

7 CULTURAL RESOURCES

7.1 INTRODUCTION

This chapter addresses the existing cultural resources within and in the vicinity of Pacific Gas and Electric Company's (PGandE) Distribution Planning Area Capacity Increase Substation Project (project), including the access road, and analyzes potential impacts to these resources from construction and operation of project facilities. Construction activities will comply with all applicable federal, state, and local regulatory requirements. Mitigation measures are recommended, where applicable. With implementation of the recommended mitigation measures, impacts to cultural resources as a result of construction and operation of the project will be less than significant.

7.2 METHODOLOGY

A prehistoric and historic site records and literature search of the California Historical Resources Information System, Northwest Information Center, California State University Sonoma, Rohnert Park (CHRIS/NWIC File No. 04-283) was completed. Reference material at Basin Research Associates was also consulted for the Brentwood and Antioch areas.

Specialized listings that were consulted include the *Historic Properties Directory* for Contra Costa County, which includes the most recent updates of the National Register of Historic Places (NRHP), California Historical Landmarks, and California Points of Historical Interest, as well as evaluations of properties reviewed by the State of California Office of Historic Preservation. Additional sources consulted included: *California History Plan*, *California Inventory of Historic Resources*, *Five Views: An Ethnic Sites Survey for California*, and *Historic Civil Engineering Landmarks of San Francisco and Northern California*, as well as local inventories, lists, and historic maps.

Several local planning documents were also consulted for information, including the *Sand Creek Specific Plan*, and the general plans for the cities of Antioch and Brentwood.

7.2.1 Native American Consultation

The Native American Heritage Commission (NAHC) was consulted for a review of the Sacred Lands Inventory for the project. The results of the search were negative. Contact with three Native American individuals listed by the NAHC who may have knowledge of cultural resources in the project area was undertaken. As of August 2005, no responses have been received.

7.2.2 Archaeological Survey

An archaeological field inventory for the project was undertaken by an archaeologist meeting the standards of the Secretary of the Interior. The project site and access road were surveyed in accordance with standard archaeological practices for central California and utilized transect intervals no greater than 30 meters.

7.3 REGULATORY BACKGROUND

The regulatory framework that mandates consideration of cultural resources in project planning includes federal, state, and local governments. 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 and/or cultural importance to various groups. Cultural resources may be determined significant or potentially significant in terms of national, state, or local criteria either individually or in combination. Resource evaluation criteria are determined by the compliance requirements of a specific project.

7.3.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires a review to determine if the project will have a significant effect on archaeological sites or properties of historic or cultural significance to a community or ethnic group eligible for inclusion in the California Register of Historic Resources (CRHR). The CRHR (Section 5024.1) is a listing of those properties that are to be protected from substantial adverse change, and it includes properties that are listed, or have been formally determined to be eligible for listing in, the NRHP, State Historical Landmarks, and eligible Points of Historical Interest. A historical resource may be listed in the CRHR if it meets one or more of the following criteria:

- 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;
- it is associated with the lives of persons important to local, California, or national history;
- 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
- it has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

7.3.2 Historical Resources

Public Resources Code (PRC) Section 21084.1 stipulates that any resource listed in, or eligible for listing in, the CRHR is presumed to be historically or culturally significant. Resources listed in a local historic register or deemed significant in a historical resource survey (as provided under PRC 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, not included in a local register or historic resources, or not deemed significant in a historical resource survey, may nonetheless be historically significant (PRC Section 21084.1). This provision is intended to give the Lead Agency discretion to determine that a resource of historic significance exists where none had been identified before and to apply the requirements of PRC Section 21084.1 to properties that have not previously been formally recognized as historic.

CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (PRC Section 21084.1) and defines substantial adverse change as demolition, destruction, relocation, or alteration that would impair historical significance (PRC Section 5020.1).

7.3.3 Archaeological Resources

Where a project may adversely affect a unique archaeological resource, PRC Section 21083.2 requires the Lead Agency to treat that effect as a significant environmental effect. When an archaeological resource is listed in or is eligible to be listed in the CRHR, PRC Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. PRC 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.

7.3.4 Other California Laws and Regulations

Other state-level requirements for cultural resources management appear in the California PRC 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 PRC, and falls within the jurisdiction of the NAHC.

7.4 EXISTING CONDITIONS

The project area and access road are within agricultural areas that are being developed for residential purposes.

7.4.1 Archaeological Overview

Cultural resources are traces of human occupation and activity. In northern California, cultural resources extend back in time for at least 9,000 to 11,500 years, with Native American occupation and use of central California extending over 5,000 to 8,000 years and possibly longer. The project is situated in an area with a low sensitivity for prehistoric archaeological resources. The area appears to have been favored by Native Americans for both occupation and hunting and collecting activities. The area would have provided a favorable environment during the prehistoric period, with riparian and inland resources readily available and the Bay Shore in relative close proximity. Archaeological information suggests an increase in the prehistoric population over time with an increasing focus on permanent settlements in later periods. This change from hunter and collector 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 increasingly complex social and political systems, including long-distance trade networks. Habitation sites in the area appear to have been selected for accessibility, protection from seasonal flooding, and the availability of resources.

