

# Cultural and Paleontological Resources

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## 9.1 Introduction

Cultural and paleontological resources are given consideration under the California Environmental Quality Act (CEQA) planning and permitting process. Cultural resources include tangible remains associated with human occupation or use of a project area. Commonly, cultural resources include archaeological sites, historic buildings and structures, and ethnographic resources (traditional cultural properties of importance to an ethnic group). Paleontological resources include tangible remains of past plant and animal life forms (fossils) left in the geologic record. The following chapter describes the cultural and paleontological resources that might be affected by the proposed Chiquita Canyon Landfill (CCL) Master Plan Revision (Proposed Project). Full technical reports were prepared and are provided in Appendix F.

## 9.2 Methodology

### 9.2.1 Literature Search

In 2005, a literature search of the property boundary of CCL was conducted by staff of the South Central Coastal Information Center of the California Historical Resources Information System (CHRIS) at California State University, Fullerton. An updated literature search was requested by CH2M HILL on January 19, 2010. A 1-mile buffer zone around CCL was included in this search. The CHRIS literature and records review included a review of all recorded archaeological sites as well as all known cultural resource survey and excavation reports. Listings from the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest were examined. State and local listings were consulted for the presence of historic buildings, structures, landmarks, points of historical interest, and other cultural resources.

Technical reports and articles for the general Santa Clara River Valley were also searched. Reports of previous studies conducted within the CCL site were thoroughly reviewed.

### 9.2.2 Pedestrian Survey

The Proposed Project increases the permitted landfill footprint by approximately 143 acres by extending it slightly south toward the existing landfill entrance and to the north. A systematic pedestrian cultural resource survey of the 143-acre area was conducted on January 28, 2010, by CH2M HILL. Survey methodology for prehistoric and historic archaeological resources, namely, using pedestrian transects spaced at 10- to 15-meter (m) intervals, was performed throughout the entire surveyed area.

Updates to site records were made on appropriate Los Angeles County Department of Parks and Recreation forms. Resources were also mapped using a Trimble Geo XT GPS and photographed. Information on the appearance and physical characteristics of the resources as well as the location of the resources was gathered. The survey was non-collection, and no artifacts were collected by CH2M HILL during the pedestrian survey.

### 9.2.3 Consultation

The Native American Heritage Commission (NAHC) was contacted by CH2M HILL on December 21, 2012, to request a Sacred Lands File Search, which includes information about traditional cultural properties such as cemeteries and sacred places in the CCL study area. The NAHC responded on December 24, 2012, stating that a search of the Sacred Lands database showed no listing of the Proposed Project site, and provided a list of Native Americans interested in consulting on development projects. Each individual or group was contacted by letter on March 19, 2013. A second set of letters was mailed on April 4, 2013. Follow-up phone calls were made on April 23, 2013. Follow-up e-mails were sent to all individuals and groups on the list on April 23, 2013, if an e-mail address was available.

The Santa Clarita Valley Historical Society (SCVHS) was contacted by letter on March 19, 2013. A second letter was mailed on April 4, 2013. A follow-up phone call was made on April 24, 2013. Follow-up e-mails were sent on April 24, 2013, to two e-mail addresses on the SCVHS Web site and one e-mail address given on the SCVHS caller greeting.

Two Native American respondents, Randy Folkes and Beverly Salazar Folkes, responded to the consultation outreach.

The Fernandeano Tataviam Band of Mission Indians (Tataviam) entered into direct discussions with CCL regarding the Proposed Project. Tataviam provided a letter to the NAHC informing the agency of their discussions and agreement with CCL on April 12, 2014. This letter is included in Appendix F. The agreement between CCL and Tataviam includes avoidance of Bowers Cave, construction and cultural resource oversight and monitoring, and return of all artifacts found to Tataviam.

The SCVHS provided a response letter on July 22, 2013.

## 9.2.4 Paleontological Review

Geologic maps and reports covering the surficial geology of CCL were reviewed. Both published and unpublished geologic and paleontological literature was reviewed, as well. These sources were reviewed to determine the rock units exposed at CCL and to document the number and locations of previously recorded fossil sites at or near the site. The literature search was supplemented by an archival search at the Vertebrate Paleontology Department of the Natural History Museum of Los Angeles County. No field survey was completed.

## 9.2.5 Evaluation

A research design was prepared and an additional literature search was completed of current literature in order to assess potential project impacts to previously recorded archaeological site Bowers Cave (CA-LAN-36). A reconnaissance field visit was conducted with the primary goals of (1) completing a horizontal boundary definition of Bowers Cave, (2) assessing the integrity of any existing surface or subsurface deposits, and (3) recovering information to evaluate the site's potential to meet eligibility requirements for CRHR listing.

