-irrigated agriculture, and scattered rural residences. Although eucalyptus, cypress, and locust windbreaks border some of the roads and rural residences, the valley's landscape is generally open in character, and the surrounding hillsides can be seen from most areas. Infrastructure visible in the valley's landscape includes the approximately 100-foot-high lattice towers of the Contra Costa-Newark 230 kV line along the valley's eastern edge, the tall wooden poles dispersed around the 115-acre Federal Communications Commission's Livermore Monitoring Station, and electrical distribution poles along the area's roadways. Photo 3 is a view from Manning Road at North Livermore Avenue, looking east along the proposed alignment. Photo 4 is a view south across the Livermore Valley, looking down North Livermore Avenue from a viewpoint at Manning Road. Photo 5 is a view looking east along Manning Road from a viewpoint at Morgan Territory Road. Photo 6 is a view looking west along Manning Road from the intersection with Morgan Territory Road.

North Livermore Avenue and the nearby segments of Manning Road and Morgan Territory Road have been designated as scenic routes by both Alameda County and the City of Livermore. Although the Las Positas Valley has a rural character at present, much of the valley is slated for urbanization in the near future. Under the City of Livermore's North Livermore Land Use Plan, which is now being put in final form for public distribution, the portion of the valley south of May School Road will be designated for development as "new community" with a mixture of low to high-density housing that will focus on a village core to be located at the intersection of North Livermore Avenue and Hartman Road. The area to the north of May School Road has been designated for retention in rural use under Alameda County's East County Plan, and this designation will be retained in the North Livermore plan.

From the point where it leaves Manning Road just west of Milepost B15, westward to its terminus at the proposed Dublin Substation, the transmission line will pass through a region of north-south trending ridges that extend up to over 900 feet in elevation. Most of this ridge country consists of large parcels used for cattle ranching, and most of the area is inaccessible to the public. The only places where the transmission line would be visible to the public would be where it heads westward from Manning Road (see Photo 6) and at its crossing of Collier Canyon Road (see Photos 7 and 8). As the photos suggest, the landscape in this area has a rural appearance, in which steep, grass-covered slopes are the primary element in the scene. Manning Road and Collier Canyon Road are both designated as scenic routes by Alameda County. The portion of Collier Canyon Road that would be crossed by the transmission line has some visual sensitivity because of the presence of several rural residences. In local plans, virtually all of the lands along this alignment have been designated for retention as large parcel agriculture. The only exception is a small area near Milepost B17 that the City of Dublin has designated for low-density (0 to 6 dwelling units per acre) residential development.

#### North Livermore Substation Site

The proposed North Livermore Substation will be located in the Las Positas Valley on a 5-acre site located on the west side of North Livermore Avenue, at the intersection with May School Road. The overall visual setting of the Las Positas Valley is characterized in the description of the transmission line route presented in the preceding paragraphs. Views along North Livermore Avenue are shown from south and north of the site in Photos 9 and 11, respectively. In Photo 9, the site is located on the left side of the road behind the farmstead visible in the scene's middleground. In Photo 11, the site is located

on the right side of the road behind the farmstead. Photo 10 is a view toward the site from the east, looking down May School Road. The site is visible just to the left of May School Road's terminus at North Livermore Boulevard. Photo 10 is a view of the site as seen from North Livermore Avenue looking south. In this view, the site is the open field visible to the right of the road. As this photo indicates, the substation site itself is flat and is currently vacant except for the existing electric distribution line carried on wood poles that run along the west edge of the road. North Livermore Avenue, which is lightly traveled, is a city- and county-designated scenic route. The closest residential viewers to the site are occupants of the farm home located adjacent to the site's southern border and approximately 1,000 feet to the northeast. In addition, the site is visible from the homes in the rural residential cluster located along Bel Roma Road, 0.4 miles to the east. Under the North Livermore Land Use Plan, the site's southern edge would be located in an area designated for development with medium-density residences. The northern three-quarters of the site would lie within an area designated as an east-west open space corridor that is to be set aside to separate the developed residential area to the south from the rural preserve area to be retained at the northern end of the valley.