Prehistoric site types recorded in the project area consist of lithic scatters, quarries, habitation sites (including burials), bedrock mortars or other milling feature sites, petroglyph sites, and isolated burial sites.

Archaeological research in the region has been interpreted using several chronological schemes based on stratigraphic differences and the presence of various cultural traits. A three-part cultural chronological sequence, the Central California Taxonomic System was developed by archaeologists to explain local and regional cultural change in prehistoric central California from about 4,500 years ago to the time of European contact. This classification scheme, consisting of three horizons—Early, Transitional, and Late—has been revised, although the prior nomenclature (Early, Middle, Late Horizon) is still in common use. Moratto (1984) suggests the Early Horizon dated to circa 4,500 to 3,500 or 3,000 years ago, with the Middle Horizon dating to circa 3,500 to 1,500 years ago and the Late Horizon dating to circa 1,500 to 250 years ago. Table 7-1 describes hypothesized characteristics of cultural periods in California.

The Early Horizon is the most poorly known of the periods. Basic Early Horizon traits include hunting and fishing for subsistence and the presence of milling stones for vegetal food processing, use of the atlatl (i.e., throwing board and spear), and a relative absence of fire-altered rock, greasy midden, organic soil, charcoal, and ash in the middens (culturally affected soils). Early Horizon cultures practiced elaborate burial rituals and placed a wealth of goods in graves of the dead. Well-developed trade networks with other areas of the Pacific Coast and Sierra Nevada were also developed by this time. It is believed that the initial occupation of central California was by Hokan-speaking peoples.

Middle Horizon sites are more common and are relatively better known than Early Horizon sites. These sites usually have deep, stratified deposits that contain large quantities of ash and charcoal, fire-altered rock, and fish, bird, and mammal faunal remains. The presence of significant numbers of mortars and pestles are suggestive of a growing reliance upon gathered plant foods as opposed to hunted animal foods. The aboriginal populations were unchanged from Early Horizon peoples. Burials were usually flexed and only a small proportion of the graves contained artifacts, which were usually utilitarian. An increase in violence is suggested by the number of Middle Horizon burials found with projectile points embedded in the bones or with other marks of violence.

The Late Horizon emerges from the Middle Horizon with the continued use of many early traits and the introduction of several new traits. Late Horizon sites are the most numerous and are composed of rich, greasy midden with bone and fire-altered rocks. Use of the bow and arrow, flexed interments, deliberately damaged (“killed”) grave offerings, and occasional cremation of the dead is among the known traits of this horizon. Dietary emphasis on acorns and seeds is evident in this horizon. Trade with surrounding and other areas was well established for various raw materials. Compared to earlier peoples, Late Horizon groups were short in stature with finer bone structure, evidence perhaps of the replacement of original Hokan-speaking settlers by Penutian-speaking groups by circa 1,500 years ago.

Table 7-1: Hypothesized Characteristics of Cultural Periods in California

Cultural Period	Characteristics
1800 A.D. Upper Emergent Period Phase 2, Late Horizon	Clam disk bead money economy appears. More and more goods moving farther and farther. Growth of local specializations relative to production and exchange. Interpenetration of south and central exchange systems.
1500 A.D. Lower Emergent Period Phase 1, Late Horizon	Bow and arrow replace atlatl and dart. South coast maritime adaptation flowers. Territorial boundaries well established. Evidence of distinctions in social status linked to wealth increasingly common. Regularized exchanges between groups continue with more material put into the network of exchanges.
1000 A.D. Upper Archaic Period Middle Horizon Intermediate Cultures	Growth of sociopolitical complexity; development of status distinctions based on wealth. Shell beads gain importance; possibly indicators of both exchange and status. Emergence of group-oriented religious organizations; possible origins of Kuksu religious system at end of period. Greater complexity of exchange systems. Evidence of regular, sustained exchanges between groups. Territorial boundaries not firmly established.
500 B.C. Middle Archaic Period Middle Horizon Intermediate Cultures	Climate more benign during this interval. Mortars and pestles and inferred acorn economy introduced. Hunting important. Diversification of economy; sedentism begins to develop, accompanied by population growth and expansion. Technological and environmental factors provide dominant themes. Changes in exchange or in social relations appear to have little impact.
3000 B.C. Lower Archaic Period Early Horizon Early San Francisco Bay Early Milling Stone Cultures	Ancient lakes dry up as a result of climatic changes. Milling stones found in abundance. Plant food emphasis; little hunting. Most artifacts manufactured of local materials; exchange similar to previous period. Little emphasis on wealth. Social unit remains the extended family.
6000 B.C. Upper Paleo-Indian Period San Dieguito Western Clovis 8000 B.C.	First demonstrated entry and spread of humans into California; lakeside sites with a probable but not clearly demonstrated hunting emphasis. No evidence for a developed milling technology, although cultures with such technology may exist in the state at this time depth. Exchange probably ad hoc on one-to-one basis. Social unit (the extended family) not heavily dependent on exchange; resources acquired by changing habitat.

