

C.4 CULTURAL RESOURCES

This section identifies cultural resources that are present and could be affected by the Proposed Project or alternatives. The section addresses the environmental baseline and regulatory setting (Section C.4.1); the environmental impact analysis and applicant proposed measures (Section C.4.2); the environmental impacts and mitigation measures for the Proposed Project and alternatives by geographic area (Sections C.4.3 to C.4.6); and the mitigation monitoring program (Section C.4.7).

C.4.1 ENVIRONMENTAL BASELINE AND REGULATORY SETTING

The data in this section are summarized from the *Proponent's Environmental Assessment* (PEA, PG&E 1999) Section 9, prepared by CH2M Hill for PG&E (James Bard, CH2M Hill, Cultural Resources Team Leader, personal communication, 2000). The methodology for data collection and analysis has been reviewed and verified, and has been determined to be adequate and in accordance with standard practices for archaeological assessments in central California. A *Cultural Resources Assessment Report* (confidential copy on file with the CPUC) has been completed by Basin Research Associates for additional proposed routes, alternatives and substations using a research strategy similar to that utilized by the Applicant (confidential copy on file with the CPUC). In addition, JRP Historical Consulting Services completed a *Historic Resources Inventory and Evaluation Report, Transmission Lines in the Stanislaus Corridor, Alameda County*, for the Stanislaus Corridor.

C.4.1.1 Resource Definition

Cultural resources include prehistoric and historic archaeological sites, districts and objects; standing historic structures, buildings, districts and objects; and locations of important historic events or sites of traditional/cultural importance to various groups. The analysis of cultural resources can provide valuable information on the cultural heritage of both local and regional populations. The California Environmental Quality Act (CEQA) requires review to determine if a project will have a significant effect on archaeological sites or a property of historic or cultural significance to a community or ethnic group eligible for inclusion in the California Register of Historical Resources (CEQA *Guidelines*).

C.4.1.2 Applicable Cultural Resource Laws and Regulations

The regulatory framework that mandates consideration of cultural resources in project planning includes federal, state and local governments. Laws and regulations have been developed to protect cultural resources that may be affected by actions that these bodies undertake or regulate.

C.4.1.2.1 California Environmental Quality Act (CEQA)

CEQA requires that a project applicant determine potential impacts on both historical and archaeological cultural resources and mitigate impacts on historically or culturally significant resources.

Historical Resources

CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (Section 21084.1 of the Public Resources Code) and defines substantial adverse change as demolition, destruction, relocation, or alteration that would impair historical significance (Section 5020.1). Section 21084.1 stipulates that any resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR)¹ is presumed to be historically or culturally significant.²

Resources listed in a local historic register or deemed significant in a historical resource survey (as provided under Section 5024.1g) are presumed historically or culturally significant unless the preponderance of evidence demonstrates they are not. A resource that is not listed in, or determined to be eligible for listing in, the CRHR is not included in a local register of historic resources nor deemed significant in a historical resource survey may nonetheless be historically significant (Section 21084.1; see Section 21098.1).

Archaeological Resources

CEQA requires a Lead Agency to identify and examine proposed projects for their potential to result in significant adverse effects. Where a project may adversely affect a unique archaeological resource, Section 21083.2 requires the Lead Agency to treat that effect as a significant environmental effect and prepare an EIR. When an archaeological resource is listed in or is eligible to be listed in the CRHR, Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of a project's environmental analysis. Either of these benchmarks may indicate that a project may have a potential adverse effect on archaeological resources.

Public Resources Code Section 21083.2 (g) defines a unique archaeological resource to be: An archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following

¹. The California Register of Historical Resources is a listing of "...those properties which are to be protected from substantial adverse change." Any resource eligible for listing in the California Register is also to be considered under CEQA. Consensus determinations for the California Register for the purposes of CEQA are solely the responsibility of the lead agency (CAL/OHP ca. 1999b).

². A historical resource may be listed in the California Register of Historical Resources if it meets one or more of the following criteria: "(1) it is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; (2) it is associated with the lives of persons important to local, California or national history; (3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or, (4) it has yielded or has the potential to yield information important in the prehistory or history of the local area, California or the nation." (CAL/OHP ca. 1999b).

Automatic CRHR listings include National Register of Historic Places (NRHP) listed and determined eligible historic properties (either by the Keeper of the NRHP or through a consensus determination on a project review); State Historical Landmarks from number 770 onward; Points of Interest nominated from January 1998 onward. Landmarks prior to 770 and Points of Historical Interest may be listed through an action of the State Historical Resources Commission (CAL/OHP ca. 1999b).

criteria: (1) contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information; (2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or, (3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

Section 21084.1 requires treatment of any substantial adverse change in the significance of a historical resource listed in, or eligible to be listed in, the CRHR as a significant effect on the environment. The definition of "historical resource" includes archaeological resources listed in or formally determined eligible for listing in the CRHR and by reference, the National Register of Historic Places (NRHP), California Historical Landmarks, Points of Historical Interest, and local registers.

C.4.1.2.2 *Other California Laws and Regulations*

Other State requirements for cultural resources management appear in the California Public Resources Code Chapter 1.7, Section 5097.5 (Archaeological, Paleontological, and Historical Sites), and Chapter 1.75, beginning at Section 5097.9 (Native American Historical, Cultural, and Sacred Sites) for lands owned by the State or a State agency.

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code and Sections 5097.94 and 5097.98 of the Public Resources Code, and falls within the jurisdiction of the Native American Heritage Commission (NAHC). If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native American so they can inspect the burial site and make recommendations for treatment or disposal.

C.4.1.2.3 *Federal Statutes/Regulations*

The National Historic Preservation Act of 1966 (as amended) established the federal government's policy on historic preservation and the programs, including the NRHP, through which that policy is implemented. Under the NHPA, historic properties include ". . . *any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places*" (16 United States Code [USC] 470w (5)). Section 106 (16 USC 470f) of the NHPA requires federal agencies, prior to implementing an "undertaking" (e.g., issuing a federal permit), to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Office (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing on the NRHP.

If a Clean Water Act (CWA) Section 404 permit is required for construction (wetland fills or waterway crossings), the NHPA of 1966 (as amended) and its implementing regulations (16 USC 470 et seq., 36 CFR Part 800, 36 CFR Part 60, and 36 CFR Part 63) also apply. The U.S. Army Corps of Engineers

(USACE), as lead federal agency for issuing the CWA Section 404 permit, would be the lead agency for NHPA Section 106 compliance and consultation with the SHPO and ACHP would be required.

