

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
4.5	Cultural Resources	4.5-1
4.5.1	Introduction	4.5-1
4.5.2	Methodology	4.5-2
4.5.3	Existing Conditions	4.5-3
4.5.4	Impacts	4.5-20
4.5.5	Project Design Features and Ordinary Construction/Operations Restrictions	4.5-27
4.5.6	Applicant-Proposed Measures	4.5-27
4.5.7	Detailed Discussion of Significant Impacts.....	4.5-29
4.5.8	References.....	4.5-31

LIST OF TABLES

<u>Table</u>	<u>Page</u>
Table 4.5-1: Previously Recorded Cultural Resources by Proposed Project Component	4.5-9
Table 4.5-2: Paleontological Resource Assessment by Proposed Project Area	4.5-19

THIS PAGE INTENTIONALLY LEFT BLANK

4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Potentially Significant Unless APMs Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.5.1 Introduction

The analysis in this section is based on the Preliminary Cultural Resources Survey prepared for the Proposed Project. The Proposed Project is in Southwestern San Diego County, California. The Preliminary Cultural Resources Survey Report was prepared by AECOM in June 2012 (Bowden-Renna 2012a) and revised in October 2012 (Bowden-Renna 2012b) and July 2013 (Bowden-Renna 2013); a Paleontological Report was prepared by the San Diego Natural History Museum (SDNHM) (Deméré 2012) on November 2, 2012, and revised on January 15, 2013 (Appendix 4.5-A). Pertinent results from the previous cultural resource survey conducted by HDR for the Tie Line (TL) 6910 transmission line study (Clowery and Blotner 2012), as well as results from a previously conducted HDR survey study of the proposed Salt Creek Substation location (previously called the “Otay Substation” site) (Whitaker 2011), were incorporated into the Preliminary Cultural Resources Survey Report prepared by AECOM to ensure complete coverage of the entire Proposed Project area. The purpose of this section is to document existing cultural and paleontological resources in the Proposed Project area and to assess impacts to these resources that may potentially occur as a result of Proposed Project implementation, particularly with regard to short-term construction activities and long-term operation and maintenance.

The Proposed Project would require ground-disturbing activities associated with constructing the proposed Salt Creek Substation power line (TL 6965), the loop-in of TL 6910, and the

CHAPTER 4.5 – CULTURAL RESOURCES

Existing Miguel Substation (Existing Substation) modifications. The Proposed-Project-specific components include access roads, pole locations, work pads (WP), stringing sites (SS), guard structures (GS), and construction staging yards. In addition, areas within the nearby Olympic Training Center (OTC) were identified as potential alternative staging yards for the Proposed Project. These areas were surveyed for cultural resources (Bowden-Renna 2012b).

Twelve cultural resources were previously documented within, or immediately adjacent to, the proposed power line and facilities: CA-SDI-4527, CA-SDI-4529, CA-SDI-4897, CA-SDI-7197, CA-SDI-8651, CA-SDI-8666, CA-SDI-12067, CA-SDI-12909, CA-SDI-14225, P-37-015138, P-37-015375, and P-37-015377. Additionally, two new isolated finds were observed and documented along access roads within the Existing Substation: SC-CBR-I-1 and SC-CBR-I-2. No other cultural resources were observed. Impacts to previously documented and undiscovered cultural resources resulting from the Proposed Project would be less than significant with implementation of SDG&E's APMs; refer to Section 4.4.5, Applicant Proposed Measures, which outlines minimization measures.

4.5.2 Methodology

4.5.2.1 Cultural Resources Records Search

Prior to conducting the cultural resources survey, SDG&E conducted a records search of information on file at the South Coastal Information Center (SCIC). The records search indicated 12 cultural resources previously documented within, or immediately adjacent to, the Proposed Project power lines and facilities. These resources are discussed in Section 4.4.3, Existing Conditions.

4.5.2.2 Archaeological Survey

A field survey was conducted by AECOM on June 8, September 13, and October 22, 2012. Previously documented cultural sites CA-SDI-4897 and CA-SDI-12909 were located during this current survey effort. Two new isolated finds, SC-CBR-I-1 and SC-CBR-I-2, were also identified during the survey effort.

4.5.2.3 Paleontological Resources Record Search

A paleontological records search was completed by the SDNHM in October 2012 (Deméré 2012). This consisted of reviewing relevant published and unpublished geological reports (Kennedy and Tan 1977; Kleinfelder West 2007; Todd 2004), published and unpublished paleontological reports (Deméré 1988; Deméré and Walsh 1993), geotechnical reports (Geosyntec 2012; Kleinfelder West 2007, 2012), and museum paleontological locality data (SDNHM, Department of Paleontology). This approach was followed in recognition of the direct relationship between paleontological resources and the geologic formations within which they are found. Knowing the geology of a particular area and the fossil productivity of formations that occur in that area, it is possible to predict where fossils will, or will not, be encountered. The record search revealed that more than 20 recorded paleontological localities were identified within the Proposed Project power lines and facilities.

4.5.3 Existing Conditions

4.5.3.1 Cultural Resources

Regulatory Background

State

California Environmental Quality Act (CEQA)

CEQA requires that state and local agencies identify impacts of proposed discretionary activities or projects, and to determine if impacts will be significant. CEQA also requires that alternatives be identified and mitigation measures be developed and implemented to reduce or eliminate impacts to the environment, including historic and archaeological resources. Under CEQA, historical and archaeological resources are assessed for eligibility to the California Register of Historical Resources (CRHR).

CEQA requires that impacts to cultural resources be identified and, if impacts will be significant, that mitigation measures be implemented to reduce those impacts to the extent feasible. In the protection and management of the cultural environment, both the CEQA statute and its Guidelines provide definitions and standards for cultural resources management. The term “historical resource” is defined as follows:

- (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources (CRHR).
- (2) A resource included in a local register of historical resources or identified as significant in a historical resource survey shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site area, record, or manuscript, which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a cultural resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources, including the following:
 - a. is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
 - b. is associated with the lives of persons important in our past;

CHAPTER 4.5 – CULTURAL RESOURCES

- c. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- d. has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in or not determined to be eligible for listing in the California Register of Historical Resources (CRHR), not included in a local register of historical resources, or not identified in a historical resources survey does not preclude a lead agency from determining that the resource may be a historical resource. However, under CEQA, isolated finds are not considered significant.

CEQA also requires that impacts to archeological resources be identified and, if impacts will be significant, that mitigation measures be implemented to reduce those impacts to the extent feasible. Archeological resources fall into three categories: (1) unique archeological resources; (2) archeological resources that are not unique, but fall under the definition of historical resources, above; and (3) archeological resources that are neither unique nor historical resources.

As defined in Section 21083.2(g) of CEQA, a “unique archaeological resource” is as follows:

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 criteria:

- (1) Contains information needed to answer important scientific research questions and that 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.
- (3) Is directly associated with a scientifically recognized important prehistoric or historical event or person.

Under this definition, there are no unique historic or archeological resources at the Proposed Project site.

California Register of Historical Resources (CRHR)

The State Historic Preservation Office (SHPO) established the CRHR as an authoritative guide for evaluating significant historical resources in the State of California, as follows:

While the significance criteria for the California Register are similar to those used by the National Register of Historic Places, this new California Register will document the unique history of the Golden State.

“Integrity,” which is a concept used by CEQA to determine the significance of impacts to historic resources, is defined in CRHR program as a property’s ability to convey its historic significance. Evaluation of integrity may be a somewhat subjective judgment; however, it must be founded on “an understanding of a property’s physical features and how they relate to its significance.”

Pursuant to the California Public Resources Code (PRC) Section 5024.1 and 14 California Code of Regulations (CCR) Section 4850, properties of local significance that are designated under a local preservation ordinance, or that have been identified in a local historical resources inventory, may also be eligible for listing in the CRHR. Resources that are eligible for listing in the National Register of Historic Places (NRHP) are automatically listed by the state in the CRHR.

No historic resources currently listed in the CRHR or determined eligible for listing in the CRHR by the SHPO are located on lands potentially affected by the Proposed Project.

California Public Resources Code (PRC)

The PRC addresses archaeological finds with regard to human remains and associated objects of cultural or historical value. Sections 5097.9 to 5097.994 of the PRC identify appropriate procedures in the event that Native American remains are discovered. In addition, if human remains are discovered during site disturbance activities, Section 7050.5 of the California Health and Safety Code requires that such activities at the discovery site, and within proximity to where human remains are reasonably suspected to exist, shall cease until the County coroner can be notified. If it is determined that the human remains are of Native American origin, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. All activities must proceed consistent with applicable state laws relative to the disposition of Native American burials, as regulated by the NAHC (PRC Section 5097.9, et seq.).

Native American Graves Protection and Repatriation Act (2001), California Health and Safety Code

The California Health and Safety Code, Sections 8010 through 8030, provides for the protection of Native American cultural resources. This code provides measures requiring that federal agencies and institutions that receive federal funding return Native American cultural items and human remains to their respective peoples. Such cultural items may include funerary objects, sacred objects, or objects of cultural patrimony. The code also authorizes a program of federal grants to assist in the repatriation process to ensure that California Native American human remains and cultural resources are treated with respect and dignity.

Prehistoric Setting

The earliest well-documented sites in the San Diego area belong to the San Dieguito complex, thought to be older than 9,000 years old (Warren 1967). Related materials were found in the Mojave Desert and the Great Basin, sometimes called the Lake Mojave complex (e.g., Campbell et al. 1937; Warren and Ore 1978). Diagnostic artifact types and categories associated with the San Dieguito complex include scraper planes; choppers; scraping tools; crescentics; elongated bifacial knives; and Silver Lake, Lake Mojave, and leaf-shaped projectile points (Rogers 1939; Warren 1967). In areas adjacent to the coast, many Paleoamerican-period sites were probably

CHAPTER 4.5 – CULTURAL RESOURCES

covered by rising sea levels since the end of the Pleistocene. In more inland regions, alluvial sedimentation in valley areas may cover these materials. Stable mesa landforms in the region, an abundance of appropriate lithic material, and soil column exposures along areas such as the San Diego River make the foothills an important area for Paleoamerican research.