#### **Dublin Substation Site**

The Dublin Substation site is a 5-acre area located just north of the Alameda/Contra Costa County line and about 0.8 miles east of Tassajara Road. The site is located in a small, narrow canyon surrounded by steep, grass-covered slopes. The site and the surrounding land is now used for ranching. A small barn and irrigated paddock are located nearby (see Photo 12). The site is not visible from Tassajara Road. The closest home is a rural dwelling located in the canyon, approximately 0.4 miles to the southwest. Because of the intervening topography, the site is not visible from this residence. Under the Dublin General Plan, the area immediately along the creek has been set aside as a stream corridor. The generally level lands in the canyon have been designated for low-density residential development (0 to 6 units per acre) while the surrounding hillsides have been designated for rural residential/agriculture (1 unit per 100 acres).

### 6.2.5 North Area—Phase 2

An approximately 10-mile long transmission line would be built between the Tesla Substation and the Contra Costa–Newark 230 kV line. This project component is described Chapter 2, Project Description, and the proposed route is indicated in Figure 6-2a.

This route would cross the Altamont Hills, a set of ridges that rise to 1,500 feet above the floors of the Livermore Valley to the west and the San Joaquin Valley to the east. In views from the Livermore area, the hills appear as a series of steep ridges that rise up sharply from the valley, creating a distinctive visual contrast with the valley floor and forming a well-defined central ridgeline silhouetted against the sky. In views from the San Joaquin Valley, the range appears as a less visually dramatic series of hills and valleys that create a layered composition rather than the single distinct ridgeline seen from the Livermore Valley.

The landscape of the Altamont Hills is characterized by rounded hill forms and smooth contours. In most of the area, the vegetation consists of grazed upland grasslands, with isolated clumps of oaks or eucalyptus that usually occur in conjunction with past or present human habitation. Riparian trees and shrubs grow along the major drainage swales and along streams. The visual character of the Altamont Hills reflects several overlays of human use. The area is a rural, agricultural landscape devoted primarily to cattle ranching. It is also a landscape in which a large number of major infrastructure facilities of various kinds have been superimposed, creating a scene that is a mix of the rural and technological. Facilities visible within the area that play a role in shaping its landscape character include railroads, Interstate 580, a network of high-voltage electric transmission lines, PG&E's 500 kV Tesla Substation, and elements of the California Water Project. The most visually distinctive infrastructure facilities are the wind farms that have been developed throughout the area during the past decade or so. The visible elements of the wind farms include the wind turbines themselves and the access roads. transformers, and power lines associated with them. There are now over 5,000 wind turbines scattered across the landscape of the Altamont range. Most of the existing wind turbines are horizontal axis machines with three-bladed rotors that are 50 to 60 feet in diameter and mounted on towers that range from 60 to 80 feet in height. All of the portions of the Altamont Hills through which the Phase 2 transmission line would pass have been designated in the East County Plan for protection from urbanization. However, in much of the area, the plan permits continued development of wind energy installations.

The area along the portion of the proposed alignment in the vicinity of the Tesla Substation is flat to gently sloped and is dominated by the presence of the substation, a large number of transmission lines, and wind farm installations (see Photo 13). Patterson Pass Road, a lightly traveled rural highway that has been designated by Alameda County as a scenic route, passes along two sides of the Tesla Substation and is crossed by the proposed alignment.

From the Tesla Substation area, the proposed transmission line route travels west-northwest through areas (of steep, grass-covered hills devoted to ranching and wind generation) that are not accessible to the public and are not readily visible from roads and residences.