C.4.1.3 Environmental Setting

The project and alternatives are within the Tri-Valley area of eastern Alameda and southern Contra Costa Counties. Major features include the Amador, Livermore and San Ramon valleys. Perennial grasses and scattered oak woodland characterize the undeveloped project area, which is transitional between a Coastal Prairie ecotype and the more arid Juniper-Shrub Savanna and Valley Oak Savanna of interior California. A major Tule lake/marshy area was situated south of Alamo and Tassajara Creeks southeast of Dublin and northeast of Pleasanton. In addition, a smaller marshy area was located west/southwest of Pleasanton. Riparian vegetation is present along seasonal stream courses. Vernal wetlands are known where a shallow hardpan causes standing water for several months in the spring. The former marshes probably had vegetation typical of a Central Valley freshwater marsh and wetlands.

The area has a Mediterranean pattern of summer drought and winter rainfall caused by the seasonal north-south migration of a high-pressure center over the Pacific Northwest. The project area is subject to a rainshadow effect that inhibits the precipitation of coastally derived moisture over this region. These conditions result in the low average annual precipitation of 14.4 inches for the City of Livermore. The interior location of the project area accounts for the lower precipitation figures and is responsible for the more continental aspect of its seasonal temperature variation. Temperatures are generally moderate although high during the summer. The portion of Contra Costa County adjacent to San Francisco and San Pablo Bays has cool summers and mild winters in contrast to the hot, dry summers and cool winters in the San Joaquin Valley of the eastern part of the county. Average annual precipitation varies with elevation.

C.4.1.3.1 *Native American Resources (Prehistoric)*

Native American occupation sites in the study area appear to have been selected for accessibility, protection from seasonal flooding, and the availability of resources. A large willow marsh southeast of Dublin and northwest of Pleasanton and seasonal watercourses and associated small basins and other slight topographic depressions were foci of prehistoric occupation in the study area. Native American groups exploited a variety of ecological niches on the low grasslands of the alluvial plain dotted with spring-fed marshes and basins and the adjacent foothills.

Native American occupation and use of the general area appears to extend 5000 to 7000 years in the past and may be longer. Archaeological information suggests an increase in the prehistoric population over time with an increasing focus on permanent settlements with large populations in later periods. This change from hunter-collectors to an increased sedentary lifestyle is due to more efficient resource procurement but with a focus on staple food exploitation, the increased ability to store food at village locations, and the development of increasing complex social and political systems including long-distance trade networks.

Prehistoric site types recorded in the Tri-Valley area consist of lithic scatters, quarries, habitation sites including main villages, bedrock mortars or other milling feature sites, petroglyph sites, and isolated burial sites. Numerous aboriginal habitation mounds were recorded by Nels C. Nelson (1909, ca. 1910) during his survey of the periphery of the entire San Francisco Bay region suggesting a high population density and intensive use.

Archaeological research in this area of central California has been interpreted using several chronological schemes based on stratigraphic differences and cultural traits. A three-part sequence of cultural development over time proposed by Lillard et al. (1939) has usually been used to document local and regional cultural change in prehistoric central California including the study area although other researchers have proposed local chronologies (see Allen 1999 for a South Bay chronology proposed by Hylkema). This classification scheme, using Early, Middle and Late "horizons" to designate both chronological periods and social change, was developed by archaeologists to explain local and regional cultural change from about 4,500 years ago to the time of European contact (see Lillard et al., 1939 and Beardsley 1948, 1954).

Moratto (1984) suggests that the Early Horizon dated to ca. 4,500 to 3,500/3,000 years ago with the Middle Horizon dating to ca. 3,500 to 1,500 years ago and the Late Horizon dating to ca. 1,500 to 250 years ago. The Early Horizon is the most poorly known of the period with relatively few sites known or investigated. Early Horizon traits include hunting, fishing, use of milling stones to process plant foods, use of a throwing board and spear ("atlatl"), relative absence of culturally affected soils (midden) at occupation sites, and elaborate burials with numerous grave offerings.

Middle Horizon sites are more common and usually have deep stratified deposits that contain large quantities of ash, charcoal, fire-altered rocks, and fish, bird and mammal bones. Significant numbers of mortars and pestles signal a shift to plant foods from reliance on hunted animal foods. Middle Horizon peoples generally buried their dead in a fetal position and only small numbers of graves contain artifacts (and these are most often utilitarian). Increased violence is suggested by the number of burials with projectile points embedded in the bones or with other marks of violence.

The Late Horizon emerged from the Middle Horizon with continued use of many early traits and the introduction of several new traits. Late Horizon sites are the most common and are noted for their greasy soils (midden) mixed with bone and fire-altered rocks. The use of the bow-and-arrow, fetal-position burials, deliberately damaged ("killed") grave offerings and occasional cremation of the dead are the best known traits of this horizon.

Another scheme proposed by Chartkoff and Chartkoff (1984) is also used by archaeologists (see Table C.4-1) while Hylkema (Allen et al. 1999) has presented a four-period chronological framework for the Northern Santa Clara Valley/Southern San Francisco Bay region through a synthesis of previous research (see Table C.4-2) that appears to have utility for the Tri-Valley area. General overviews and perspectives on the regional prehistory including chronological sequences can be found in C. King (1978a), Moratto (1984), Elsasser (1986) and Allen et al. (1999).

Table C.4-1 The Chartkoff and Chartkoff (1984) Model of Cultural Periods in California