The Archaic period (7,000 to 1,500 years before present [B.P.]) brings an apparent shift toward a more generalized economy and an increased emphasis on seed resources, small game, and shellfish. Local cultural manifestations of the Archaic period are called the La Jollan complex along the coast and the Pauma complex inland. Pauma complex sites lack the shell that dominates many La Jollan complex site assemblages. The La Jollan tool assemblage is dominated by rough, cobble-based choppers and scrapers, as well as slab and basin metates. There has been considerable debate about whether San Dieguito and La Jollan patterns might represent the same people using different environments and subsistence techniques, or whether they are separate cultural patterns (e.g., Bull 1983; Ezell 1987; Gallegos 1987; Warren et al. 1993).

The Late Prehistoric period (1500 B.P. to 200 B.P.) is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period with continued elaboration of trade networks, use of shell-bead currency, and appearance of more labor-intensive but effective technological innovations.

Subsistence is thought to have focused on acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Fish and shellfish were also secondary resources, except for areas immediately adjacent to the coast where they assumed primary importance (Luomala 1978). The settlement system is characterized by seasonal villages where people used a central-based collecting subsistence strategy. Artifactual material is characterized by the presence of arrow shaft straighteners, pendants, comales (heating stones), Tizon Brownware pottery, ceramic figurines reminiscent of Hohokam styles, ceramic “Yuman bow pipes,” ceramic rattles, miniature pottery, various cobble-based tools (e.g., scrapers, choppers, hammerstones), bone awls, manos and metates, and mortars and pestles. The arrow point assemblage is dominated by the Desert Side-notched series, but the Cottonwood series and the Dos Cabazas Serrated type also occur.

Ethnographic Setting

The Proposed Project area is in the traditional territory of the Kumeyaay. Also known as Kamia, Ipai, Tipai, and Diegueño, the Kumeyaay occupied the southern two-thirds of what is now San Diego County. The Kumeyaay spoke a language belonging to the Hokan language family, which includes the lower Colorado River tribes and Arizona groups to whom they are closely related. The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherías. Most rancherías were the seat of a clan, although it is thought that, aboriginally, some clans had more than one ranchería and some rancherías contained more than one clan (Luomala 1978).

Historic Setting

Cultural activities within San Diego County between the late 1700s and the present provide a record of Native American, Spanish, Mexican, and American occupation and land use. The Spanish period (1769–1821) represents a time of European exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the San Diego Mission. The mission system used Native American labor to build the infrastructure needed for European settlement. By about 1821, the traditional lifeways were disrupted and Native American populations were tied economically to the missions. In addition to providing new construction methods and architectural styles, the mission system introduced horses, cattle, and other agricultural goods and implements to the area. The cultural systems and institutions established by the Spanish continued to influence the region beyond 1821, when California came under Mexican rule.

The Mexican period (1821–1848) retained many of the Spanish institutions and laws; however, in 1834, the mission system was secularized. This allowed for increased Mexican settlement, but it also meant that many Native Americans were dispossessed. After secularization, large tracts of land were granted to individuals and families, and a rancho system was established. Land was used primarily for grazing cattle (Pourade 1963:73). Cattle ranching dominated the agricultural activities, and development of hide and tallow trade with the United States increased during the early part of this period. The Pueblo of San Diego was established at this time, and Native American influence greatly declined. The Mexican period ended when Mexico ceded California to the United States after the Mexican-American War (1846–1848).

Very early in the American period (1848 to present), gold was discovered in California. Few Mexican ranchos remained intact because of land claim disputes. Railroad development opened much of the country to settlement. The homestead system encouraged American settlement beyond the coastal plain. The growth and decline of communities occurred in response to an increasing and shifting population, fostering a “boom and bust” cycle. As early as 1868, San Diego was promoted as a natural sanitarium, and many people suffering from tuberculosis came to the area seeking a cure in the moderate climate.

After the California Southern Railroad connected San Diego with the eastern U.S. in 1885, land speculators and health-seekers flocked to San Diego. Hundreds of people arrived daily, and property values soared. San Diego’s Great Boom lasted from 1886 to 1888. At the peak of the Great Boom, San Diego had an estimated 30,000 to 40,000 residents, most of these having arrived within a span of just 2 years (Smythe 1908).

A continued increase in population brought continued growth and wealth to Southern California. Entry of the United States into World War I, and later World War II, helped to firmly establish San Diego as a major military port. Tourism, agriculture, education, and the military are some of the major social and economic factors in the region today.

Native American Contact Program

A Sacred Lands File Search with the NAHC was conducted on March 23, 2012, for the Proposed Project. A letter of response from the NAHC, dated April 2, 2012, was received, stating that no

CHAPTER 4.5 – CULTURAL RESOURCES

sacred sites were known within 0.5 mile of the Proposed Project. On April 4, 2012, letters were mailed to local Native American tribal groups and/or individuals listed by the NAHC, seeking information and concerns they may have about resources in the Proposed Project area or vicinity. To date, only one response was received.

A response was received from Clint Linton of the Ipai Nation of Santa Ysabel. Mr. Linton indicated that there are numerous cultural resources in the Proposed Project area, and requested involvement with the Proposed Project prior to conducting the survey effort. Additionally, Mr. Linton requested that a Native American monitor be included in the survey effort.

On May 14, 2012, an on-site meeting was conducted with Dr. Susan Hector of SDG&E, Mr. Linton of the Ipai Nation of Santa Ysabel, and Cheryl Bowden-Renna of AECOM to discuss Mr. Linton's concerns regarding the Proposed Project. Based on the information presented by Dr. Hector regarding past surveys conducted in the area and on the brief site visit, it was agreed that Ms. Bowden-Renna would provide Mr. Linton with site forms for previously documented cultural resources located within the proposed power line corridor. Mr. Linton could then prepare a more detailed letter, with site-specific concerns, to be addressed to SDG&E. Further, it was determined that no Native American monitor was required during the survey effort. However, Native American monitors may be requested during any ground-disturbing activities during the construction phase of this Proposed Project.

Cultural Resources Record Search Results

The records search indicated that 12 cultural resources, were previously documented within or immediately adjacent to the proposed power lines and facilities (Table 4.5-1): CA-SDI-4527, CA-SDI-4529, CA-SDI-4897, CA-SDI-7197, CA-SDI-8651, CA-SDI-8666, CA-SDI-12067, CA-SDI-12909, CA-SDI-14225, P-37-015138, P-37-015375, and P-37-015377. Previous testing programs and site evaluations have been conducted at sites CA-SDI-4527, CA-SDI-4529, CA-SDI-4897, CA-SDI-8651, CA-SDI-8666, CA-SDI-12067, and CA-SDI-14225, none of which are unique archeological resources. However, all are considered potentially significant, with the exception of CA-SDI-8666, which was reclassified as an isolate. P-37-015138, P-37-015375, and P-37-015377 are also isolates. Under CEQA, isolated finds are considered not significant. CA-SDI-7197 and CA-SDI-12909 have not been previously tested or evaluated. Therefore, these sites are considered potentially significant and are treated as such. This section analyzes each of sites identified as "potentially significant" to determine whether the Proposed Project would cause a substantial adverse change in the site's significance.

CA-SDI-4527

CA-SDI-4527, situated on a knoll overlooking Wild Man's Canyon to the northeast, was originally recorded as a midden deposit and lithic scatter that included cores, flakes, and scrapers (Kaldenberg 1975a). Possible hearth features were also noted. The site area measured 40 meters (m) by 20 m with a depth of approximately 30 centimeters (cm).

Table 4.5-1: Previously Recorded Cultural Resources by Proposed Project Component

Permanent Trinomial	Description	Date(s) Recorded	Previously Tested	Evaluation Status
Salt Creek Substation				
None	n/a	n/a	n/a	n/a
TL 6965 and TL 6910 Loop-In				
CA-SDI-4529	Lithic scatter	1975; 1979; 1981; 2012	Yes	Potentially Significant
CA-SDI-7197	Lithic scatter	1979, 1980, 2002, 2005; 2012	Yes	Potentially Significant
CA-SDI-8651	Lithic scatter	1981; 1989; 1991; 2010	No	Potentially Significant
CA-SDI-8666	Lithic scatter; Isolate	1981; 2012	Yes	Reclassified as an isolate; Not Significant
CA-SDI-12067	Lithic quarry and lithic scatter	1991; 2005; 2012	Yes	Potentially Significant
CA-SDI-12909	Lithic scatter	1990; 2011	No	Potentially Significant
CA-SDI-14225	Temporary camp	1996; 2001; 2010	Yes	Potentially Significant
SC-CBR-I-1	Isolate	2012	No	Not Significant
SC-CBR-I-2	Isolate	2012	No	Not Significant
Existing Substation				
CA-SDI-4527	Habitation	1975; 1977; 1979; 1981; 2012	Portions of site tested	Potentially Significant
CA-SDI-4897	Multi-component site	1976; 1977; 1981; 1982; 2012	Yes	Potentially Significant
Staging Yards				
CA-SDI-4897	Multi-component site	1976; 1977; 1981; 1982; 2012	Yes	Potentially Significant
CA-SDI-8666	Lithic scatter; Isolate	1981; 2012	Yes	Reclassified as an isolate; Not Significant
P-37-015138	Isolate	1991	No	Not Significant
P-37-015375	Isolate	1993	No	Not Significant
P-37-015377	Isolate	1993	No	Not Significant

The site was revisited in 1977 by archaeologists from Wirth and Associates, and additional artifacts were noted, including blades and ceramics, and the site area was extended to 50 m by 40 m (Miller et al. 1977). A surface collection testing program was subsequently conducted in 1979 by RECON (RECON 1979), and additional subsurface testing was conducted by CSRI in 1981 (Clark 1981a). In 1982, R. L. Franklin (Franklin 1982a) relocated the site and noted the possibility of future impacts to it from the proposed expansion of an adjacent substation. According to Franklin, previous studies at CA-SDI-4527 had recorded more than 600 artifacts,

CHAPTER 4.5 – CULTURAL RESOURCES

including flake stone tools and manufacturing debitage, groundstone milling tools, and ceramic sherds. Based on this information, the site was interpreted as a Late Prehistoric base camp.