Northwest of Milepost C3, the alignment enters the canyon in which Interstate 580 is located and crosses this heavily traveled highway, which is a designated Alameda County scenic route. Photo 14 is a view of this area from the freeway's westbound lanes, and Photo 15 is a view from the eastbound lanes. As these views indicate, the landscape in this area is characterized by steep, grass-covered hillsides and the major built features are the roadway itself, the cut and fill areas associated with the road, and the wind turbines, which are prominently visible along the ridgelines. After crossing the freeway, the alignment passes into another area of steep hills devoted to grazing and wind production that is not accessible to the public and is generally not visible from publicly accessible areas.

Near Milepost C5, the alignment enters and crosses the narrow canyon in which Altamont Pass Road is located. Photo 16 is a view from the road looking south. As this photo suggests, the canyon is defined by rounded, steep-sloped, grass-covered hills, and the wind turbines sited along the adjacent ridgetops are a visually prominent element of the landscape scene. Altamont Pass Road receives a moderately high level of traffic and has been designated by Alameda County as a scenic route.

Between Mileposts C6 and C7, the alignment passes west through an area of steep ridgelands that is not accessible or visible to the public. At Milepost C7, the alignment turns toward the northwest and travels along the top of the high ridgeline visible in distant views from northeast Livermore (see Photo 17). In this area, strings of wind turbines are visually prominent along the tops of the high, steep-sided, and grass-covered ridge. Further north, the alignment travels along the tops of the lower ridges in an area that is visible from Vasco Road, before terminating at the Contra Costa-Newark 230 kV transmission line. Vasco Road has been designated by both Alameda County and the City of Livermore as a scenic route. Photo 18 is a view toward the area in which the alignment passes along the lower ridgeline visible in the distance on the right side of the view. Brushy Peak, a major landmark in the Livermore Valley area, is visible in the distance at the far right of the view. Photo 19 is a view of a part of the surrounding landscape included in panoramic views from Brushy Peak. Photos 2 and 20 are views looking north along Vasco Road toward the proposed alignment and its end point at the Contra Costa-Newark 230 kV line.

#### **Tesla Substation**

The existing Tesla Substation is located on a level site in the flat to gently sloped grassland landscape on the east side of the Altamont Hills. As Photo 13 suggests, the substation is a large facility, and its tall bus structures are prominently visible elements in the scene. The landscape of the area surrounding the substation is characterized by the presence of transmission lines and wind farm installations. Patterson Pass Road, a lightly traveled rural highway that has been designated by Alameda County as a scenic route, passes along the substation property's western and northern edges.

### 6.2.6 South Area

Although the landscape in this area is generally rural and agricultural in character, a large number of major transmission lines are present and are an integral component of the area's landscape character. At Milepost MX0, the proposed route connects to the existing Contra Costa-Newark transmission line south of Route 84, and heads approximately 2.8 miles north-northwest through the small range of hills that lies between the Vallecitos Nuclear Center and Pleasanton. In views from Route 84, the adjacent Vallecitos Nuclear Center, and the small cluster of rural residences along Little Valley Road, the lower slopes of these hills consist of open grassland with a few scattered trees. Photo 21 is a view from Route 84 looking west toward the point where the proposed route crosses the roadway. Photo 22 is a view looking east from Route 84 toward the route. In this view, south of the highway, a total of six existing transmission lines are visible. A representative view from the rural residences on Little Valley Road, over a mile west of the route, is shown in Photo 23. Photo 24 is a view toward the route, looking northeast from Route 84 at Little Valley Road. Even though transmission lines are a well-established and visually prominent element of the landscape scene along Route 84, this road has been designated by Alameda County as a scenic route.

At Milepost M3, the overhead portion of the proposed transmission line terminates at a transition structure where the line would be routed into a buried conduit. The transition structure site is located in a ridgetop area in the hills that lie south of the Kottinger Ranch subdivision. Photo 25 is a view toward the transition structure from the residential area at the end of Hearst Drive. From this point, the transition structure is approximately two-thirds of a mile away and is located behind the trees visible on the far ridgetop to the right of the water tank.