<i>Pre-Archaic Period</i> - 11,500-9,000 B.C.	Pre-Archaic populations were small and their subsistence included big game hunting of now extinct mammoth and mastodon. Research indicates that the Pre-Archaic economies were based on a wide-ranging hunting and gathering strategy, dependent to a large extent on local lake-marsh or lacustrine habitats.
<i>Early to Middle Archaic Period</i> - 9,000-4,000 B.C.	During the Early and Middle Archaic periods, prehistoric cultures began to put less emphasis on large-game hunting. Subsistence economies probably diversified somewhat, and Archaic era people may have started using such ecological zones as the coast littoral more intensively than before. Advances in technology (milling stones) indicate that new food processing methods became important, enabling more efficient use of certain plant foods, including grains and plants with hard seeds.
<i>Late Archaic Period</i> - 4,000-2,000 B.C.	An important technological advance was the discovery of a tannin-removal process for the abundant and nutritious acorns. Prehistoric trade networks developed and diversified, bringing raw materials and finished goods from one region to another. Resource exploitation, as during the Early and Middle Archaic, was generally seasonal. Bands moved between established locations within a clearly defined/defended territory, scheduling resource harvests according to their availability. Clustering of food resources along the shores of large lakes or the banks of major fish-producing rivers allowed for larger seasonal population aggregates. Dispersed resources, such as large and small game, during the winter prompted small family groups to disperse across the landscape for more efficient food harvesting. The spear thrower (atlatl) may have been introduced or increased in importance, accounting for a change in projectile point styles from the Western Stemmed to the Pinto and Humboldt series. Seed grinding increased in importance.
<i>Early and Middle Pacific Periods</i> - 2,000 B.C.-A.D. 500	The Pacific Period is marked by the advent of acorn meal as the most important staple food. Increasing population densities made it desirable and necessary for Indian populations to produce more food from available land and to seek more dependable food supplies. The increasing use of seed grinding and acorn leaching allowed for the exploitation of more dependable food resources; increased use of previously neglected ecological zones (the middle and high Sierran elevations) may also have been part of this trend.
<i>Late Pacific Period</i> — A.D. 500-1400	Around A.D. 500 — 600, a cultural watershed was triggered by the introduction of the bow and arrow, which replaced the spear thrower and dart as the hunting tool/weapon of choice. The most useful time markers for this period tend to be small projectile points/arrow tips. Another trend is the marked shift from portable manos/metates to bedrock mortars/pestles (Moratto 1984). Moratto et al. (1978) demonstrated that this was a time of cultural stress, during which trading activity abated, warfare was common, and populations shifted away from the Sierra Nevada foothills to higher mountain elevations. They explain these changes in terms of rapid climatic fluctuations, including a drier climate and a corresponding shift of vegetation zones.
<i>Final Pacific Period</i> - A.D. 1400-1789	Populations became increasingly sedentary and depended more on staple foods, even as the diversity of foods exploited increased. Permanent settlements with high populations were more common. Every available ecological niche was exploited, at least on a seasonal basis. Other trends included the resurgence of long-distance trade networks and the development of more complex social and political systems.

The majority of the project area was occupied by the *Chochenyo* of the "Costanoan". Costanoan is derived from the Spanish word *Costanos* ("coast people" or "coastal dwellers") who occupied the central California coast as far east as the Diablo Range (Kroeber 1925:462; Hart 1987:112-113). Groups were centered near Livermore, San Ramon, Dublin, Pleasanton, the western Livermore Valley and around Brushy Peak and the Altamont Pass. In 1770, the Costanoan lived in approximately 50 separate and politically autonomous tribelets with each group having one or more permanent villages surrounded by a number of temporary camps. Physiographic features usually defined the territory of each group, which generally supported a population of approximately 200 persons with a range of between 50 to 500 individuals (Levy, 1978a-b).

The area near Pittsburg (at the north end of the D2 Alternative's reconductoring segment) is within the ethnographic and historic boundaries of the *Bay Miwok* group, which occupied the area from Walnut Creek east to the Sacramento-San Joaquin Delta (Levy, 1978a-b). The easternmost extent of the project may have extended into the Northern Valley Yokuts territory of the *Chulamni* with a center near the Old River in the San Joaquin Valley. The Yokuts appear to have been relatively recent arrivals in the northern valley displacing the Costanoans and/or Miwok. Both groups followed a similar gathering and hunting lifestyle similar to the Costanoans.

No Native American villages have been identified within or near to the project. The D2 Alternative, which may require use of the reconductored *Pittsburg San Ramon Transmission line* appears to cross a major trail, which ran along the periphery of the south side of San Pablo Bay as far as the Delta. In addition, another major trail appears to have been the precursor of portions of State Highway 84 and Interstate I-580 and would have crossed the *Proposed Route North Area* (Davis, 1961; Elsasser, 1978). The Costanoans are known to have supplied mussels, abalone shells, dried abalone meat, and salt to the Yokuts and *Olivella* shells to the Sierra Miwok. In turn, as part of the aboriginal trade network, the Costanoans received piñon (pine) nuts (Davis, 1961).

For the most part, the Native American aboriginal lifeway disappeared by 1810 due to the introduction of EuroAmerican diseases, a declining birth rate, and the impact of the mission system. Native Americans were transformed from hunters and gatherers into agricultural laborers who lived at the missions and worked with former neighboring groups such as the Esselen, Yokuts, and Miwok. Later, because of the secularization of the missions by Mexico in 1834, most of the aboriginal population gradually moved to ranchos to work as manual laborers (Levy, 1978a). For a more extensive review of the Native Americans in the study area, see Milliken (1995b), Levy (1978a-b), Kroeber (1925) and Wallace (1978b).

C.4.1.3.2 *Historic Period*

Hispanic Period

Spanish explorers in the late 1760s and 1770s were the first Europeans to transverse the San Francisco Bay Area and interior areas. Pedro Fages, accompanied by Fray Juan Crespi, led the first notable expedition in the project area vicinity in 1772. They camped somewhere near Pittsburg or Antioch on March 30 and near Danville on March 31. They reached Pleasanton via San Ramon and Dublin on April 1 and continued southward camping west of Pleasanton, in front of the *Hacienda del Pozo de Verona*, now the Castlewood Country Club. Mission Pass, just northeast of Mission San Jose, was the starting point of an old Spanish (*El Camino Viejo*) and later pioneer American trail. After crossing the lower hills, this trail dropped into Sunol where it bifurcated. One branch skirted the western edge of the Livermore Valley along the Arroyo de la Laguna, led up the Amador and San Ramon Valleys to the site of Concord, then on to the San Joaquin Valley. Portions of Interstate Highway 680 and Foothill Boulevard approximate the lower portion of this trail. The other more traveled route crossed the Livermore Valley and passed through the hills into the San Joaquin Valley.

The second expedition of Juan Bautista de Anza and Fray Pedro Font in 1776 traveled along the periphery of San Pablo Bay, ascending Patterson Grade and viewing the Livermore Valley and proceeding into and camping in Corral Hollow. Still later, an expedition led by Jose Viader in 1810 proceeded from Mission San Jose via the *Valle de San Jose* into the San Ramon Valley and further through Walnut Creek. The *Juan Bautista de Anza National Historic Trail* (1776), authorized by Congress in 1990, crosses various of the proposed and alternative transmission line corridors (USNPS, 1996b).