HDR examined the site in 2011 and reported that, while surface visibility was poor to moderate depending on vegetation density, 11 artifacts were identified within and slightly outside of the recorded site boundary (Clowery and Blotner 2012). Artifacts observed included a chopper, a retouched chert flake fragment, and nine metavolcanic flakes. Artifacts appeared more concentrated along the seasonal drainage that corresponded with Wild Man's Canyon. Based on the discovery of numerous artifacts outside of the recorded site boundary, the site boundary was extended an additional 25 m to the southwest and 30 m to the southeast (Clowery and Blotner 2012:10).

CA-SDI-4529

This site was originally recorded as a broad lithic scatter measuring approximately 20 m by 30 m on a flat northwest-southeast-trending ridge (Kaldenberg 1975b). Site significance evaluations were conducted by RECON (Hanna 1979) and CSRI (Nagle 1981a). This resulted in expanding the site boundaries to 450 m by 100 m. During these studies, more than 600 artifacts, including cores, flakes, hammerstones, flaked stone tools, manos, and metates, were recovered from the surface, along with minimal quantities of shell and cow bone (Nagle 1981a). Subsurface recovery from three 1-m by 1-m test excavation units, excavated to a depth of 30 cm, included 47 flakes/debitage and one shell fragment (Clark 1981b). Site disturbance observed included erosion, pot hunting, and agricultural disking.

In 2011, HDR examined the western margin of CA-SDI-4529 that extended within the SDG&E TL 6910 project area. This area was described as a relatively narrow strip of level land that contained a growth of grasses and weeds of variable density. Ground surface visibility was described as poor to moderate due to vegetation density. Two metavolcanic flakes were noted within this portion of the site boundary. The remainder of CA-SDI-4529 to the east was impacted by residential housing development (Clowery and Blotner 2012:10).

CA-SDI-4897

CA-SDI-4897 is an extensive prehistoric and historic site located on a series of adjacent knolls west of Wild Man's Canyon (RECON 1976). Ten loci, nine prehistoric and one historic, were defined during a number of archaeological surveys and investigations at the site. Locus A was the first noted and the most southern of the 10 loci (RECON 1976). Wirth and Associates resurveyed the site area in 1977 and described a lithic scatter of metavolcanic flakes measuring 30 m by 30 m, and noted that the site was being impacted by development (Toren and Schiowitz 1977).

In 1982, an additional nine loci were defined, some of which included other sites in the vicinity (Franklin 1982b) that were incorporated into CA-SDI-4897. These other resources included CA-SDI-8659 (Locus C), CA-SDI-9184 (Locus D), and CA-SDI-8665/CA-SDI-9186 (Locus H). The nine prehistoric loci (A, B, C, D, E, F, G, I, and J) consist of mostly low-density lithic scatters and/or bedrock milling features interpreted as temporary camps and/or quarries. Locus H consists of a moderately dense lithic scatter. The single historic locus, Locus E, consists of a

surface scatter of historic trash and a brick-covered cistern. According to Franklin (1982b), Locus A was first tested by RECON in 1979 (RECON 1979), and was tested again in 1981 by CSRI, who expanded its dimensions to 120 m by 150 m. Artifact recovery consisted of a surface scatter of 51 artifacts, including lithic tools and flakes. CSRI (Nagle 1981b) estimated that 70% of Locus A had been destroyed. Overall, the CA-SDI-4897 loci encompass an area of approximately 74 acres.

In 2010 and 2011, HDR revisited the site and observed artifactual material between recorded Loci B and D (Blotner 2010; Clowery 2011; Clowery and Blotner 2012). However, vegetation was dense at this time and visibility was poor. No other loci were relocated. A limited testing program was conducted by HDR in 2011 as part of the TL 13826 Wood-to-Steel Replacement Project (Morgan 2011). Fourteen shovel test pits (STPs) were placed within or adjacent to Loci C and H near existing poles to be replaced. All STPs were excavated to a depth of 30 cm and all were sterile.

CA-SDI-7197

This site was originally recorded as a sparse lithic scatter measuring approximately 30 m by 50 m (Franklin 1979). CA-SDI-7197 is located on a small knoll top overlooking Proctor Valley and Telegraph Canyon. In 1980, the site was relocated and expanded westward across several ridge tops and slopes, incorporating an area of approximately 1,300 m by 300 m (Douglas 1980a). The site was interpreted as a lithic workshop and milling stone scatter consisting of five loci, and possibly representing multiple cultural periods. The site was revisited by CSRI in 2002 (Duke 2002) and by URS in 2005 (Carrel and Hoff 2005a). However, no evidence of the site was observed by either LSA or URS. Locus B of this site was relocated by HDR (Clowery and Blotner 2012). Impacts from residential development and paved roads in the area were noted.

CA-SDI-8651

CA-SDI-8651 was originally recorded by CSRI (Clark 1981c) as a lithic and groundstone scatter consisting of 20 flakes, a core, a biface, a chopper, a side scraper, and a mano fragment within a 90-m by 80-m area. While this site was relocated in 1989 by RECON (Ritz 1989), it was not relocated by ERC Environmental in 1991 due to dense vegetation covering the area at that time (Rader 1991).

This previously recorded site was not located during the survey conducted by HDR in 2010 (Clowery and Blotner 2012). It was noted that the site had been destroyed by residential development and landscaping in the area.

CA-SDI-8666

This was originally recorded by CSRI as a sparse lithic scatter located on the south side of Poggi Canyon and consisted of two flakes, four scrapers, and one core in a 300-m by 100-m area (Douglas 1980b). The site was relocated during a testing effort conducted by LSA in 1981 (Clark 1981d; Douglas 1980b). However, only one core was located on the surface. LSA placed one test unit at this site. The unit was excavated to a depth of 60 cm, and no subsurface material was encountered (Douglas 1980b). The site was re-classified as an isolate, although no specific locational data for the isolate was provided on the updated site form.

CHAPTER 4.5 – CULTURAL RESOURCES

In 2011, the site area was revisited by HDR; however, the site was not relocated (Clowery and Blotner 2012). It was noted that a portion of the site had been destroyed by residential development.

CA-SDI-12067

CA-SDI-12067 was originally recorded by Brian F. Smith and Associates (BFSA) in 1991 as a small “light duty” quarry with an associated sparsely dispersed lithic scatter (Smith 1991). Artifacts observed included lithic production waste, flaked tools, and manos. While not mentioned by BFSA, the presence of manos appears to indicate that food processing activities were also occurring at the site, in addition to lithic quarrying and production activities. A testing program was conducted by BFSA in 1991, which indicated that the site’s horizontal dimensions were 165 m by 70 m, with no discernible subsurface deposit.

In 2005, URS attempted to relocate the site, but was not successful due to dense ground cover (Carrel and Hoff 2005b). The site was relocated by HDR in 2011, and a sparse lithic scatter was observed at this time (Clowery and Blotner 2012). It was noted that portions of this site were destroyed by residential development.

CA-SDI-12909

This site was recorded as a sparse lithic scatter consisting of one core and four to six pieces of debitage in area measuring approximately 120 m by 60 m (Rosen et al. 1990). The site is located just west of Wild Mans Canyon, east of Horseshoe Bend and southwest of Mother Miguel Mountain. A graded dirt road was described as bisecting the site, and artifacts were observed along the road and on the uphill and downhill slopes on both sides of the road. In addition to the road, other disturbance noted included cattle grazing and trampling from livestock and human foot traffic. This site was relocated during the survey effort by HDR in 2011 (Clowery and Blotner 2012).

CA-SDI-14225

CA-SDI-14225 was recorded as a lithic scatter consisting of 25 flakes, at least five scrapers, and a core in an area measuring 99 m by 122 m (BFSA 1996). Within this area, site materials extended across the slope of a southeast-facing knoll along the west side of the Salt Creek drainage. A dirt road running north/south was noted through the site. A subsequent subsurface testing and evaluation program was conducted by BFSA in 2001, which included a surface collection of artifacts (BFSA 2001). This investigation noted additional disturbance in the site that included additional dirt roads, past aqueduct construction activities, cattle grazing, and agricultural discing. No subsurface component was identified. However, the discovery of additional surface artifacts resulted in an extension of the site boundary by approximately 100 m to the northwest.

In 2010, HDR revisited the site (Blotner and Clowery 2010), and conducted a resurvey of the area as part of a cultural resource assessment for SDG&E’s Wood to Steel Conversion of TL 6910. Three metavolcanic flakes were relocated within 6 m of each other along the dirt access road in the northeastern portion of the site. Based on the BFSA site sketch maps, the eastern

boundary of CA-SDI-14225 contracted toward the west after the 2001 testing program. However, during a survey conducted by HDR|e2M, artifacts were identified near the eastern portion of the original site boundary (Blotner 2010). Based on artifact location, the eastern site boundary should remain consistent with the one delineated on the 1996 BFA site form. A new comprehensive site boundary was suggested that encompasses both prior site boundaries.

P-37-015138

This is an isolate lithic flake recorded in 1991 (Rader and James 1991). This isolate was collected during the survey effort conducted by ERCE in 1991.

P-37-015375

P-37-015375 consists of an isolated metavolcanic flake (Kyle and Tift 1993a).

P-37-015377

This isolate consists of two metavolcanic flakes (Kyle and Tift 1993b).

No known cemeteries exist and no recorded Native American or other human remains have been identified within or adjacent to the study area for the Proposed Project.