From Milepost M3 and the transition structure, the route of the underground portion of the line travels approximately 2 miles northward to the Vineyard Substation. The underground line would pass down the ridge slope and into the Kottinger Ranch subdivision by way of a route that follows the existing water tank access road visible in Photo 25. In Kottinger Ranch, the route is sited through Benedict Court (see Photos 26 and 27), into Hearst Drive (see Photo 28), and then onto Bernal Avenue (Photo 29) until reaching the Vineyard Substation (Photo 30).

#### Vineyard Substation

The existing Vineyard Substation occupies a large, nearly level site located at the southeast corner of the intersection of Bernal Road and Stanley Boulevard. The substation has a modern, horizontal design utilizing low-profile equipment. Because the facility has large setbacks from the surrounding streets, visually, it recedes into the backdrop in views from publicly accessible areas. Photo 30 is a view looking east toward the substation from Bernal Avenue.

## 6.3 Impacts

### 6.3.1 Significance Criteria

To determine the significance of the likely changes under CEQA, the changes were evaluated in light of the direction given in the revised CEQA Guidelines. Appendix G, of the Guidelines indicates that a project will have a significant effect on the environment if it will:

- Have a substantial, adverse effect on a scenic vista
- Damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

In applying these criteria to determine significance, a variety of factors were taken into account, including the extent of project visibility from residential areas and designated scenic routes, the degree to which the various project elements would contrast with or be integrated into the existing landscape, the extent of change in the landscape's

composition and character, and the number and sensitivity of viewers. Project conformance with public policies regarding visual quality was also taken into account.

As part of the aesthetic impact evaluation of the Tri-Valley Capacity Increase Project, visual simulations were produced using computer modeling and rendering techniques. The visual simulations are based on project data provided by PG&E project engineers. A description of the technical methods used for producing the computer-generated simulation images is contained in the methodology section of this chapter. Presented in Figures 6-4a through 6-10b, the simulations illustrate the appearance of proposed project features from seven representative public viewing locations:

- 1. Vasco Road looking south
- 2. Manning Road at Morgan Territory Road
- 3. North Livermore Avenue looking south
- 4. Interstate 580 looking east

- 5. Altamont Pass Road looking south
- 6. Route 84 looking east
- 7. Hearst Drive looking southeast

The visual simulation shown in Figure 6-6b includes the proposed North Livermore Substation. This simulation depicts a landscape treatment concept that is proposed as part of the project. The landscape concept includes a perimeter wall as well as tree and shrub plantings. The simulation shows broadleaf evergreen canopy trees, spaced approximately 20 feet apart at an 8- to 10-year maturity level. The trees shown in the simulation are about 24 feet tall.

### 6.3.2 Construction Impacts

Construction-related visual impacts could result from the presence of equipment, materials, and work crews along the transmission line routes, at the Dublin and North Livermore Substations, and at the transition structure. Although these effects are relatively short-term and are considered to be a less than significant impact due to their temporary nature, they would be most noticeable to local residents. PG&E will make efforts to keep construction activities as clean and inconspicuous as practical by storing building materials and equipment away from public view and by removing construction debris promptly at regular intervals. Implementation of Mitigation Measure 6.1 will reduce the impact to a less than significant level.

### 6.3.3 Operation Impacts

Changes in the appearance of the project area would result from the introduction of two new substations, and the introduction of new transmission lines, a transition structure, and overhead conductors. The visual impacts associated with these changes are summarized in Table 6-1. As indicated in Table 6-1, the project would affect views seen from several designated scenic roadways including North Livermore Avenue, Manning Road, Route 84, and Interstate 580. To a more limited extent, the project could also affect views experienced from the Kottinger Ranch and North Livermore residential areas. Overall, however, the project would not result in substantial effects on views from residential and public open space areas. With the implementation of visual mitigation measures proposed as part of the project, as well as additional measures recommended at the end of this chapter, the visual impacts associated with project construction and operation will be less than significant.