Table C.4-2 Comparison of California Cultural Period with Temporal Phases of Central California (Allen 1999)

<i>Cultural Periods</i> (Fredrickson 1994)	<i>Dating Scheme B1</i> (Bennyhoff and Hughes 1987)	
	Year	Time Period
EMERGENT PERIOD	AD 1800	Historic Period
	AD 1700	Late Period Phase 2-B
	AD 1500	Late Period Phase 2-A
	AD 1300	Late Period Phase 1-C
	AD 1100	Late Period Phase 1-B
		Late Period Phase 1-A
UPPER ARCHAIC PERIOD	AD 900	Middle/Late Period Transition
	AD 700	Middle Period Terminal Phase
	AD 500	Middle Period Late Phase
	AD 300	Middle Period Intermediate Phase
	AD 100	Middle Period Early Phase
	200 BC	Early/Middle Period Transition
MIDDLE ARCHAIC PERIOD	500 BC	Early Period
	3000 BC	
LOWER ARCHAIC PERIOD	6000 BC	
PALEOINDIAN PERIOD	8000 BC	

After an initial period of exploration, the Spanish focused on the founding of presidios, missions, and secular towns with the land held by the Crown (1769-1821) whereas the later Mexican (1822-1848) policy stressed individual ownership of the land. Of these, the missions were the most successful. Mission San Francisco de Asis (Mission Dolores) in present-day San Francisco, the sixth mission in California, was established in 1776. Mission Santa Clara and Pueblo de San Jose were founded in 1777. Mission San Jose in the present-day City of Fremont was established in 1797, the 14th of 21 missions established in California. Baptismal records indicate that Mission San Jose had the greatest

impact on the aboriginal population living in the project area followed by Mission San Francisco (Hart, 1987).

During the Mexican Period (1822 to 1848) and into the American Period, the project routes, alternatives and substations were situated within a number of ranchos including mostly *Rancho El Valle de San Jose* (Sunol & Bernal) as well as *Rancho Las Positas* and *Rancho Santa Rita* in Alameda County; *Rancho San Ramon* (Amador) in both Alameda and Contra Costa Counties; and, *Rancho Los Medanos* in Contra Costa County. None of Hispanic Period known dwellings or features were located within or adjacent to the project. The project area was probably used for livestock grazing as well as for raising cattle for tallow and hides, the major economic pursuits of California during the Hispanic Period.

American Period

The population of central California expanded as a result of the Gold Rush (1848), followed later by the construction of the railroad to San Francisco (1864) and the completion of the transcontinental railroad in 1869. Throughout the late 19th century in the Tri-Valley Area, rancho and Pueblo related lands were subdivided as the result of population growth.

Growth in the general study area has been linked with agriculture and mining. The Mount Diablo coal fields were discovered in 1852, the Tesla/Corrall Hollow finds were discovered in 1855 and exploited in the 1850s-1880s, the Livermore Coal Mines were discovered in 1873, and the Black Diamond Mines area was active between 1859-1907. High silica sand was also mined in the Black Diamond Mines area from about 1910-1951. The development of rail and road transportation networks to service industry and agriculture was crucial to the development of the periphery of Contra Costa County and the Amador and Livermore valleys. Still later, the development of the refrigerated railroad car (in about the 1880s), used for the transport of agricultural produce to distant markets, had a major impact on population growth. The agricultural land use pattern begun in the Hispanic Period and reinforced in the American Period continued through World War II. In recent decades, this agrarian land-use pattern has been displaced by rapid urban growth in the Amador and Livermore valleys. Growth in the Pittsburg area, which relied initially on water and later, rail transportation, has been a focus of industrial growth until recent urban expansion (Slocum, 1882; Wood, 1883; Oakland Tribune, 1898; Burns, 1975; Mosier, 1978, 1983; Hart, 1987; Praetzellis, 1992; Bazar, 1993). These developments have spurred population growth in the Tri-Valley area and have resulted in the development of and increasing importance of the various cities to the economy of the East Bay.

C.4.2 ENVIRONMENTAL IMPACT ANALYSIS AND PROPOSED MITIGATION MEASURES

The following sections discuss potential project impacts and recommend mitigation measures to reduce impacts to less-than-significant levels.

C.4.2.1 Introduction

No cultural resources were identified by the Applicant as in or adjacent to the Proposed Project alignments in the PEA (PG&E 1999; Chapter 9). One general mitigation was proposed by the Applicant based on the negative results for the cultural resources studies completed for the project (see Section C.4.2.3).

C.4.2.2 Significance Criteria for Cultural Resources

The thresholds of significance for cultural resource impacts for the project are defined as situations where construction or operation of the project could:

- Result in damage to, the disruption of, or adversely affect a property that is listed in the California Register of Historical Resources (CRHR) or a local register of historic resources as per Section 5020.1 of the Public Resources Code
- Cause damage to, disrupt, or adversely affect an important prehistoric or historic archaeological resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminished
- Cause damage to or diminish the significance of an important historic resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminish.

C.4.2.3 Applicant Proposed Measures

One Applicant Proposed Measure for cultural resources was presented in the PEA:

Applicant Proposed Measure 9.1: The best mitigation measure is to avoid impacts to cultural resources that may be located in the project area. PG&E will have an archaeologist demarcate cultural resource site boundaries on the ground to ensure that proposed project improvements do not impinge on the resource(s). Although there are presently no known archaeological sites that would be subject to potential construction impact, PG&E will ensure that wherever a tower or access road must be placed within 100 feet of a known archaeological site, the site will be flagged on the ground as an Environmentally Sensitive Area (ESA). Construction equipment would then be directed away from the ESA, and construction personnel would be directed to avoid entering the ESA.

Prior to starting construction near any designated ESA, the construction crew would be informed of the resource values involved and of the regulatory protections afforded to the resources. The crew would also be informed of procedures relating to designated ESAs and cautioned not to drive into these areas or operate construction equipment on them. The crew would be cautioned not to collect artifacts and would be asked to inform their supervisor if cultural remains are uncovered. If any cultural remains are discovered, work at the site will be halted, and a qualified archaeologist will be called to determine the significance of the find.

In addition to Measure 9.1, PG&E has committed to preparing a Native American Burial Protection Plan for the Proposed Project (see PEA Appendix E for an example) and will implement the plan if any human remains are encountered during construction.

C.4.2.4 General Project Impacts and Proposed Mitigation Measures

Ground-disturbing construction activities associated with transmission line tower and substation construction have the highest potential to directly impact cultural resources in the project area by disturbing both surface and subsurface soils. Impacts could result from trenching for underground cable placement as well as for underground utility connections associated with substation construction; excavation associated with transmission line tower placement and anchors; grading for access roads; tower assembly areas; tower erection; and, any other activities associated with placing the transmission line in service. Conductor stringing and reconductoring have a low to moderate potential to affect cultural resources depending on the construction technique used (e.g., truck or helicopter).

Subsurface and surface disturbance could result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting. Potential indirect impacts, primarily vandalism, could result from increased access to and use of the general area during both construction and operation. There is also the potential for inadvertent discoveries of buried archaeological materials during construction.

No impacts to cultural resources are anticipated during regular operation of the transmission lines and substations, including inspection and general maintenance. Heavy repair operations including tower, insulator and conductor replacement could result in subsurface and surface impacts similar to those resulting from construction (described above).