Archaeological Field Survey Results

A pedestrian survey of the Proposed Project components was conducted on June 8, September 13, and October 22, 2012 (Bowden-Renna 2012a, 2012b). The majority of the current Proposed Project area was previously surveyed during a recent study conducted for the adjacent, parallel, existing TL 6910 by HDR (Clowery and Blotner 2012). The current survey addressed all Proposed-Project-specific components and included access roads, pole locations, WP's, SS's, GS's and construction staging yards associated with the current Proposed Project. Additionally, potential staging yards were identified within the OTC. Portions of these components are within areas previously surveyed by HDR. Pertinent results from the HDR TL 6910 Transmission Line study (Clowery and Blotner 2012), as well as the results from a previously conducted HDR survey of the proposed Salt Creek Substation location (previously the Otay Substation site) (Whitaker 2011) are incorporated into the results of the current study for the Proposed Project to ensure complete survey coverage of the Proposed Project area.

Salt Creek Substation

The proposed Salt Creek Substation site was surveyed in parallel 10- to 12-m intervals. No previously recorded cultural resources were identified within the proposed Salt Creek Substation area. No cultural resources were identified during the survey effort.

TL 6965 and TL 6910 Loop-In

Proposed-Project-specific components, which included access roads, pole locations, WP's, and SS'S associated with the power lines, were surveyed in parallel 10- to 12-m intervals. The areas surveyed for the SS's included the proposed SS areas and a 50-foot (15-m) buffer around each SS. A 90-foot (30-m) radius around each proposed pole location was inspected. Access roads plus a 10-m buffer were also surveyed. All components of the Proposed Project that are located

CHAPTER 4.5 – CULTURAL RESOURCES

within previously recorded site boundaries were surveyed to identify any cultural material that may be impacted within these components.

Much of the Proposed Project area is heavily overgrown with thick brush and grass. Portions of the Proposed Project area have been previously disturbed. A new access road to pole 40 may require minor grading. All other existing access roads are either paved or were previously graded. Areas around proposed poles within existing sites boundaries were either cleared or vegetation in the area was moderate to dense. All visible ground was inspected.

Portions of the proposed TL 6965 would be located within the boundaries of previously recorded sites CA-SDI-4529, CA-SDI-8666, CA-SDI-7197, CA-SDI-12067, and CA-SDI 14225. The pedestrian field survey did not find any unique archeological resources. At site CA-SDI-7197, one mano fragment was relocated within the proposed SS6 area. No other cultural material was relocated at these sites during the current survey effort; however, only the areas associated with Proposed Project components that are located within these sites were surveyed. The remainder of the site area outside of these components was not inspected. Additionally, monitoring was conducted within portions of sites CA-SDI-7197 and CA-SDI-14225 during geotechnical potholing and boring. No subsurface cultural material was observed during the monitoring efforts.

Portions of the transmission line located within the SDG&E fee-owned Existing Substation property are located within the boundaries of previously recorded sites CA-SDI-4897 and CA-SDI-12909. All Proposed Project components are located outside of established loci for site CA-SDI-4897. Lithic material associated with sites CA-SDI-4897 and CA-SDI-12909 was observed during the current survey effort along existing access roads. The pedestrian field survey did not find any unique archeological resources. No other cultural material was relocated at sites CA-SDI-4897 and CA-SDI-12909 within the remaining Proposed Project components of the Existing Substation property; however, only the areas associated with Proposed Project components that are located within these sites were surveyed. The remainder of the site area outside of these components was not inspected. No cultural material was relocated at previously recorded site CA-SDI-4527 during the recent survey effort; however, only the areas associated with Proposed Project components that are located within these sites were surveyed. The remainder of the site area outside of these components was not inspected.

Two new isolated finds, SC-CBR-I-1 and SC-CBR-I-2, were identified during the survey effort. SC-CBR-I-1 is located within the Existing Substation property along an access road leading south into a residential development. The isolate consists of one metavolcanic flake. SC-CBR-I-2 was observed between the access road and proposed pole 37, and consists of two green metavolcanic modified flakes. Isolates are not considered significant under CEQA, and, as such, are not considered impacts. No other cultural material was noted.

Existing Substation

Substation modifications are proposed for the Existing Substation. The substation is located within the site boundaries for CA-SDI-4527 and CA-SDI-4897.

Staging Yards

Three staging yards and five potential alternative staging yards have been identified: the Existing Substation staging yard, the Hunte Parkway staging yard, the Eastlake Parkway staging yard, and the alternative OTC staging yards. The Existing Substation staging yard is located in an existing yard area within the Existing Substation. The Hunte Parkway staging yard would be located on previously graded future development pads located northeast of the intersection of Eastlake Parkway and Hunte Parkway. One isolate, P-37-015138, was previously recorded in this area and was previously collected (Rader and James 1991). The Eastlake Parkway staging yard would be located north of Eastlake Parkway and extend northwest to SR-125. Site CA-SDi-8666 was previously recorded in this area as a lithic scatter (Douglas 1980b) and has been re-classified as an isolated find (Clark 1981d). The alternative OTC staging yards would be located at the existing OTC. Two isolated finds, P-37-015375 and P-37-015377, were previously recorded near alternative OTC 3 (Kyle and Tift 1993a; Kyle and Tift 1993b). All visible ground surfaces were inspected and no cultural material was observed within the staging yards.

4.5.3.2 Paleontological Resources

Regulatory Setting

State of California

California Environmental Quality Act (CEQA)

CEQA requires that state and local agencies identify impacts of proposed discretionary activities or projects, and determine if impacts will be significant. CEQA also requires that alternatives be identified, and that mitigation measures be developed and implemented to reduce or eliminate impacts to the environment, including paleontological resources.

California Public Resources Code (PRC)

Section 5097.5 of the California PRC prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontologic feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted or expressed permission.

Paleontological Setting

Geological Setting

The Proposed Project and associated components are located within the southern Peninsular Ranges Geomorphic Province, which is dominated by plutonic igneous rocks of late Mesozoic age (approximately 125 to 90 million years old [Ma]) and prebatholithic metamorphic rocks of middle Mesozoic age (approximately 200 to 140 Ma). Along the coastal plain of San Diego County, these crystalline basement rocks are overlain by younger sedimentary deposits of Cenozoic age (approximately 45 Ma to 10,000 years old) (Walawender 2000).

Sedimentary rocks of the Oligocene-age (approximately 29 Ma) Otay Formation (Artim and Pickney 1973; Deméré 1988; Walsh and Deméré 1991) underlie the majority of the proposed

CHAPTER 4.5 – CULTURAL RESOURCES

Salt Creek Substation site, as well as the TL 6965 alignment. Minor occurrences of the Cretaceous-age (approximately 120 to 130 Ma) Santiago Peak Volcanics are exposed at the northern extent of TL 6965. However, a small portion of the TL 6965 to the south is overlain by Eocene-age (approximately 42 Ma) sedimentary rocks of the Mission Valley Formation.

A site-specific geotechnical report prepared by Kleinfelder West (2007) for the proposed Salt Creek Substation site provides detailed information about subsurface conditions and indicates that fine-grained, stratified deposits of clayey sandstone and silty sandstones underlie major portions of the area. Minor occurrences of coarser-grained pebble and cobble conglomerate layers were also noted in the geotechnical reports. These lithologies are typical of the sandstone-mudstone member of the Otay Formation as defined by Walsh and Deméré (1991). The geotechnical report also indicates that up to 90 feet of artificial fill material underlies the extreme southwestern portion of the substation site, immediately adjacent to Hunte Parkway. This engineered fill material was placed during construction of Hunte Parkway and does not extend into the main area of the proposed substation site. The geotechnical report prepared by Geosyntec (2012) for the TL 6965 alignment notes that similar conditions exist along the majority of the power line, with the exception of the northern area in the vicinity of the Existing Substation. Older, metavolcanic rocks of the Santiago Peak Volcanics capped in places by Eocene sedimentary rocks of the Mission Valley Formation underlie this area.

Geologic Rock Units

The following section provides a general overview of the types of geologic deposits located within the Proposed Project area (in order from oldest to youngest).

Santiago Peak Volcanics (Ksp)

This unit is described as metavolcanic rocks mapped from the late Jurassic to early Cretaceous (Todd 2004). Santiago Peak Volcanics occur in the northernmost portion of the Proposed Project area, underlying the northern terminus of the proposed power lines, the Existing Substation, and the Existing Substation staging yard. This formation is composed primarily of volcanic breccias, with lesser amounts of volcanic tuffs and flows. In some areas, slightly to moderately metamorphosed marine mudstones and sandstones appear interbedded with the volcanic rocks (Fife et al. 1967). Radiometric dates on the volcanic flow-rocks of the Santiago Peak Volcanics yielded earliest Cretaceous ages (approximately 120 to 130 Ma) (Herzig and Kimbrough 1991). Santiago Peak Volcanics were altered during emplacement of the vast volumes of magma generated by early Cretaceous subduction of a large lithospheric plate. These magmas subsequently cooled to form the plutonic (“granitic”) rocks of the Peninsular Ranges Batholith.

Mission Valley (Tmv)

Sedimentary rocks of the Mission Valley Formation directly overlie metavolcanic rocks of the Santiago Peak Volcanics in the northernmost portion of the Proposed Project area, underlying the northern terminus of TL 6965, the Existing Substation, and the Existing Substation staging yard. The Mission Valley Formation consists of fine- to very-fine-grained marine sandstone in its type area along SR-163 on the south side of Mission Valley. Eastern and southern exposures of

the formation consist of fine- to medium-grained, fluvial sandstones, as well as green and brown non-marine siltstone and mudstone. Maximum formation thickness near its type location in Mission Valley is 200 feet, although it only reaches a thickness of 60 feet at Scripps Ranch and 45 feet in Tierrasanta (Deméré and Walsh 1993). Radiometric dating (Ar-Ar method) indicates that the Mission Valley Formation is approximately 42.83 million years old, placing it within the Middle Eocene Epoch (Walsh 1996). This formation is the only Eocene rock unit in Southern California that contain fossil mammal localities that are directly associated with a radiometric date (Deméré and Walsh 1993).