7.4.2 Ethnographic Overview

The project area appears to have been within the Julpun and/or Volvon tribelet area of the Bay Miwok or Eastern Miwok (Levy, 1978). The Julpun territory appears to have extended along the Old River of the San Joaquin River and lower Marsh Creek while the Volvon held Mount Diablo and upper Marsh Creek drainage on the eastern side of Mount Diablo (Milliken, 1995). They may have been subject to some Northern Yokuts influence, which was a group clustered along the San Joaquin River and its main tributaries. Chupcan is the closest known ethnographic village and the tribelet center appears to have been located at the present-day City of Antioch.

Each Bay Miwok tribelet occupied a specific territory, utilizing several more or less permanently inhabited settlements and a large number of seasonal campsites at various times during the annual round of subsistence activities. Aboriginal subsistence depended on the collection of seasonal seed-bearing plants, waterfowl capture, the procurement of large and small mammals, and the exploitation of aquatic resources. Settlement locations were oriented to water sources, including both permanent and intermittent streams, and the chief mode of water transportation was a canoe constructed of bound tules. During the historic period, both inhumation and cremation were practiced (with cremation preferred by the wealthy). The Bay Miwok were the first of the Eastern Miwok to be missionized and the largest group of Julpun went to Mission San Jose in the present-day City of Fremont. Julpunes is identified as a Christian village on an 1824 Topographic map of the Mission San Jose. At the time, this village is shown on an island on the north bank of the San Joaquin River suggesting the Julpun moved as a result of missionization.

In 1837, Dr. John Marsh, the namesake of Marsh Creek, was the first American citizen to settle permanently in east Contra Costa County. He found a few Native Americans when he settled on his Rancho Los Meganos (the sand banks or sand dunes). Marsh was noted for his good relations with local Native Americans, whom he referred to as the Pulpunes. The Native Americans appeared to have returned to the area at the end of 1836 after the secularization of Mission San Jose.

Extensive ethnographic data for the San Francisco Bay Region are lacking and the aboriginal lifeway apparently disappeared due to introduced EuroAmerican diseases, a declining birthrate, the cataclysmic impact of the mission system, and the later secularization of the missions by the Mexican government (Kroeber, 1925; Bennyhoff, 1977; Levy, 1978; Milliken, 1995)

7.4.3 Historic Overview

7.4.3.1 Hispanic Period

Between 1769 and 1776 a number of Spanish expeditions passed through the San Francisco Bay Area, including those led by Portola, Fages, Fages and Crespi, Anza, Rivera, and Moraga. Even though the routes of the early explorers cannot be determined with total accuracy, none is known to have traveled near the project area (Beck and Haase, 1974; Milliken, 1995).

The Spanish philosophy of government in northwestern New Spain was directed at the founding of presidios, missions, and secular towns, with the land held by the Crown (1769-1821), while the later Mexican policy (1822-1848) stressed individual ownership of the land.

After the secularization of the missions was declared by Mexico in 1833, vast tracts of the mission lands were granted to individual citizens (Hart, 1987).

After control of California passed from Spain to Mexico in 1822, military expeditions into the interior of central California focused on recovering stolen animals and punishing hostile Indians in order to reduce attacks upon towns, missions, and ranchos. Between 1830 and 1840, Miwok and Yokut groups continued raids into Hispanic territory. These raids have been interpreted as a consequence of the mission system, which entrapped and confined Indians to missions as laborers who endured punishment and abuse, and suffered from an inadequate diet and recently introduced diseases (Beck and Haase, 1974).

The project area is within ungranted/patented lands east and southeast of the Rancho Los Meganos. No known features, dwellings, roads, corrals, or other structures associated with the rancho are within or adjacent to the project location (Beck and Haase, 1974; Hendry and Bowman, 1940; Collier, 1983).

7.4.3.2 American Period

In the mid-19th century, most of the rancho and pueblo lands in California were subdivided as the result of population growth and the American takeover. This American ascendancy was the result of the confirmation of property titles throughout California, prior to which the transfer of real estate had been extremely risky. The initial explosion in population was associated with the Gold Rush in 1848, followed later by the construction of the transcontinental railroad (1869). Still later, the development of the refrigerator railroad car (circa 1880s), used for the transport of agricultural produce to distant markets, had a major impact on population growth (Hart, 1987).