C.4.2.4.1 Mitigation Measures

Several cultural resources have been identified in and near to the proposed project and alternatives. These resources are described in Section C.4.3. Three general impacts have been identified; these impacts and relevant mitigation measures are described in the following paragraphs. In Section C.4.3, impacts and mitigation measures are identified for each portion of the proposed project and alternating.

Impacts 4-1 and 4-2: Construction Impacts

Impact 4-1: Inadvertent impacts to recorded, reported, and known cultural resources identified in or adjacent to the project. Construction operations could inadvertently affect known cultural resources within or adjacent to the project alignment.

Impact 4-2: Previously unrecorded cultural resources could be discovered during ground disturbing construction operations. Construction operations in areas of native soil, especially in the near vicinity of flowing water sources and former lagoons/marshy areas, could result in the inadvertent exposure of significant buried prehistoric or historic cultural materials.³

³ Significant prehistoric cultural resources are defined as human burials, features or other clusterings of finds made, modified or used by Native American peoples in the past. The prehistoric and protohistoric indicators of prior cultural occupation by Native Americans include artifacts and human bone, as well as soil discoloration, shell, animal bone, sandstone cobbles, ashy areas, and baked or vitrified clays. Prehistoric materials may include:

Two mitigation measures, C-1 and C-2, are recommended, which, if implemented, would reduce the potential impacts of the project on cultural resources to a less-than-significant level (**Class II**). Mitigation Measure C-1 includes modified requirements from PG&E's Applicant Proposed Measure 9.1 and supersedes that measure.

C-1 PG&E Co. shall develop a Cultural Resources Treatment Plan (CRTP) for the project including procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs), evaluation and treatment of the unexpected discovery of cultural resources including Native American burials; detail reporting requirements by the Project Archaeologist; discuss the curation of any cultural materials collected during the project; and, specify that archaeologists and other discipline specialists meet the Professional Qualifications Standards mandated by the California Office of Historic Preservation (OHP). Areas where known cultural resources are present shall be avoided during construction and operation/maintenance. If avoidance is not possible, specific protective measures (which shall be defined in the CRTP) shall be implemented to reduce the potential adverse impacts on cultural resources to a less-than-significant level. The CRTP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction.

The CRTP shall define construction procedures for areas near cultural sites. Wherever a tower, access road, equipment, etc. must be placed or accessed within 100 feet of a recorded, reported or known archaeological site eligible or potentially eligible for the CRHR, the site will be flagged on the ground as an Environmentally Sensitive Area (ESA). Construction equipment shall then be directed away from the ESA, and construction personnel shall be directed not to enter the ESA. (*Supersedes PG&E Co.'s Applicant Proposed Measure 9.1.*)

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- a. Human bone - either isolated or intact burials.
 - b. Habitation (occupation or ceremonial structures as interpreted from rock rings/features, distinct ground depressions, differences in compaction (e.g., house floors).
 - c. Artifacts including chipped stone objects such as projectile points and bifaces; groundstone artifacts such as manos, metates, mortars, pestles, grinding stones, pitted hammerstones; and, shell and bone artifacts including ornaments and beads.
 - d. Various features and samples including hearths (fire-cracked rock; baked and vitrified clay), artifact caches, faunal and shellfish remains (which permit dietary reconstruction), distinctive changes in soil stratigraphy indicative of prehistoric activities.
 - e. Isolated artifacts

Historic cultural materials may include finds from the late 19th through early 20th centuries. Objects and features associated with the Historic Period can include:

- a. Structural remains or portions of foundations (bricks, cobbles/boulders, stacked field stone, postholes, etc.).
- b. Trash pits, privies, wells and associated artifacts.
- c. Isolated artifacts or isolated clusters of manufactured artifacts (e.g., glass bottles, metal cans, manufactured wood items, etc.).
- d. Human remains.

In addition, cultural materials including both artifacts and structures that can be attributed to Hispanic, Asian and other ethnic or racial groups are potentially significant. Such features or clusters of artifacts and samples include remains of structures, trash pits, and privies.

- C-2** All construction personnel shall be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources during construction. Prior to the initiation of construction or ground-disturbing activities, PG&E Co. shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials including Native American burials. The following issues shall be addressed in training or in preparation for construction:
- Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits.
 - PG&E Co. shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential Environmentally Sensitive Areas (ESA) and anticipated procedures to treat unexpected discoveries.
 - Upon discovery of potential buried cultural materials, work in the immediate area of the find shall be halted and PG&E Co.'s archaeologist notified. Once the find has been identified, PG&E Co.'s archaeologist will make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be important according to CEQA.
- C-3** PG&E Co. shall inventory areas that were not surveyed for this EIR areas (as defined in Table C.4-3, and in the CRTP) for archaeological resources within proposed or existing corridors that could not be field-checked during EIR preparation due to property owner access constraints.
- C-4** PG&E Co. shall implement archaeological monitoring by a Professional Archaeologist during subsurface construction disturbance at all locations identified in or adjacent with potential for significant buried cultural materials. These locations and their protection boundaries are listed in Table C.4-3, and shall be further defined in the CRTP.

Impact 4-3: Parks and Recreation Impacts

Impact 4-3: Portions of the project will pass through, cross or are adjacent to recognized parks, preserves, and recreational areas that may contain cultural resources, which could be affected by construction or operation. (For further information about impacts on parks, preserves, and recreational resources, see Section C.7.)

One mitigation measure is recommended, C-5, which if implemented in association with Mitigation Measures C-1 and C-2, as applicable, would reduce the potential impacts of the project to a less-than-significant level (**Class II**).

C-5 PG&E Co. shall consult with and implement any site-specific cultural resources requirements mandated by the East Bay Regional Park District (EBRPD) and the California Department of Parks and Recreation for project areas within EBRPD and State of California parks. The results of these consultations shall be documented in the CRTP. The following parks may be affected:

- EBRPD Shadow Cliffs Regional Recreation Area
- EBRPD Brushy Peak Preserve
- EBRPD Black Diamond Mines Regional Preserve, and,
- EBRPD Morgan Territory Regional Preserve
- Mount Diablo State Park (State of California)
- Livermore Area Regional Parks District Sycamore Grove Regional Park.

C.4.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES: PLEASANTON

C.4.3.1 Proposed Project

C.4.3.1.1 Construction (Transmission Line and Substation Upgrade)

There are no recorded sites in or adjacent to the Pleasanton area transmission line route, although two recorded sites within 0.25 mile (CA-Ala-44 and Ala-475). Project actions do not appear to be a significant effect under CEQA as no resources will be affected.

PG & E Co. should implement Mitigation Measures C-1 and C-2 to ensure that unexpected cultural resources are protected. Implementation of these measures would result in all impacts being reduced to a less-than-significant level (**Class II**).