Otay Formation (To)

The majority of the Proposed Project, including the proposed Salt Creek Substation, Hunte Parkway staging yard, OTC alternative staging yards, and most of the proposed TL 6965, is underlain by the Oligocene-age Otay Formation. Sedimentary rocks mapped by Todd (2004) as fluvial and alluvial fan strata comprise this formation. The Otay Formation in this area is radiometrically dated at approximately 29 Ma and is correlative with the Arikareean North American Land Mammal Age.

The formation was divided into three members by Walsh and Deméré (1991), who recognize a basal angular conglomerate (fanglomerate) unit, a middle gritstone unit, and an upper sandstone-mudstone unit. The upper member consists of gray-white, medium-grained, tuffaceous sandstone with interbeds of brown and red-brown claystones and white bentonite layers (Walsh and Deméré 1991). The middle member consists of interbedded coarse-grained sandstones and angular gravels (gritstone). The lower member is a poorly sorted, cobble to boulder fanglomerate, largely composed of angular blocks of locally derived metavolcanic and plutonic igneous rock. (Walsh and Deméré 1991; Todd 2004). In general, the formation becomes finer grained from bottom to top, with the basal angular conglomerate unit grading upward and westward into the gritstone member, which in turn grades upward and westward into the sandstone-mudstone member. The Otay Formation may be as thick as 400 feet, but at any one location, the formation is typically less than 120 feet thick.

Paleontological Resources Records Search Results

Numerous fossil-collecting localities are documented in paleontological records housed at SDNHM. More than 20 recorded fossil-collecting localities occur within the Proposed Project area and associated facilities. All of these localities were discovered in the sandstone-mudstone member of the Oligocene-age Otay Formation during mass grading for the Eastlake and Winding Walk developments. Fossils recovered from these localities include aquatic plant impressions; freshwater invertebrate shells; isolated bones and teeth; and whole and partial skeletons of terrestrial vertebrates, including lizards (iguanid), opossums (cf. *Nanodelphys* sp.), insectivore (cf. *Centetodon* sp.), hedgehog (cf. *Ocajila* sp.), early rodents (*Heliscomys* sp., *Leidymys* sp., *Pleurolicus* sp., *Protospermophilus* sp., and *Meniscomys* sp.), rhinoceros (cf. *Subhyracodon* sp.), mouse deer (*Hypertragulus* sp.), and oreodont (*Sespia californica*).

Fossil potential for the geologic deposits located within the Proposed Project area are summarized below.

CHAPTER 4.5 – CULTURAL RESOURCES

Santiago Peak Volcanic

In general, the molten origin of the Santiago Peak Volcanics precludes preserving significant fossil remains. However, some volcanic breccias contain petrified wood, as in Mira Mesa and near Rancho Santa Fe (D'Vincent 1967). In addition, certain exposures of meta-sedimentary rocks produced important remains of siliceous microfossils (e.g., radiolarians: Jones and Miller 1982) and marine macroinvertebrates, including belemnites and clams (Jones and Miller 1982). Currently, there are no records of any paleontological collecting sites in these rocks south of San Clemente Canyon in the City of San Diego.

Mission Valley Formation

Well-preserved fossils of microorganisms (e.g., foraminiferans), clams, snails, crabs, sea urchins, sharks, rays, and bony fish were collected from marine Mission Valley units (Givens and Kennedy 1979). In addition, fluvial deposits produced well-preserved fossil remains of wood, as well as a diverse assemblage of terrestrial mammals, including opossums, insectivores, bats, rodents, primates, artiodactyls, and perissodactyls (Gotz and Lillegraven 1977; Walsh 1996).

The combined marine and non-marine fossil assemblages recovered from the formation allow direct correlation of marine and terrestrial faunas of the Eocene of Southern California. In this respect, the Mission Valley Formation is scientifically important, and it serves as one of a few instances within North America from which such correlations are ascertained (Flynn 1986; Gotz and Lillegraven 1977; Walsh 1996).

The Mission Valley Formation is discontinuously exposed between Otay Valley in the south; Scripps Ranch in the north; Old Town in the west; and Spring Valley, Fletcher Hills, and Santee in the east (Deméré and Walsh 1993). Based on paleontology, several distinctive vertebrate fossil-bearing sandstone outcrops in the Rancho Bernardo, Rancho Peñasquitos, and Carmel Mountain Ranch regions, mapped as the Mission Valley Formation, more likely belong to the upper sandstone tongue of the Friars Formation (Walsh 1996; Walsh et al. 1996).

Otay Formation

Numerous fossil localities in the Otay Formation were discovered in the Eastlake, Otay Ranch, and Otay Mesa areas of southwestern San Diego County. These localities produced a diverse assemblage of well-preserved terrestrial vertebrate remains, which includes tortoises, lizards, snakes, birds, shrews, rodents, rabbits, dogs, foxes, cat-like nimravids, rhinoceros, camels, mouse-deer, and oreodonts. Based on these fossil discoveries, the Otay Formation is considered the richest source of late Oligocene terrestrial vertebrates in California (Deméré 1988; Walsh and Deméré 1991).

Paleontological Resources Assessment

A Paleontological Resources Assessment, based on the paleontological records search, was completed by the SDNHM in October 2012 (Deméré 2012). This study found that the Proposed Project area and associated facilities are located within three geologic units with varying paleontological potential: Santiago Peak Volcanics, Mission Valley, and Otay Formation (Table 4.5-2). The record search revealed the presence of more than 20 localities recorded within the

Proposed Project area. All of these localities were located in sedimentary deposits associated with the Otay Formation. Additionally, while no known localities are mapped in the Mission Valley Formation within the Proposed Project area, well-preserved fossils were previously recovered from this formation. Therefore, the Mission Valley and Otay Formations are considered high sensitivity for paleontological resources. The Santiago Peak Volcanics precludes the possibility of fossil remains and, therefore, is considered to have no sensitivity for paleontological resources.

Table 4.5-2: Paleontological Resource Assessment by Proposed Project Area

Proposed Project Location	Geologic Formation	Level of Sensitivity	Recorded Localities	Recommendations
Salt Creek Substation				
Proposed Substation Site	Otay Formation	High	Yes	Monitor
TL 6965 and TL-6910 Loop-In				
Northern Terminus	Santiago Peak Volcanics; Mission Valley Formation**	Low; High	No; Yes*	Monitor
From Existing Substation to Proposed Salt Creek Substation	Otay Formation	High	Yes	Monitor
Existing Substation				
Substation Site	Santiago Peak Volcanics; Mission Valley Formation	Low; High	No; Yes*	Monitor
Staging Yards				
Existing Staging Yard	Santiago Peak Formation; Mission Valley Formation	Low; High	No; Yes*	None***
Eastlake Parkway Staging Yard	Otay Formation	High	Yes*	None***
Hunte Parkway Staging Yard	Otay Formation	High	Yes*	None***
Olympic Training Center 1	Otay Formation	High	Yes*	None ***
Olympic Training Center 2	Otay Formation	High	Yes*	None ***
Olympic Training Center 3	Otay Formation	High	Yes*	None ***
Olympic Training Center 4	Otay Formation	High	Yes*	None ***
Olympic Training Center 5	Otay Formation	High	Yes*	None ***

*Localities found in this formation but not located within Proposed Project area.

**Underlies the Santiago Peak Volcanics in the same location.

*** Ground-disturbing activities would be minimal and would not impact soils associated with paleontological resources.

4.5.4 Impacts

4.5.4.1 Significance Criteria

Appendix G to the CEQA Guidelines sets forth the criteria for determining whether a project will result in a significant impact on cultural and paleontological resources. These criteria are whether the project:

- a. Would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?
- b. Would cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- c. Would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Cultural Resources

CEQA Guideline 15064.5(a) defines historical resources as follows:

(1) A resource listed in, or determined to be eligible by, the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in Section 020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852), including the following:

- (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- (B) Is associated with the lives of persons important in our past;
- (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (D) Has yielded, or may be likely to yield, information important in prehistory or history.

For archaeological resources, this involves evaluation of their ability to address important research questions (Criterion D). For sites with built or historic components, this can involve assessment under one or more criteria.

Under CEQA Guideline 15064.5(b), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

The significance of a historical resource is materially impaired when a project would:

- (A) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
- (B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- (C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Paleontological Resources

Appendix G of the CEQA Guidelines, quoted above, also applies to paleontological resources, which asks whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Although CEQA does not define what is “a unique paleontological resource or site,” the definition of “unique archaeological resources” can guide analysis of unique paleontological resources. PRC Section 21083.2 defines “unique archaeological resources” as “any 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 criteria:

1. contains information needed to answer important scientific research questions and that 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; and/or
3. is directly associated with a scientifically recognized important prehistoric or historic event.

CHAPTER 4.5 – CULTURAL RESOURCES

As there is no standard guidance in CEQA to assess the significance of paleontological resources, paleontologists use existing fossil and geological data to determine areas of potential significance. A resource is deemed unique or important if:

- (1) it has fossils that have previously been recovered from a particular geologic unit;
- (2) there are recorded fossil localities within the same geologic units as occur within the project area; and
- (3) the types of fossil materials that have been recovered from the geologic unit are unique or important.

Impacts to paleontological resources are typically rated from high to zero, depending on the resource sensitivity of impacted geologic formations. The specific criteria applied for each sensitivity category are summarized below:

- **High Sensitivity:** High sensitivity is assigned to geologic formations known to contain paleontological localities with rare, well-preserved, critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleobiology and evolutionary history (phylogeny) of animal and plant groups. Generally speaking, highly sensitive formations produce vertebrate fossil remains or are considered to have the potential to produce such remains.
- **Moderate Sensitivity:** Moderate sensitivity is assigned to geologic formations known to contain paleontological localities with poorly preserved, common elsewhere, or stratigraphically unimportant fossil material. The moderate sensitivity category is also applied to geologic formations that are judged to have a strong, but unproven, potential for producing important fossil remains.
- **Low Sensitivity:** Low sensitivity is assigned to geologic formations that, based on their relatively youthful age and/or high-energy depositional history, are judged unlikely to produce important fossil remains. Typically, low sensitivity formations have the potential to yield poorly preserved invertebrate fossil remains in low abundance.
- **Zero Sensitivity:** Zero sensitivity is assigned to geologic formations that are entirely igneous in origin and, therefore, have no potential for producing fossil remains. Artificial fill materials are also placed in this category.