Project Area Project Element Impact – Mileposts Viewing Area	Character Photos/ Simulations	Aesthetic Effects Significance
North Area—Phase 1		
Transmission Line		
Impact 6.1 – B10.4 to B12	Photos 1, 2	The take-off towers and new transmission line would be visible in places from this scenic highway corridor.
Vasco Road	Simulation 6-4	The visual changes would be minor because they would be seen in the context of the existing transmission structures and conductors.
		There would not be a substantial change in the character and quality of views from Vasco Road or nearby rural residences.
		The visual impacts would be less than significant.
Impact 6.2 – B12 to B13	Photos 3, 5, 6	Transmission towers, 80 to 150 feet in height, would be located to the north of and parallel to the distribution line now located adjacent to the north side of a private rural lane and a half-mile
Manning Road and nearby areas along North Livermore	Simulation 6-5	segment of Manning Road.
Avenue		Towers and conductors would be visible in the foreground from Manning Road and a portion of North Livermore Avenue (both designated scenic routes), and from four rural residences.
		The presence of the new transmission towers and lines opposite existing distribution poles and lines (45 to 65 feet high) could create a sense of visual clutter as seen in Simulation 6-5.
		The project could adversely affect the area's character and quality by adding a transmission line to a scenic area where no large infrastructure facilities currently exist.
		The visual impacts could be significant because of the change in visual quality to the foreground views in a designated scenic corridor where transmission lines or other large infrastructure facilities are not now visible. However, implementing Mitigation Measure 6.2, undergrounding the existing distribution line within PG&E's existing transmission line easement adjacent to Manning Road, would reduce the amount of perceived visual clutter, and therefore, would reduce the impact to a less than significant level.

Project Area Project Element Impact – Mileposts Viewing Area	Character Photos/ Simulations	Aesthetic Effects Significance
North Area—Phase 1		
Transmission Line		
Impact 6.3 – V0 to V1	Photos 4, 11	The 80- to 150-foot transmission towers would be located slightly to the west of and parallel to the existing distribution lines (45 to 65 feet high).
North Livermore Avenue		The towers and conductors would be visible in the foreground from North Livermore Avenue and nearby areas of Manning Road, both of which are designated scenic routes.
		The presence of the new transmission towers and lines alongside existing distribution poles and lines could create a sense of visual clutter.
		The project could adversely affect the area's character and quality by adding a transmission line to a scenic area where no large infrastructure facilities exist at present.
		The visual impacts could be significant because of the change in visual quality to the foreground views in a designated scenic corridor where transmission lines or other large infrastructure facilities are not now visible. However, implementing Mitigation Measure 6.3, undergrounding the existing distribution line in the transmission line easement to be acquired by PG&E, would reduce the amount of perceived visual clutter, and therefore, would reduce impacts to a less than significant level. Adopted plans call for widening North Livermore Avenue from two lanes to four lanes. To the extent that specific aesthetic design information is available regarding these roadway improvements, PG&E will coordinate design themes for the substation using appropriate tree species, lighting fixtures, and wall treatments with approved plans for the roadway improvements.