C.4.3.1.2 Operation and Maintenance (Transmission Line and Substation Upgrade)

Project operation and maintenance actions are not expected to cause significant effects under CEQA as no known resources will be affected.

C.4.3.2 Alternative S1: Vineyard-Isabel-Stanley

Recorded resources in this area are:

- CA-Ala-475H, part of the former Remillard Brick Yard, appears adjacent to the alternative but will likely be avoided (Mitigation Measure C-1). Archaeological monitoring (Mitigation Measure C-4) during construction is recommended for CA-Ala-475H if it cannot be avoided.
- CA-Ala-519H, part of an abandoned railroad bed and does not appear eligible for the CRHR based on the site data. Avoidance (Mitigation Measures C-1 and C-4) is recommended; if the resource cannot be avoided, archaeological monitoring during construction is recommended (Mitigation Measures C-1 and C-4).
- The Transcontinental Railroad grade and a railroad grade feature are crossed by the SI Alternative. Avoidance is recommended; if the resource cannot be avoided, archaeological monitoring during construction is recommended (Mitigation Measures C-1 and C-4).

Implement Mitigation Measures C-1 and C-2. In addition, because this alternative passes through Sycamore Grove Regional Park, Mitigation Measure C-5 should be implemented. Implementation of these measures would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.3.3 Alternative S2: Vineyard Avenue

One recorded site, P-01-002149, has been recorded in or adjacent and has been evaluated as not eligible for the CRHR. No mitigation required as resource is not significant under CEQA. This alternative would also pass through Sycamore Grove Regional Park.

Implementation of Mitigation Measures C-1, C-3 and C-5 would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.3.4 Alternative S4: Eastern Open Space

One recorded site, P-01-002149 has been recorded in or adjacent and has been evaluated as not eligible for the CRHR. No mitigation required as resource is not significant under CEQA.

Implement Mitigation Measures C-1 and C-2. Implementation of these measures would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES: DUBLIN/SAN RAMON AREA

C.4.4.1 Proposed Project

C.4.4.1.1 Construction (Transmission Line and Substation)

No sites, reported or identified cultural resources in or adjacent or within 0.25 mile of the proposed transmission line or Dublin Substation. Project actions do not appear to be a significant effect under CEQA as no resources will be affected.

Implementation of Mitigation Measures C-1 and C-2 will ensure that all impacts would be reduced to-less than-significant levels (**Class II**).

C.4.4.1.2 Operation and Maintenance (Transmission Line and Substation)

Project actions would not cause significant effects under CEQA as no resources will be affected.

C.4.4.2 Alternative D1: South Dublin

One reported cultural resource (C-1283), the Staples Ranch, is located in or adjacent to this alternative and has been previously evaluated as not eligible for the NRHP. No mitigation required as this resource is not significant under CEQA.

The Transcontinental Railroad grade would be crossed by this alternative. Avoidance is recommended; if the resource cannot be avoided, archaeological monitoring during construction is recommended (Mitigation Measure C-1 and C-4).

Implementation of Mitigation Measures C-1, C-2 would ensure that all impacts were reduced to less than significant levels (**Class II**).

C.4.4.3 Alternative D2: Dublin-San Ramon

No sites recorded, reported, or identified in or adjacent to the area of the Dublin Substation or the transmission line route. Implementation of Mitigation Measures C-1 and C-2 would result in all impacts being reduced to-less than-significant levels (**Class II**).

Alternative D2: Pittsburg-San Ramon Reconductoring

Alternative D2 may also require reconductoring of the existing 230 KV line between the San Ramon Substation and Pittsburg. Prehistoric site CA-CCo-500 and historic era site CCo-502H are recorded in or adjacent to the existing corridor. Avoidance is recommended if the resource(s) cannot be avoided, archaeological monitoring during any construction in the vicinity of CA-CCo-500 and CCo-502H is recommended (Mitigation Measure C-1 and C-4).

The Black Diamond Mines District, within the EBRPD Black Diamond Mines Regional Preserve, is a listed National Register district which has been recorded in or adjacent to the existing corridor. Specific cultural resources requirements should be implemented after consultation with the park (Mitigation Measure C-3).

In addition, a number of other identified cultural resources either within a recognized park or outside of a park are crossed by or passed through by the existing corridor. Resources outside of a park consist of: a major Native American trail, the Juan Bautista de Anza National Historic Trail [1776], and the Contra Costa Canal. Avoidance is recommended if the resource(s) cannot be avoided, archaeological monitoring during any construction in the vicinity of the resources is recommended (Mitigation Measure C-1 and C-4).

Three resources are within a recognized park. These include the EBRPD Black Diamond Mines Regional Preserve that contains the Cumberland Mine, and, Mount Diablo State Park. Specific cultural resources requirements for properties within recognized parks should be implemented after consultation with the park (Mitigation Measure C-3).

Implementation of Mitigation Measures C-1, C-2, C-3, C-4 and C-5 along the reconductoring segment would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES: NORTH LIVERMORE AREA

C.4.5.1 Proposed Project

C.4.5.1.1 Construction (Transmission Line and Substation)

No sites, reported or identified cultural resources in or adjacent or within 0.25 mile. Implementation of Mitigation Measures C-1, C-2 and C-3 would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.5.1.2 Operation and Maintenance (Transmission Line and Substation)

Project actions would not appear to cause significant effects under CEQA as no resources will be affected.

C.4.5.2 Proposed Project Variant P1

No recorded sites or reported cultural resources have been recorded in or adjacent. The location of a former 1850s-1860s house is north of Manning Road within 0.25 mile of this route. Implementation of Mitigation Measures C-1, C-2 and C-3 would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.5.3 Proposed Project Variant P2

No recorded sites or reported cultural resources have been recorded in or adjacent. The location of a former 1850s-1860s house is north of Manning Road within 0.25 mile of P2. Implementation of Mitigation Measures C-1, C-2 and C-3 would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.5.4 Alternative L1: Raymond Road

One reported cultural resource (C-1283), the Staples Ranch, is in or adjacent to the route, and was previously evaluated as not eligible for the NRHP. No mitigation required as resource is not significant under CEQA. Implementation of Mitigation Measures C-1, C-2 and C-3 would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.5.5 Alternative L2: Hartman Road

CA-Ala-519H has been recorded in or adjacent. This site is part of an abandoned railroad bed and does not appear eligible for the CRHR based on the site data. Two recorded sites, CA-Ala-516H and Ala-518H and two reported cultural resources, C-275 and C-277, are located within 0.25 mile. The Transcontinental Railroad grade would be crossed by this alternative. Avoidance is recommended for all of these resources; if the resources cannot be avoided, archaeological monitoring during construction is recommended (Mitigation Measures C-1 and C-4).