4.5.4.2 Impact Analysis

Question 4.4a – Historical Resource Change

Construction – No Impact

Salt Creek Substation

No historical resources were identified within the construction areas for the proposed Salt Creek Substation site. As such, potential impacts on significant historic resources are considered avoided and no further action is required. No impact would occur.

TL 6965 and TL 6910 Loop-In

No historical resources were identified within the construction areas for the proposed TL 6965 and TL 6910 loop-in. As such, potential impacts on significant historic resources are considered avoided and no further action is required. No impact would occur.

Existing Substation Modifications

No historical resources were identified within the construction areas for proposed improvements at the Existing Substation. As such, potential impacts on significant historic resources are considered avoided and no further action is required. No impact would occur.

Staging Yards

No historical resources were identified within the proposed staging yards. As such, potential impacts on significant historic resources are considered avoided and no further action is required. No impact would occur.

Operation and Maintenance – No Impact

Long-term operation of the Proposed Project would not impact any known historical resources on-site, as none were identified.

Question 4.4b – Archaeological Resource Change

Construction – Potentially Significant Unless APMs Implemented

Salt Creek Substation

No archaeological resources were identified within the construction areas of the proposed Salt Creek Substation site. As such, potential impacts on significant archaeological resources are considered avoided and no further action is required. No impact would occur.

TL 6965 and TL 6910 Loop-In

The Proposed Project has been designed to avoid archaeological resources to the extent feasible. The main loci of archaeological sites have been avoided, but it is not feasible to entirely avoid all potential archaeological resources given the high number of discoveries that have been made in recent years.

Previously recorded archaeological resources CA-SDI-4529, CA-SDI-7197, CA-SDI-8666, CA-SDI-12067, and CA-SDI-14225 are located within specific construction areas for the proposed TL 6965 power line, near pole locations 1, 19, 20, 28, 29, 30, and 33. One mano fragment associated with CA-SDI-7197 was observed in the vicinity of SS-6. No other cultural material associated with these sites was observed during the survey effort.

Geotechnical boring and potholing were also conducted at sites CA-SDI-7197, CA-SDI-8666, and CA-SDI-14225. No subsurface cultural material was observed during the monitoring effort. As such, there would be no adverse impacts to these sites during the construction of the proposed TL 6965. However, undiscovered buried archaeological resources may be encountered during

CHAPTER 4.5 – CULTURAL RESOURCES

ground-disturbing activities for the Proposed Project. Previously recorded archaeological resources CA-SDI-4527, CA-SDI-4897, and CA-SDI-12909 are located within the proposed construction areas for the proposed TL 6965 power transmission line, located within SDG&E fee-owned Existing Substation property near pole locations 36, 38, 39, 41, and 42. No cultural material associated with these sites was observed during the survey effort. Additionally, all proposed locations for new components within the Existing Substation property are located outside of known loci for CA-SDI-4897. As such, there would be no adverse impacts to these sites during the construction of the proposed modifications at the Existing Substation. However, undiscovered buried archaeological resources may be encountered during ground-disturbing activities. The Proposed Project includes implementing APM-CUL-1 through CUL-3, which provide an archaeological construction-monitoring program when ground-disturbing activities are undertaken. With implementation of monitoring during ground-disturbing activities, impacts would be less than significant.

Existing Substation Modifications

The Existing Substation is located within previously recorded archaeological sites CA-SDI-4527 and CA-SDI-4897. It is not feasible to avoid these sites, because the Existing Substation has already been constructed. While the Existing Substation has been previously constructed, buried remnants of these sites may be present and may be encountered during ground-disturbing activities. The Proposed Project includes implementing APM-CUL-1 through CUL-3, which provide an archaeological construction-monitoring program when ground-disturbing activities are undertaken. With implementation of monitoring during ground-disturbing activities, impacts would be less than significant.

Staging Yards

Previously recorded archaeological resource CA-SDI-4897 is located within the Existing Substation staging yard. It is not feasible to avoid this site because the Existing Substation staging yard has already been constructed and is actively being used for various work. Additionally, no subsurface ground-disturbing activities are proposed. Therefore, no impacts would occur. One previously recorded isolated find, P-37-015138, is within the proposed Hunte Parkway staging yard and was previously collected. CA-SDI-8666, a previously recorded site, is within the Eastlake staging yard and has been re-classified as an isolated find. Two previously recorded isolated finds, P-37-015375 and P-37-015377, are located within alternative staging yards at the OTC. Under CEQA, isolated finds are not considered significant. As such, potential impacts on significant archaeological resources are considered avoided, and no further action is required. No impact would occur.

Operation and Maintenance – Less-than-Significant Impact

SDG&E has standard internal programs and practices that are designed to avoid impacts to cultural resources, and those programs and practices would not change as a result of the Proposed Project. There would be no operational impacts on cultural resources within the Proposed Project once the Proposed Project is constructed.

Salt Creek Substation

No archaeological resources were identified within the construction areas of the proposed Salt Creek Substation site. As such, no impact would occur.

TL 6965 and TL 6910 Loop-In, Existing Substation, and Staging Yards

Ongoing operation and maintenance activities associated with TL 6965, TL 6910 loop-in, and the Existing Substation upgrades for the Proposed Project would occur within areas disturbed during the construction phase. As such, it is not anticipated that operation and maintenance activities would result in activities with the potential to encounter archaeological resources. Therefore, no impact would occur.

Question 4.4c – Paleontological Resource Destruction

Construction – Potentially Significant Unless APMs Implemented

Salt Creek Substation

Anticipated grading and earthmoving activities at the proposed Salt Creek Substation site would likely result in the removal of previously undisturbed Otay Formation strata, which has a high sensitivity ranking for potential paleontological resources. As such, the Proposed Project includes implementing APM-CUL-4 through CUL-7, which would provide paleontological monitoring when ground-disturbing activities are undertaken. With implementation of monitoring during ground-disturbing activities, impacts would be less than significant.

TL 6965 and TL 6910 Loop-In

Work associated with the Proposed Project would involve excavations into the Mission Valley and Otay Formations, and may result in removing previously undisturbed Otay Formation strata. The Proposed Project includes implementing APM-CUL-4 through CUL-7, which would provide paleontological monitoring when ground-disturbing activities are undertaken. With implementation of monitoring during ground-disturbing activities, impacts would be less than significant.

Existing Substation Modifications

Proposed modifications at the Existing Substation could involve excavations into the Mission Valley and Otay Formations, and may result in removing previously undisturbed Otay Formation strata. Because Eocene-age bedrock occurs at or near the surface, shallow excavation or grading could adversely impact paleontological resources within the Mission Valley Formation. The Proposed Project includes implementing APM-CUL-4 through CUL-7, which would provide paleontological monitoring when ground-disturbing activities are undertaken. With implementation of monitoring during ground-disturbing activities, impacts would be less than significant.

Staging Yards

With the exception of possible minor grading for driveway access at the Hunte Parkway staging yard and the minor grading at the Eastlake Parkway staging yard, no excavations are anticipated

CHAPTER 4.5 – CULTURAL RESOURCES

at the proposed staging yards. It is unlikely that site activities would disturb either the Mission Valley or Otay Formations. Therefore, impacts would be less than significant, and no monitoring is required.

Operation and Maintenance – No Impact

Ongoing operation and maintenance activities associated with the Proposed Project would occur within areas disturbed during the construction phase. As such, it is not anticipated that operation and maintenance activities would result in activities with the potential to encounter paleontological resources. Therefore, no impact would occur.

Question 4.4d – Human Remains Disturbance

Construction – Less-than-Significant Impact

Salt Creek Substation

The records search and NAHC sacred lands file check undertaken in 2012 indicated that no human remains were identified within the proposed Salt Creek Substation area. As such, the potential for discovering unknown human remains during subsurface construction activities is low. However, undiscovered buried remains may be encountered during ground-disturbing activities for the Proposed Project. In the event that human remains are discovered during construction, SDG&E would implement its ordinary operations restrictions regarding unanticipated discovery of human remains, as outlined in Section 3.8, Project Design Features and Ordinary Construction/Operations Restrictions. All work would be halted in the vicinity of the find and the county coroner's office would be notified in accordance with the California PRC (Sections 5097.94, 5097.98, and 5097.99) and State Health and Safety Code (Section 7050.5). As a result, impacts would be less than significant.

TL 6965 and TL 6910 Loop-In

No human remains were previously identified within the Proposed Project area. As such, the potential for discovering unknown human remains during subsurface construction activities is low. However, undiscovered buried remains may be encountered during ground-disturbing activities for the Proposed Project. In the event that human remains are discovered during construction, SDG&E would implement its ordinary operations restrictions regarding unanticipated discovery of human remains, as outlined in Section 3.8, Project Design Features and Ordinary Construction/Operations Restrictions. All work would be halted in the vicinity of the find, and the county coroner's office would be notified in accordance with the California PRC (Sections 5097.94, 5097.98, and 5097.99) and State Health and Safety Code (Section 7050.5). As a result, impacts would be less than significant.

Existing Substation Modifications

No human remains were previously identified within the Existing Substation. As such, the potential for discovering unknown human remains during subsurface construction activities is low. However, undiscovered buried remains may be encountered during ground-disturbing activities for the Proposed Project. In the event that human remains are discovered during

construction, SDG&E would implement its ordinary operations restrictions regarding unanticipated discovery of human remains, as outlined in Section 3.8, Project Design Features and Ordinary Construction/Operations Restrictions. All work would be halted in the vicinity of the find, and the county coroner's office would be notified in accordance with the California PRC (Sections 5097.94, 5097.98, and 5097.99) and State Health and Safety Code (Section 7050.5). As a result, impacts would be less than significant.