Project Area Project Element Impact – Mileposts Viewing Area	Character Photos/ Simulations	Aesthetic Effects Significance
North Area—Phase 1		
Transmission Line		
Impact 6.4 – B13 to B14	Photo 5, 6	Transmission towers, 80 to 150 feet in height, would parallel the existing distribution lines (45 to 65 feet high) just to the south on the opposite side of Manning Road
Manning Road S	Simulation 6-5	The towers and conductors would be visible in the foreground from Manning Road and nearby areas of Morgan Territory Road, both of which are designated scenic routes.
		The presence of the new transmission towers and lines opposite existing distribution poles and lines could create a sense of visual clutter as seen in Simulation 6-5.
		The transmission line crossing the ridge west of Manning Road would be highly visible and the tower at the ridgetop would be skylined, increasing its visual prominence.
		The project could adversely affect the area's character and quality by adding a highly visible transmission line to a designated scenic corridor where no large infrastructure facilities exist at present.
		The visual impacts could be significant because of the change in visual quality to the foreground views in a designated scenic corridor where transmission lines or other large infrastructure facilities are not now visible. However, implementing Mitigation Measure 6.3, undergrounding the existing distribution line within PG&E's existing transmission line easement would reduce the amount of perceived visual clutter, and therefore, would reduce the impact to a less than significant level. Careful siting of individual poles at the ridge crossing so as to reduce their visibility would also reduce potential impacts. With implementation of Mitigation Measure 6.4, the potential impact would be reduced to a less than significant level.

<i>Project Area Project Element</i> Impact – Mileposts Viewing Area	Cha S	aracter Photos/ Simulations	Aesthetic Effects Significance
North Area—Phase 1 Transmission Line			
Impact 6.5 – B14 to B15	Phot	tos 7, 8	The transmission line would cross perpendicular to the canyon.
Collier Canyon Road	Road		The new line and several towers would be visible to residents of several nearby homes and to viewers on Collier Canyon Road, a lightly traveled scenic route.
			One tower would be skylined on the western ridge, but the other towers would be screened by the topography or seen against hill backdrops.
			The change in the area's scenic character and quality would be relatively small with the exception of the skylined tower on the western ridgetop, the main element of the line visible in this area.
			Due to the minor change in the existing visual character and the relatively small number of viewers, the visual impacts would be less than significant.
Substations			
Impact 6.6 – North Livermore	Substation Phot	tos 9, 10, 11	The substation would be visible in foreground views from North Livermore Avenue, a designated
North Livermore	Avenue, May Simu	ulation 6-6	residences.
area along Bel Roma Road	Roma Road		The low profile design that has been proposed would make the facility consistent with the scale of the existing farmsteads visible nearby.
			Landscaping would help integrate the facility into the existing landscape pattern and the pattern of the urban village planned for future development in the area to the south.
			With the proposed aesthetic design treatment that includes a perimeter wall and tree and shrub plantings, the substation would appear compatible with the existing landscape character. Implementation of Mitigation Measures 6.5 and 6.6 would reduce visual impacts to a less than significant level.

Project Area Project Element Impact – Mileposts Viewing Area	Character Photos/ Simulations	Aesthetic Effects Significance
North Area—Phase 1		
Substations		
Impact 6.7 – Dublin Substation	Photo 12	In the short-term, the substation would not be visible from publicly accessible areas.
Nearby grazing lands		In the longer term, the facility could be visible from the proposed nearby residential areas designated by the Dublin General Plan.
		To reduce potential impacts, the site will be designed to provide setbacks around the fenced equipment area to allow for landscaping. Trees will be planted as soon as practicable after the property is acquired and landscape plans are approved.
		Because the substation would generally not be visible in the short-term due to its remote location, and because it would be screened from future resident's views in the longer term, the visual impacts would be less than significant with implementation of Mitigation Measures 6.6 and 6.7.
North Area—Phase 2		
Transmission Line		
Impact 6.8 – C0 to C3	Photo 13	The new transmission line would be visible but would not substantially change the aesthetic
Patterson Pass Road		character and quality of this area.
		The visual impact would be less than significant.
Impact 6.9 – C3 to C5	Photos 14, 15	The proposed line would cross the Interstate 580 corridor, a designated county scenic route, and
Interstate 580	Simulation 6-7	the canyon in which it is located, at nearly a right angle.
		Five towers would be seen by Interstate 580 motorists, two would be seen against a landscape backdrop, and three would create partial skylines on ridge tops.
		Given the presence of existing transmission lines crossing the freeway corridor in nearby segments and the visibility of major wind turbine installations in the viewshed, the proposed transmission line would not substantially alter the landscape character or quality.
		The visual impact would be less than significant.