## 9.3 Regulatory Setting

### 9.3.1 Cultural Resources Significance

CEQA requires public or private projects financed or approved by public agencies to assess their effects on historical resources. CEQA uses the term "historical resources" to include buildings, sites, structures, objects or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance. CEQA states that if implementation of a project results in significant effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed (*California Code of Regulations* [CCR] Sections 15064.5, 15126.4). For the purposes of this Draft Environmental Impact Report (DEIR), a significant impact will occur if project implementation:

- Causes a substantial change in the significance of a historical resource
- Causes a substantial adverse change in the significance of an archaeological resource
- Disturbs any human remains, including those interred outside of formal cemeteries

Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined.

### 9.3.2 Paleontological Resources Significance

CEQA requires that project proponents assess potential impacts to paleontological resources, including whether the project would directly or indirectly destroy a unique paleontological resource (Section 15023, Appendix G [5.c]). *California Public Resources Code* (PRC) Section 5097.5 defines any unauthorized disturbance

or removal of a fossil locality or remains on public land as a misdemeanor. PRC Section 30244 requires reasonable mitigation of adverse environmental impacts that result from development of public land and affect paleontological resources.

In response to CEQA, many California regulatory agencies, such as the Los Angeles County Department of Regional Planning (LADRP), have developed environmental guidelines for protecting paleontological resources within their jurisdictions. A CEQA lead agency can require a paleontological resource inventory/ impact assessment, including mapping fossil-bearing rock units and previously recorded/newly documented fossil sites by a qualified paleontologist, evaluating their scientific importance, determining adverse impacts, appraising their significance, and formulating measures to mitigate impacts to an insignificant level.

LADRP required a paleontological assessment of the Proposed Project; a technical report was prepared by Dr. Bruce Lander (Lander, 2002) of Paleo Environmental Associates, Inc., of Altadena, California. For the purposes of this DEIR, a significant impact will occur if Proposed Project implementation:

- Directly or indirectly destroys a unique paleontological resource or site or unique feature.

## 9.4 Regional Setting

The detailed regional setting and cultural history of the CCL is provided in the technical reports prepared for this project (Appendix F, Confidential Attachment F).

### 9.4.1 History and Prehistory

Native Americans lived in the area for many centuries prior to the European entrance in the 16th century. Evidence for Paleo-Indian occupation in California exists but remains scant, particularly along the coast of Southern California (Byrd and Raab, 2007). Native Americans practiced hunting and gathering for their livelihoods, and their cultures reached some of the highest levels of social complexity seen in prehistoric California (Moratto, 1984).

European contact in the area first took place in the early 1540s during the Spanish Period, when Juan Cabrillo's expedition landed near the present day city of Ventura, California. The first reported European contact in the immediate area of the CCL site was made in 1769, when Gaspar de Portola's expedition to Monterey traveled through the Santa Clara Valley on his way from the San Fernando Valley to Ventura. Portola was followed by Father Garces in 1776.

The rancho closest to CCL during the Mexican Period was the Rancho San Francisco. The American Period saw a large influx of settlers into the area, and by 1890, the nearby town of Newhall was established as a community. In 1883, the Newhall Land and Farming Company was incorporated by the Newhall family to supervise the various activities of its land holdings, including the Rancho San Francisco, whose main functions now focused on livestock raising and mineral exploitation. The early 1900s marked the beginning of true urban growth in the general area. Along the upper reaches of the Santa Clara River Valley, in the more rugged areas such as the CCL vicinity, ranching continued as an important economic activity to the present day. In recent years, the CCL property has been used in filmmaking, and most recently as a sanitary landfill.

### 9.4.2 Paleontological Resources

CCL lies near the eastern end of the late Cenozoic Ventura Basin, which is situated in the western Transverse Ranges Province. The eastern end of the basin in the CCL vicinity is composed of stratigraphic or sedimentary rock units consisting of late Cenozoic marine and stratigraphically overlying nonmarine strata reflecting the final filling of the basin and its emergence above sea level. Surficial geologic mapping of CCL and vicinity was prepared by Jennings and Strand (1969), Dibblee (1993), and Winterer and Durham (1962) and indicates that CCL is underlain by three late Cenozoic rock units. These include the Pliocene marine upper Pico Formation and the Pliocene and Pleistocene nonmarine Saugus Formation, which forms the hills at the site, and younger alluvium, which floors the gullies.