Staging Yards

No human remains were previously identified at the staging yards. With the exception of possible minor grading for driveway improvements at the Hunte Parkway staging yard and minor grading at the Eastlake Parkway staging yard, no earthmoving activities are anticipated at the proposed staging yards. As such, the potential for discovering unknown human remains during subsurface construction activities required for the Proposed Project is low. However, undiscovered buried remains may be encountered during ground-disturbing activities for the Proposed Project. In the event that human remains are discovered during construction, SDG&E would implement its ordinary operations restrictions regarding unanticipated discovery of human remains, as outlined in Section 3.8, Project Design Features and Ordinary Construction/Operations Restrictions. All work would be halted in the vicinity of the find and the county coroner's office would be notified in accordance with the California PRC (Sections 5097.94, 5097.98, and 5097.99) and State Health and Safety Code (Section 7050.5). As a result, impacts would be less than significant.

Operation and Maintenance – No Impact

The presence of human remains within the Proposed Project area is considered unlikely; however, the potential for discovery of human remains in the area does exist. As ongoing Proposed Project operation and maintenance activities would occur in areas already disturbed during the construction phase, they are not anticipated to adversely impact any human remains. Therefore, no impact would occur.

4.5.5 Project Design Features and Ordinary Construction/Operations Restrictions

With implementation of the ordinary construction and operations restrictions, as outlined within Section 3.8, Project Design Features and Ordinary Construction/Operations Restrictions, potential impacts related to human remains would remain less than significant.

4.5.6 Applicant-Proposed Measures

With implementation of the following APMs, Proposed Project impacts on archaeological resources would remain less than significant:

- APM-CUL-1: A qualified archaeologist shall attend pre-construction meetings, as needed, to consult with the excavation contractor concerning excavation schedules, archaeological field techniques, and safety issues. Proposed Project personnel shall receive training regarding the appropriate work practices necessary to effectively implement the APMs, including the potential for exposing subsurface cultural resources

CHAPTER 4.5 – CULTURAL RESOURCES

and paleontological resources. This training shall include procedures to be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains, as well as paleontological resources. The requirements for archaeological monitoring shall be noted on the construction plans.

- APM-CUL-2: Monitoring shall occur during proposed pole replacement/improvement activities for Poles 1, 28, 29, 30, 33, 36, 38, 39, 46, 47, and 48. These poles are located adjacent to previously recorded resources (CA-SDI-4529, CA-SDI- 4897, CA-SDI-7197, CA-SDI-12067, CA-SDI-12909, and CA-SDI-14225). Monitoring shall also occur during vegetation removal or ground-disturbing activities at Stringing Sites SS-1, -2, -3, -5, -6, and -14. These are located within sites CA-SDI-4527, CA-SDI-4897, and CA-SDI-14225. In the event that cultural resources are encountered during ground-disturbing activities, the archaeologist shall have the authority to divert or temporarily suspend ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist shall contact SDG&E's Cultural Resources Specialist and Environmental Project Manager at the time of the discovery. The archaeologist, in consultation with SDG&E's Cultural Resource Specialist, shall determine the significance of the discovered resources. SDG&E's Cultural Resources Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. For significant cultural resources, preservation in place shall be the preferred manner of mitigating impacts. For resources that cannot be preserved in place, a Research Design and Data Recovery Program shall be prepared and carried out to mitigate impacts.
- APM-CUL-3: If ground-disturbing activities, such as grading, are to be conducted along access roads, monitoring shall occur where the access road crosses the site or is located with the boundaries of a site, and equipment blades shall be lifted when traversing sites. Monitoring shall occur for ground-disturbing activities associated with access road improvements within the Existing Substation property. Additionally, all vehicles shall remain on existing dirt roads and new access identified for the Proposed Project. If needed, additional overland travel or access routes shall be reviewed, and appropriate avoidance measures and monitoring shall be implemented.

With implementation of the following APMs, Proposed Project impacts on paleontological resources would remain less than significant:

- APM-CUL-4: A qualified paleontologist shall attend pre-construction meetings, as needed, to consult with the excavation contractor concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with a Master's of Science or Doctor of Philosophy in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of Southern California, and who has worked as a paleontological mitigation project supervisor in the region for at least 1 year. The requirements for paleontological monitoring shall be noted on the construction plans.

- APM-CUL-5: A paleontological monitor shall work under the direction of the qualified Proposed Project paleontologist, and shall be on-site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity (i.e., Mission Valley and Otay Formations). A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.
- APM-CUL-6: In the event that fossils are encountered, the Proposed Project paleontologist shall have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely manner. The paleontologist shall contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, shall determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume.
- APM-CUL-7: Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on-site. If fossils are discovered, the paleontologist (or paleontological monitor) shall recover them, along with pertinent stratigraphic data. Because of the potential for recovery of small fossil remains, such as isolated mammal teeth, recovery of bulk sedimentary matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections. A final summary report shall be completed. This report shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils. The report shall also include an itemized inventory of all collected and catalogued fossil specimens.

4.5.7 Detailed Discussion of Significant Impacts

4.5.7.1 Cultural Resources

Based on the above analyses, no historical resources were identified within the Proposed Project area. As such, there are no impacts, and no APMs are required for historical resources.

Twelve archaeological resources, CA-SDI-4527, CA-SDI-4529, CA-SDI-4897, CA-SDI-7197, CA-SDI-8651, CA-SDI-8666, CA-SDI-12067, CA-SDI-12909, CA-SDI-14225, P-37-015138, P-37-015375, and P-37015377, were identified within the Proposed Project area. Based on the analyses conducted, potential significant impacts to archaeological resources CA-SDI-4527, CA-SDI-4529, CA-SDI-7197, CA-SDI-12067, CA-SDI-12909, and CA-SDI-14225 were identified, as it was not feasible to avoid these resources in the design of the Proposed Project. As such, APMs are proposed to address these potential impacts. By implementing APM-CUL-1 through APM-CUL-3, outlined in Section 4.5.6, above, potential adverse impacts to archaeological resources are considered less than significant.

CHAPTER 4.5 – CULTURAL RESOURCES

4.5.7.2 Paleontological Resources

More than 20 fossil localities were identified within the Proposed Project area. Based on the analyses conducted, potential for significant impacts to paleontological resources within the Mission Valley and Otay Formations were identified for the Proposed Project. As such, APMs are proposed to address these potential impacts. By implementing APM-CUL-4 through APM-CUL-7, outlined in Section 4.5.6, above, potential impacts to paleontological resources are considered to be less than significant.

4.5.8 References

- Artim, E. R., and C. J. Pinckley. 1973. La Nacion Fault System, San Diego California. *Geological Society of America*, Bulletin 84:1075–1080.
- Blotner, Nicole. 2010. eTS #20500: *TL 13826 Miguel to Proctor Valley, W-S Pole Replacement Cultural Resources Inventory Report (HDR #139956)*. Prepared by HDR. Prepared for SDG&E. Report on file at SDG&E.
- Blotner, Nicole, and Sara C. Clowery. 2010. Site form update for CA-SDI-14225. Form on file at the South Coastal Information Center.
- Bowden Renna, Cheryl. 2012a. *Cultural Resources Survey for a Proponents Environmental Assessment (PEA) for the Salt Creek Substation and Transmission Line Improvement Project in the Otay Mesa Area of Southwestern San Diego County, California*. Prepared by AECOM. Prepared for SDG&E.
- Bowden Renna, Cheryl. 2012b. *Revised Cultural Resources Survey for a Proponents Environmental Assessment (PEA) for the Salt Creek Substation and Transmission Line Improvement Project in the Otay Mesa Area of Southwestern San Diego County, California*. Prepared by AECOM. Prepared for SDG&E.
- Bowden-Renna, Cheryl. 2013. *Addendum 1: Revised Cultural Resources Survey for a Proponents Environmental Assessment (PEA) for the Salt Creek Substation and Transmission Line Improvement Project in the Otay Mesa Area of Southwestern San Diego County, California*. Prepared by AECOM. Prepared for SDG&E.
- Brian F. Smith and Associates (BFSA). 1996. Site form for CA-SDI-14225. Form on file at the South Coastal Information Center.
- Brian F. Smith and Associates (BFSA). 2001. Site form update for CA-SDI-14225. Form on file at the South Coastal Information Center.
- Bull, C. 1983. *Shaking the Foundations: The Evidence for San Diego Prehistory*. Casual Papers. 1(3): 15–64. South Coastal Information Center, San Diego State University.
- Campbell, E. W. C., W. H. Campbell, E. Antevs, C. E. Amsden, J. A. Barbieri, and F. D. Bode. 1937. *The Archaeology of Pleistocene Lake Mohave*. Southwest Museum Papers No. 11, Los Angeles, California.
- Carrel, Mark, and Jennifer Hoff. 2005a. Site form update for CA-SDI-7197. Form on file at the South Coastal Information Center.
- Carrel, Mark, and Jennifer Hoff. 2005b. Site form update for CA-SDI-12067. Form on file at the South Coastal Information Center.
- Clark, N. 1981a. Site form update for CA-SDI-4527. Form on file at the South Coastal Information Center.