Contra Costa County is among the 27 initial California counties. Growth in the general area has been linked with agriculture, a coal-mining boom from the 1850s to the 1880s, and the development of transportation networks to service both industry and agriculture with market links. The town of Antioch was one of the several important focal points for services and the transport of coal, fish, lumber, and wheat to San Francisco and Sacramento and beyond by water and, later, by rail (Goddard, 1857; Smith and Elliott, 1879; Slocum, 1882; Hoover et al., 1966; Emmanuels, 1986; McLeod, 1994). Today, the City of Antioch functions as one of the industrial, commercial, and residential centers of Contra Costa County.

7.4.4 Cultural Resources in the Study Area

No prehistoric or historic archaeological sites have been recorded in or adjacent to the project and no local, state, or federal historically or architecturally significant structures, landmarks, or points of interest have been recorded or identified in or adjacent to the project site.

7.4.4.1 Records Search Results

The majority of the archaeological data available for the study area have been compiled as a result of cultural resource compliance programs undertaken for both public agencies and private entities.

The *Contra Costa County General Plan* appears to assign a “medium” archaeological sensitivity rating to Sites C (Contra Costa County Community Development Department, 1996).

No prehistoric or historic archaeological sites have been recorded in or adjacent to the project area (CHRIS/NWIC File No. 04-283).

No local, state, or federal historically or architecturally significant structures, landmarks, or points of interest have been recorded or identified in or adjacent to the project area.

7.4.4.2 Archaeological Survey Results

No evidence of prehistoric or historic archaeological resources was observed during the field inventory of the project area or access road completed for this report.

7.4.5 Unknown Cultural Resources in the Study Area

The research suggests a low to moderate regional archaeological sensitivity based on the few locations of recorded prehistoric and historic archaeological sites within 2 miles of the project area and archaeological compliance studies completed in the project area. A study entitled, *Geoarchaeological Implications of Holocene Landscape Evolution in the Los Vaqueros Area* suggests that the Sand Creek area has a potential for buried archaeological sites (Meyer, 1996). The project area is on the south side of Sand Creek.

There appears to be a locally low potential for inadvertent discoveries of buried archaeological deposits during subsurface construction within the project area, including the access road. Any archaeological deposits exposed during subsurface construction could contain potentially significant buried prehistoric and/or historic cultural materials, including Native American human remains. Disturbance could result in the loss of integrity of the cultural deposit and subsequent loss of scientific information, which would be a potentially significant impact.

7.5 IMPACTS

7.5.1 Significance Criteria

The CEQA Guidelines indicate that a project will have a significant impact on cultural resources if it:

- causes a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA guidelines;
- causes a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA guidelines; and/or
- disturbs any human remains, including those interred outside of formal cemeteries.

No impacts to significant recorded cultural resources are anticipated either during construction or operation.

7.5.2 Construction Impacts

Ground-disturbing construction activities associated with construction of the substation, transmission line towers, and access road have the potential to directly impact potential cultural resources in the project area by disturbing both surface and subsurface soils. Impacts could result from grading and excavation at the substation site, including site preparation; trenching for both underground cable placement and underground utility connections; excavation associated with transmission line tower placement; grading for access roads; tower-assembly areas; tower erection; and any other activities associated with placing the transmission interconnection in service that involve ground disturbance. These impacts will be reduced to less than significant with implementation of the mitigation measures listed in Section 7.6 Mitigation Measures.

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 construction. There is also the potential for inadvertent discoveries of buried archaeological materials during construction, although the low number of recorded sites in the general area suggests a low potential. These impacts will be reduced to less than significant with implementation of the mitigation measures listed in Section 7.6 Mitigation Measures.

7.5.3 Operations Impacts

No impacts are anticipated from operation of the substation.

7.6 MITIGATION MEASURES

Mitigation measures are provided in the event that significant or potentially significant unknown cultural resources are discovered during construction. Significant and potentially significant impacts to cultural resources will be reduced to a less than significant level with the adoption of the following mitigation measures.

- Prior to the initiation of construction or ground-disturbing activities, PGandE will train all construction personnel to understand the potential for exposing subsurface cultural resources and to recognize possible buried cultural resources. Training will inform all construction personnel of the anticipated procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment.
- Upon discovery of possible buried cultural materials (including potential Native American skeletal remains), work in the immediate area of the find will be halted and PGandE's archaeologist will be notified. Once the find has been identified and evaluated, PGandE's archaeologist will make the necessary plans for treatment of the find(s) and mitigation of impacts if the finds are found to be significant according to CEQA. State law will be followed in the event of the exposure of Native American skeletal remains.

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