Implementation of Mitigation Measures C-1, C-2, C-3 and C-4 would result in all impacts being reduced to-less than-significant levels (**Class II**).

C.4.6 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES: TESLA CONNECTION (PHASE 2)

C.4.6.1 Proposed Project

C.4.6.1.1 Construction

Two identified cultural resources, the Juan Bautista de Anza National Historic Trail (1776), and the Transcontinental Railroad grade, would be crossed by the proposed corridor. Other recorded sites include: one site near the route (CA-Ala-432H); one site within 0.25 mile (CA-Ala-433H); and two

identified historic sites within 0.25 mile (a "Sand stone Lodge" on 1851-1854 GLO map; and Midway Station). Avoidance is recommended; if the resources cannot be avoided, archaeological monitoring during construction is recommended (Mitigation Measures C-1 and C-4). This route would also pass through a portion of the Brushy Peak Regional Preserve, so consultation with the EBRPD should be required (Mitigation Measure C-5).

Implementation of Mitigation Measures C-1, C-2 and C-3 would result in all impacts being reduced to less than-significant levels (**Class II**).

C.4.6.1.2 Operation and Maintenance

Project actions would not appear to cause significant effects under CEQA as no resources will be affected.

C.4.6.2 Brushy Peak Alternative

No sites, reported cultural resources or isolates have been recorded within or adjacent to this alternative segment, although it is adjacent to the Brushy Peak Regional Preserve. Implementation of Mitigation Measures C-1, C-2 and C-3 would result in all impacts being reduced to less than-significant levels (**Class II**).

C.4.6.3 Stanislaus Corridor

C.4.6.3.1 Construction

One historic site (CA-Ala-432H) is located near but outside the alignment of the existing corridor at the existing Tesla Substation. Three recorded historic sites (CA-Ala-433H, Ala-515H and Ala-520H) and four other historic cultural resources have been identified within 0.25 mile.

Three discrete transmission lines are present within the existing corridor and have been evaluated by JRP Historical Consulting Services (*Historic Resources Inventory and Evaluation Report, Transmission Lines in the Stanislaus Corridor, Alameda County, California*) as not eligible for either the NRHP or CRHR. No mitigation required as resources do not appear significant under CEQA.

The Juan Bautista de Anza National Historic Trail (1776) is crossed by the existing corridor. Avoidance is recommended; if the resource cannot be avoided, archaeological monitoring during construction is recommended (Mitigation Measures C-1 and C-4). In addition, Mitigation Measure C-5 should be implemented for consultation with the National Park Service.

Approximately four discontinuous miles of the existing corridor were not surveyed by an archaeologist due to the presence of vineyards and lack of landowner permission to access. These portions of the corridor (MP V8-V8.4; V8.65-V10.3; V10.4-V11.15; V11.25-V11.80; and V12.4-V13.2 for a total of 4.15 miles) should be surveyed prior to construction (Mitigation Measure C-3).

Implementation of Mitigation Measures C-1, C-2 and C-3 would result in all impacts being reduced to less than-significant levels (**Class II**).

C.4.6.3.2 *Operation and Maintenance*

Project actions would not appear to cause significant effects under CEQA as no resources will be affected.

C.4.7 MITIGATION MONITORING PROGRAM

Table C.4-3 presents the Mitigation Monitoring Program for cultural resources.

NOTE: Section C.4.8 References starts after Table C.4.3

Table C.4-3 Mitigation Monitoring Plan

Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Proposed Project and Alternatives						
<p>Inadvertent impacts to recorded, reported, and known cultural resources identified in or adjacent to the project.</p>	<p>C-1 PG&E Co. shall develop a <i>Cultural Resources Treatment Plan</i> for the project including procedures for Environmentally Sensitive Areas (ESAs), evaluation and treatment of the unexpected discovery of cultural resources including Native American burials; detail any reporting requirements by the Project Archaeologist; discuss the curation of any cultural materials collected during the project; and, specify that archaeologists and other discipline specialists meet the Professional Qualifications Standards mandated by the California Office of Historic Preservation (OHP). Preferred mitigation is avoidance of areas where known cultural resources are present. If avoidance is not possible, specific protective measures shall be implemented to reduce the potential adverse impacts on cultural resources to a less than significant level.</p> <ul style="list-style-type: none"> Wherever a tower, access road, equipment, etc. must be placed or accessed within 100 feet of a recorded, reported, or known archaeological site eligible or potentially eligible for the CRHR, the site will be flagged on the ground as an ESA. Construction Equipment would then be directed away from the ESA, and construction personnel would be directed to avoid entering the ESA 	<p>Alternative S1: Vineyard-Isabel-Stanley: CA-Ala-475H, part of the former Remillard Brick Yard, appears adjacent to the alternative but will likely be avoided. CA-Ala-519H has been recorded in or adjacent. This site is part of an abandoned railroad bed and does not appear eligible for the CRHR based on the site data. Avoidance is recommended. Transcontinental Railroad grade and a railroad grade feature are crossed by alternative. Avoidance is recommended. Alternative D1: South Dublin Transcontinental Railroad grade is crossed by alternative. Avoidance is recommended. Alternative D2: Pittsburg-San Ramon Reconductoring Prehistoric site CA-CCo-500 and historic era site CCo-502H are recorded in or adjacent to the existing corridor. Avoidance is recommended. Other identified cultural resources outside of a park consist of a major Native American trail, the Juan Bautista de Anza National Historic Trail [1776], and the Contra Costa Canal. Avoidance is recommended. Alternative L2: Hartman Road CA-Ala-519H has been recorded in or adjacent. This site is part of an abandoned railroad bed and does not appear significant. Avoidance is recommended. Transcontinental Railroad grade is crossed by alternative. Avoidance is recommended. Tesla Connection: Proposed Project Two identified cultural resources, the Jaun Bautista de Anza National Historic Trail [1776] and the Transcontinental Railroad grade, are crossed by the existing corridor. Avoidance is recommended. Tesla Connection: Stanislaus Corridor The Juan Bautista de Anza National Historic Trail [1776] is crossed by the existing corridor. Avoidance is recommended.</p>	<p>CPUC to verify that site has been avoided</p> <p>CPUC to verify that ESA has been established.</p> <p>CPUC to review and approve <i>Treatment Plan</i>.</p> <p>CPUC to verify that PG&E's archaeologist is implementing procedures and requirements mandated in <i>Treatment Plan</i> in accordance with parameters and schedules.</p>	<p>Recorded, reported and known cultural resources within, near and adjacent to construction are not damaged or destroyed during construction.</p>	<p>CPUC, relevant jurisdictional agencies</p>	<p>Prior to contract issue and during project construction</p>

Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>Previously unrecorded cultural resources could be discovered during ground disturbing construction operations.</p>	<p>C-2 All construction personnel shall be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources, during construction. Prior to the initiation of construction or ground-disturbing activities, PG&E shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials including Native American burials. The following issues shall be addressed in training or in preparation for construction.</p> <ul style="list-style-type: none"> • Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits. • PG&E shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential Environmentally Sensitive Areas (ESA) and anticipated procedures to treat unexpected discoveries • Upon discovery of potential buried cultural materials, work in the immediate area of the find shall be halted and PG&E Co.'s archaeologist notified. Once the find has been identified, PG&E Co.'s archaeologist will make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be important according to CEQA 	<p>Throughout project area</p>	<p>CPUC to verify that training is acceptable and provided to all construction personnel. CPUC to review and approve contract clauses requiring training for inclusion in excavation contracts. CPUC to verify that PG&E contractors stopped work at a "find" location and initiated appropriate procedures including notification of PG&E archaeologist – PG&E archaeologist to report results of field review and evaluation of any finds in accordance with the procedures in Mitigation Measure C-1</p>	<p>Training results in awareness of potential for presently unknown cultural resources by all construction personnel. Background briefing of supervisory construction personnel results in increased awareness of potential for unexpected discoveries at certain locations and increased vigilance at these locations. Appropriate stop work action notification and assistance is provided by construction personnel on discovery of a resource. Training of construction personnel clauses are inserted and training action completed for all excavation and other ground disturbing contracts. Cultural resources are not destroyed during construction; inadvertent discoveries including Native American burials are reported and treated in accordance with accepted procedures</p>	<p>CPUC, relevant jurisdictional agencies</p>	<p>Prior to contract issue and during project construction</p>

C.4 CULTURAL RESOURCES

Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Previously unrecorded cultural resources could be discovered during ground disturbing construction operations.	C-3 PG&E Co. shall inventory any unsurveyed areas for archaeological resources within proposed or existing corridors that could not be inventoried due to property owner access problems.	Tesla Connection: Stanislaus Corridor: Four discontinuous miles not surveyed by an archaeologist: MP V8 to V8.4 V8.65 to V10.3 V10.4 to V11.15 V11.25 to V11.8 V12.4 to V13.2		Cultural resources within, near and adjacent to construction are not damaged or destroyed during construction. Cultural resources are not destroyed during construction; inadvertent discoveries are evaluated and treated in accordance with <i>Treatment Plan</i> parameters	CPUC, relevant jurisdictional agencies	Prior to project construction
Previously unrecorded cultural resources could be discovered during ground disturbing construction operations.	C-4 PG&E Co. shall implement archaeological monitoring by a Professional Archaeologist during subsurface construction disturbance at all locations identified in or adjacent with potential for significant buried cultural materials.	Alternative S1: Vineyard-Isabel-Stanley Archaeological monitoring during construction is recommended for CA Ala-475H if it cannot be avoided. Archaeological monitoring during construction is recommended for CA Ala-519H if it cannot be avoided. Transcontinental Railroad grade and a railroad grade feature are crossed by alternative. Archaeological monitoring during construction is recommended if the resource(s) cannot be avoided. Alternative D1: South Dublin Transcontinental Railroad grade is crossed by alternative. Archaeological monitoring during construction is recommended if the resource cannot be avoided. Alternative D2: Pittsburg-San Ramon Reconductoring Prehistoric site CA-CCo-500 and historic era site CCo-502H are recorded in or adjacent to the existing corridor. Archaeological monitoring during construction is recommended if the resource cannot be avoided. Other identified cultural resources outside of a park consist of a major Native American trail, the Juan Bautista de Anza National Historic Trail [1776], and the Contra Costa Canal. Archaeological monitoring during construction in the vicinity of the resource(s) is recommended if the resource(s) cannot be avoided. Alternative L2: Hartman Road CA-Ala-519H has been recorded in or adjacent. This	CPUC monitor to verify that PG&E archaeologist monitors trenching at designated locations and evaluates and treats any inadvertent discoveries in accordance with the <i>Treatment Plan</i> (see C-1).	Cultural resources within, near and adjacent to construction are not damaged or destroyed during construction. Cultural resources are not destroyed during subsurface construction; discoveries are treated in accordance with <i>Treatment Plan</i>	CPUC, relevant jurisdictional agencies including Native American Heritage Commission in the case of prehistoric burials	During project construction

Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
		<p>site is part of an abandoned railroad bed and does not appear significant. Archaeological monitoring during construction is recommended if the resource cannot be avoided.</p> <p>Transcontinental Railroad grade is crossed by alternative. Archaeological monitoring during construction is recommended if the resource cannot be avoided.</p> <p>Tesla Connection: Proposed Project Two identified cultural resources are crossed by the existing corridor; the Jua Bautista de Anza National Historic Trail [1776] and the Transcontinental Railroad grade. Archaeological monitoring during construction is recommended if the resource cannot be avoided.</p> <p>Tesla Connection: Stanislaus Corridor The Jaun Bautista de Anza National Historic Trail [1776] is crossed by the existing corridor. Archaeological monitoring during construction is recommended if the resource cannot be avoided.</p>				
<p>Portions of the project will pass through, cross, or are adjacent to recognized parks, preserves, and recreational areas that may contain cultural resources</p>	<p>C-5 PG&E Co. shall consult with and implement any site specific cultural resources requirements mandated by the East Bay Regional Park District (EBRPD) and the California Department of Parks and Recreation for project areas within EBRPD and State of California parks.</p>	<p>EBRPD:</p>	<p>CPUC to verify that EBRPD and State of California have been consulted regarding cultural resources requirements within parks, preserves, and recreational areas</p>	<p>Cultural resources are not destroyed during subsurface construction and are treated in accordance with EBRPD or State of California cultural resource requirements</p>	<p>CPUC, relevant jurisdictional agencies, including EBRPD and State of California</p>	<p>Prior to contract issue and during project construction</p>

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Survey Plats, Mount Diablo Meridian

Township No. 2 South, Range 4 East. 1851-1854

Township No. 2 South, Range 2 East. 1853-1869

Master Title Plat Township No. 2 South Range 4 East. No date.

Survey Plats, Mount Diablo Meridian. Various dates.

Township No. 2 North, Range 1 East

Township No. 1 North, Range 1 East

Township No. 1 South, Range 1 East

Township No. 2 South, Range 1, 2, 3, and 4 East

Township No. 2 South, Range 1 West

Township No. 3 South, Range 1, 2, 3, 4 East

Township No. 4 South, Range 1 East

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