Project Area Project Element Impact – Mileposts Viewing Area	Character Photos/ Simulations	Aesthetic Effects Significance
North Area—Phase 2		
Transmission Line		
Impact 6.10 – C5 to C6	Photo 16	The proposed transmission line would cross perpendicular to Altamont Pass Road, a designated
Altamont Pass Road	Simulation 6-8	county scenic route, and to the canyon in which it is located.
		Given the relatively small transmission line segment that would be visible and the short duration of the view, the line would not be visually prominent.
		Because the project would not be visually prominent and would be seen in a viewshed that includes large wind turbine installations, it would not substantially change the landscape character or quality.
		The visual impact would be less than significant.
Impact 6.11 – C6 to W2.5	Photo 17	The proposed transmission line would follow the ridgeline.
Northeastern Livermore		Given the viewing distance of more than a mile and the presence of wind turbines on the ridges, the project would not substantially change the landscape character or quality.
		The visual impact would be less than significant.
Impact 6.12 – W2.5 to B10.4	Photos 18, 20	The transmission line would traverse the slopes of the ridges seen in the foreground and
Vasco Road, middle-ground and foreground views		from nearby rural residences.
		Because of the viewing distance (0.5 to 1.5 miles) and the landscape that would be seen as a backdrop to the project, the transmission line would not appear visually prominent. However, short segments of the line would be located in closer proximity to the roadway and to some residences. PG&E will carefully site individual poles to minimize their visibility at these locations.
		The presence of the line would not substantially change the landscape character or quality and the visual impact would be less than significant with implementation of Mitigation Measure 6.8.

Project Area Project Element Impact – Mileposts Viewing Area	Character Photos/ Simulations	Aesthetic Effects Significance
North Area—Phase 2		
Transmission Line		
Impact 6.13 – W2.5 to B10.4	Photo 19	Some portions of the transmission line could be visible in middle ground and background views from this publicly owned open space.
Brushy Peak		Because of the viewing distance of more than 1.5 miles, and the fact that most views of the towers and conductors would be seen against a landscape backdrop, the project would not be visually prominent.
		The project would not substantially affect existing landscape character and quality because it would not be visually prominent and it would be seen in the context of existing wind farms.
		The visual impact would be less than significant.
Impact 6.14 – Tesla Substation Patterson Pass Road	Photo 13	Portions of the proposed substation modifications would be seen from Patterson Pass Road, a designated scenic route. However, the project would not substantially alter the existing appearance of the substation.
		Because the alterations in the substation appearance would be minor, there would not be a change in this landscape's overall visual character or quality.
		The visual impact would be less than significant.
South Area		
Impact 6.15 – M0 to M1	Photos 21, 22, 24,	The transmission line would cross perpendicular to Route 84, a county-designated scenic route.
Route 84	Simulation 6-9	The new towers south of Route 84 would be located adjacent to existing similar towers. Consequently, the introduction of these towers would not alter the existing landscape character.
		The tower located north of the Route 84 crossing would be set back from the roadway near the edge of the scenic route viewshed, and the visual impact would be less than significant.