CHAPTER 4.5 – CULTURAL RESOURCES

- Clark, N. 1981b. Site form update for CA-SDI-4529. Form on file at the South Coastal Information Center.
- Clark, N. 1981c. Site form for CA-SDI-8651. Form on file at the South Coastal Information Center.
- Clark, N. 1981d. Site form update for CA-SDI-8666. Form on file at the South Coastal Information Center.
- Clowery, Sara C. 2011. *eTS #8360; TL 6910 Miguel to Border Substations, W-S Pole Replacement, Phase II Testing Report (HDR #137257)*. Prepared by HDR. Prepared for SDG&E. Report on file at SDG&E.
- Clowery, Sara C., and Nicole Blotner. 2012. *eTS #8360: TL 6910 Wood to Steel, Miguel to Pole 139635, Cultural Resources Inventory Report (HDR #137257)*. Prepared by HDR. Prepared for SDG&E. Report on file at SDG&E.
- Deméré, Thomas. 1988. Early Arikareean (Late Oligocene) Vertebrate Fossils and Biostratigraphic Correlations of the Otay Formation at Eastlake, San Diego County, California. Prepared for the Department of Public Works, County of San Diego.
- Deméré, Thomas. 2012. Technical Report: Paleontological Resource Assessment Salt Creek Substation and Transmission Line Improvements Otay Ranch, City of Chula Vista, California. Prepared for AECOM.
- Deméré, Thomas, and S. L. Walsh. 1993. Paleontological Resources, County of San Diego. Prepared for the Department of Public Works, County of San Diego.
- Douglas, R. 1980a. Site form update for CA-SDI-7197. Form on file at the South Coastal Information Center.
- Douglas, R. 1980b. Site form for CA-SDI-8666. Form on file at the South Coastal Information Center.
- Duke, Curt. 2002. Site form update for CA-SDI-7197. Form on file at the South Coastal Information Center.
- D’Vincent, S. 1967. Primitive Sequoia Not Previously Identified. *California Garden*, August/September 1967:14–15.
- Ezell, P. H. 1987. The Harris Site – An Atypical San Dieguito Site, or Am I Beating a Dead Horse? In *San Dieguito-La Jolla: Chronology and Controversy*, edited by D. Gallegos, pp. 23–34. San Diego County Archaeological Society Research Paper Number 1. San Diego.
- Fife, D. L., J. A. Minch, and P. J. Crampton. 1967. Late Jurassic Age of the Santiago Peak Volcanics, California. *Geological Society of America Bulletin*, Vol. 78, pp. 299–304.
- Flynn, J. J. 1986. Correlation and Geochronology of Middle Eocene Strata from the Western United States. *Paleogeography, Paleoclimatology, Paleoecology* 55:335–406.

- Franklin, R. L. 1979. Site form for CA-SDI-7197. Form on file at the South Coastal Information Center.
- Franklin, R. L. 1982a. Site form update for CA-SDI-4527. Form on file at the South Coastal Information Center.
- Franklin, R. L. 1982b. Site form update for CA-SDI-4897. Form on file at the South Coastal Information Center.
- Gallegos, D. R. (editor). 1987. A Review and Synthesis of Environmental and Cultural Material for the Baticuitos Lagoon Region. In *San Dieguito – La Jolla: Chronology and Controversy*. San Diego County Archaeological Society Research Paper, Number 1.
- Geosyntec. 2012. *Geotechnical Investigation 68 kV Transmission Line TL 6965 Sal Creek Substation to Miguel Substation, Chula Vista, California*. Prepared for San Diego Gas & Electric.
- Givens, C. R., and M. P. Kennedy. 1979. Eocene Molluscan Stages and Their Correlation, San Diego Area, California. In P.L. Abbott (ed.) *Eocene Depositional Systems*, San Diego, Geological Society of America Field Trip Guidebook, pp. 81–95.
- Gotz, D. J., and J. A. Lillegraven. 1977. Summary of Known Occurrences of Terrestrial Vertebrates from Eocene Strata of Southern California. University of Wyoming, *Contributions to Geology*, Vol. 15:43–65.
- Hanna, David. 1979. Site form update for CA-SDI-4529. Form on file at the South Coastal Information Center.
- Herzig, C. T., and D. J. Kimbrough. 1991. Early Cretaceous Zircon Ages Prove a Non-Accretionary Origin for the Santiago Peak Volcanics, Northern Santa Ana Mountains, California. Geological Society of America, Cordilleran Section, *Abstracts with Programs* 23:35.
- Jones, D. A., and R. H. Miller. 1982. Jurassic Fossils from the Santiago Peak Volcanics, San Diego County, California. In P.L. Abbott (ed), *Geologic Studies in San Diego: Field Trip Guidebook*. San Diego Association of Geologists, San Diego pp. 93–103.
- Kaldenberg, Russell. 1975a. Site form for CA-SDI-4527. Form on file at the South Coastal Information Center.
- Kaldenberg, Russell. 1975b. Site form for CA-SDI-4529. Form on file at the South Coastal Information Center.
- Kennedy, M. P., and S. S. Tan. 1977. Geology of National City, Imperial Beach, and Otay Mesa Quadrangle, Southern California Metropolitan Area. California Division of Mines and Geology. Map Sheet 29.
- Kleinfelder West. 2007. Geotechnical Investigation, Proposed SDG&E Substation, Chula Vista, California. Unpublished report on file at San Diego Gas & Electric.

CHAPTER 4.5 – CULTURAL RESOURCES

- Kleinfelder West. 2012. Geotechnical Investigation, 69kV Transmission Line TL 6965, Salt Creek Substation to Miguel Substation, Chula Vista, California. Unpublished report on file at San Diego Gas & Electric.
- Kyle, Carolyn, and Larry Tift. 1993a. Site form for P-37-015375. Form on file at the South Coastal Information Center.
- Kyle, Carolyn, and Larry Tift. 1993b. Site form for P-37-015377. Form on file at the South Coastal Information Center.
- Luomala, Katherine. 1978. Tipai-Ipai. In *California*, edited by R. F. Heizer, pp. 592–609. Handbook of North American Indians, Vol. 8, W. C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Miller, Kathy, G. Toren, and Lori Lilburn. 1977. Site form update for CA-SDI-4527. Form on file at the South Coastal Information Center.
- Morgan, Nicole. 2011. *eTS #20500: TL 13826 Miguel to Proctor Valley, W-S Pole Replacement Phase II Testing Report (HDR #139956)*. Prepared by HDR. Prepared for SDG&E. Report on file at SDG&E.
- Nagle, Robert. 1981a. Site form update for CA-SDI-4529. Form on file at the South Coastal Information Center.
- Nagle, Robert. 1981b. Site form update for CA-SDI-4897. Form on file at the South Coastal Information Center.
- Pourade, Richard F. 1963. *The History of San Diego: The Silver Dons*. San Diego Union-Tribune Publishing Company, San Diego, California.
- Rader, Bert. 1991. Site form update for CA-SDI-8651. Form on file at the South Coastal Information Center.
- Rader, Bert, and Del James. 1991. Site form for P-37-015138. Form on file at the South Coastal Information Center.
- RECON. 1976. Site form for CA-SDI-4897. Form on file at the South Coastal Information Center.
- RECON. 1979. Site form update for CA-SDI-4527. Form on file at the South Coastal Information Center.
- Ritz, Frank. 1989. Site form update for CA-SDI-8651. Form on file at the South Coastal Information Center.
- Rogers, M. J. 1939. *Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas*. San Diego Museum of Man Papers No. 3.
- Rosen, Martin, Debra Dominici, Don Saunders, and Bryan Bass. 1990. Site form for CA-SDI-12909. Form on file at the South Coastal Information Center.

- Smith, Brian. 1991. Site form for CA-SDI-12067. Form on file at the South Coastal Information Center.
- Smythe, William E. 1908. *History of San Diego 1542–1908: An Account of the Rise and Progress of the Pioneer Settlement on the Pacific Coast of the United States*. The History Company, San Diego, California.
- Todd, V. R. 2004. Preliminary Geologic Map of the El Cajon 30' x 60' Quadrangle, Southern California. Available at <http://pubs.usgs.gov/of/2004/1361>. U.S. Geological Survey, Open-File Report 2004-1361, scale 1:100,000.
- Toren, G., and B. Schiowitz. 1977. Site form update for CA-SDI-4897. Form on file at the South Coastal Information Center.
- Walawender, M. J. 2000. *The Peninsular Ranges: A Geological Guide to San Diego's Back Country*. Kendall/Hunt Publishing Company, Dubuque, Iowa.
- Walsh, S. L. 1996. Middle Eocene Mammal Faunas of San Diego County, California. In D.R. Prothero and R.J. Emery (eds.), *The Terrestrial Eocene-Oligocene Transition in North America*. Cambridge University Press, Cambridge, England, pp. 75–119.
- Walsh, S. L., and Thomas Deméré. 1991. Age and Stratigraphy of the Sweetwater and Otay Formations, San Diego County, California. In P.L. Abbott and J.A. May (eds.), *Eocene Geologic History San Diego Region. Society for Economic Paleontologists and Mineralogists*, Pacific Section, Vol. 68:131–148.
- Walsh, S. L., D. R., Prothero, and D. J. Lundquist. 1996. Stratigraphy and Paleomagnetism of the Middle Eocene Friars Formation and Poway Group, Southwestern San Diego County, California. In D.R. Prothero and R.J. Emery (eds.), *The Terrestrial Eocene-Oligocene Transition in North America*. Cambridge University Press, Cambridge, England, pp. 120–154.
- Warren, Claude N. 1967. The San Dieguito Complex: A Review and Hypothesis. *American Antiquity* 32:168–187.
- Warren, Claude N., and H. T. Ore. 1978. Approach and Process of Dating Lake Mojave Artifacts. *Journal of California Anthropology* 5(2):179–187.
- Warren, Claude N., Gretchen Sieglar, and Frank Dittmer. 1993. Paleoindian and Early Archaic Periods. In *Historic Properties Background Study for the City of San Diego Clean Water Program*. Document on file at the City of San Diego, California.
- Whittaker, James E. 2011. *eTS #3845, Cultural Resources Results for Constraints Study for the Proposed Otay Ranch Substation, Chula Vista, San Diego County, California (DHR #143298-001)*. Prepared by HDR. Prepared for SDG&E. Report on file at SDG&E.

THIS PAGE INTENTIONALLY LEFT BLANK