Project Area Project Element Impact – Mileposts Viewing Area	Character Photos/ Simulations	Aesthetic Effects Significance
South Area		
Impact 6.16 – M0 to M2 Little Valley Road residences	Photo 23	The line would traverse the slopes and ridges visible from rural residences on Little Valley Road. Because of the viewing distance, approximately 1 mile, and the fact that most of the towers would not appear on the skyline, the line would not appear visually prominent.
		The visual impact would be less than significant.
Impact 6.17 – M3 (transition structure)	Photo 25	The transition structure site would be graded into the hillside to reduce the equipment's visibility
Kottinger Ranch residential area	Simulation 6-10	impact to a less than significant level.
Impact 6.18 – M3 to Vineyard Substation	Photos 25, 26, 27, 28, 29	Once construction is complete, the only potential visual changes would be related to
Kottinger Ranch residential areas		The visual impact would be less than significant.
Bernal Avenue		
Impact 6.19 – Vineyard Substation	Photo 30	The changes to the Vineyard Substation would be visible from nearby areas, but because these
Bernal Avenue		substantially change the substation's appearance.
Stanley Boulevard		The large buffer area around the substation would further reduce the visual prominence of the substation modifications.
		The alterations of the substation would have little tangible effect on the character or quality of the area's landscape.
		The visual impact would be less than significant.

# 6.4 Mitigation Measures

### Construction

**Mitigation Measure 6.1.** PG&E will keep construction-related activity as clean and inconspicuous as practical by generally storing building materials and equipment away from public view and removing construction debris promptly at regular intervals.

### Operation

**Mitigation Measure 6.2**. Mileposts B12 to B13. To reduce the amount of perceived visual clutter, PG&E will eliminate the existing distribution line located on the north side of, and adjacent to, Manning Road by placing it underground. The underground line will be placed within the existing PG&E easement parallel to Manning Road. Modifications to the current easement language to incorporate undergrounding may be necessary.

Mitigation Measure 6.3. Mileposts VO to V1. To reduce the amount of perceived visual clutter, PG&E will eliminate the existing distribution line located adjacent to North Livermore Avenue by undergrounding it. The underground line will be placed in the easement that PG&E will acquire for the proposed new transmission line to the North Livermore Substation. To improve the project's overall integration with its surroundings, PG&E will participate in future aesthetic enhancement measures for North Livermore Avenue. Proposed plans call for widening North Livermore Avenue from two lanes to four lanes. To the extent that specific aesthetic design information is available regarding these roadway improvements, PG&E will coordinate design themes for the substation using appropriate tree species, lighting fixtures, and wall treatments with approved plans for the roadway improvements.

**Mitigation Measure 6.4**. Mileposts B13 to B14. To reduce the project's skylining effects, PG&E will site individual poles at the ridgeline crossing by selecting locations that result in the towers appearing against at least a partial backdrop of existing landform and vegetation when seen from Manning Road and North Livermore Avenue.

**Mitigation Measure 6.5**. To visually integrate the North Livermore Substation with its surroundings, PG&E will install a perimeter fence and landscaping treatment, including trees and shrubs, that is appropriate to the surrounding community's appearance. Plant material will be consistent with recommendations contained in local ordinances and guidelines. Final landscape design treatment for the substation will be developed in consultation with the City of Livermore (or Alameda County, depending on the jurisdiction at the time).

Mitigation Measure 6.6. To minimize potential glare from the substations and transition structure, all proposed structures at these sites, including fences, will be painted or finished with a non-reflective treatment. Exterior lighting at substations will include the use of non-glare light bulbs. Lighting fixtures will be located and designed to avoid casting light or glare on off-site locations.

Mitigation Measure 6.7. To minimize potential visual impacts from the Dublin Substation on views from future residential areas, PG&E will create setbacks for future landscaping. Trees

will be planted as soon as practicable after the property is acquired and landscape plans are approved. When landscaping is installed, the selected plant material will be consistent with recommendations contained in local ordinances and guidelines.

Mitigation Measure 6.8. Mileposts W2.5 to B10.4. PG&E will carefully site individual poles that are located in close proximity to residences so as to minimize their visibility.

**Mitigation Measure 6.9**. Milepost M3. To reduce the visibility of the transition structure as seen from the Kottinger Ranch residential area, a combination of trees and earth berms will be installed along the northern side of the facility. Recontouring of disturbed, graded areas will be implemented to provide a natural appearing landform upon completion of construction.

## 6.5 References

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