Although neither the literature review nor the archival search conducted for this inventory documented any previously recorded fossil sites at CCL, several previously recorded fossil sites near CCL are known in areas mapped as being underlain by these rock units.

## 9.5 Project Setting

### 9.5.1 Cultural Resources

Cultural resources that might be present in the general vicinity include prehistoric and/or historic archaeological sites, historic buildings and structures, and traditional cultural properties of importance to Native Americans, Euro-Americans, and to other ethnic groups that might have cultural attachment to the area.

#### 9.5.1.1 Literature Search

The results of the two literature searches completed for CCL showed the majority of the Proposed Project was previously surveyed in 1993 by Theodore Cooley, George Toren, and Loren Santoro for the Phase 1 Cultural Resource Evaluation of the Chiquita Canyon Sanitary Landfill Expansion project (Cooley et al., 1993:15). Twenty-five studies have been conducted within CCL or immediately adjacent to CCL. Eighteen additional investigations located on the Val Verde and Newhall 7.5-minute United States Geological Survey quadrangles are potentially within the CCL vicinity but were not mapped by CHRIS due to insufficient locational information (Shackford, 2005).

One previously recorded site, Bowers Cave (CA-LAN-36), was found within the CCL site property boundary. Isolated find CA-LAN-IF-27 (Toren et al., 1989), a United States Forest Reserve boundary monument dated 1905, was also previously recorded within CCL. This isolated find, however, is no longer present within CCL and was apparently destroyed by previous landfill grading (Cooley et al., 1993:13-14). Three prehistoric archaeological sites are located well outside the CCL property boundary on the south side of State Route 126 (SR-126) (Henry Mayo Drive) or west of Chiquito Canyon Road. A single, dark-gray Franciscan chert projectile point was found outside the CCL property boundary, to the north of Bowers Cave.

None of the databases searched, as described in Section 9.2.1, listed properties within the CCL site.

#### 9.5.1.2 Native American Cultural Resources

No sacred sites were identified within the Proposed Project by the NAHC Sacred Lands File Search or by the literature search conducted at the South Central Coastal Information Center at California State University, Fullerton. Follow-up e-mails were sent to the NAHC on December 26, 2012, to confirm the lack of sacred sites within the Proposed Project and to verify that Bowers Cave is not currently listed as a sacred site. NAHC confirmed that no sacred sites are currently listed within the CCL property, including Bowers Cave.

Randy Folkes and Beverly Salazar Folkes indicated interest in the project. Ms. Salazar Folkes provided additional information about sites in the area surrounding the CCL. Ms. Salazar Folkes stated she would like Native American and archaeological monitors present when grading occurs for the expansion of the CCL.

Tataviam consulted with CCL regarding the Proposed Project. Tataviam provided a letter to the NAHC informing the agency of their discussions and an agreement with CCL on April 12, 2014. This letter is included in Appendix F. The agreement between CCL and Tataviam includes avoidance of Bowers Cave, construction and cultural resource oversight and monitoring, and return of all artifacts found to Tataviam.

The SCVHS relayed concerns regarding Bowers Cave in their response. The SCVHS made two recommendations: 1, Bowers Cave should be inspected by an archaeologist, specifically a state certified independent archaeologist, and 2, Bowers Cave should receive state historic designation prior to any of the proposed project activities.

#### 9.5.1.3 Historic Buildings and Structures

There are no known buildings or structures within CCL property. The closest listed historical resource is the Rancho San Francisco Estancia Adobe, which is located about 2.5 miles northeast of CCL. The adobe was

constructed in 1803 and is listed in the California Inventory of Historic Resources as State Landmark 556. The adobe is also listed as Los Angeles City Cultural Heritage No. 124.

## 9.5.2 Archaeological Resources

Site CA-LAN-36, Bowers Cave, is situated within the property boundary of CCL; a detailed discussion of Bowers Cave is provided below. A single isolated find, CA-LAN-IF-27, was previously recorded within CCL. This isolated find, however, was not relocated during the 1993 survey and was described in Cooley et al.'s (1993) report as removed during landfill grading.

### 9.5.2.1 CA-LAN-36, Bowers Cave

The cave, which is more accurately defined as a rock shelter, was discovered by non-indigenous people in 1884. The Pyle brothers, who found the cave in 1884, removed several artifacts and sold them to Reverend Stephen Bowers, a long-time collector of indigenous artifacts, for 1,500 dollars (Elsasser and Heizer, 1963:2; Van Valkenburgh, 1952:7). According to Bowers, he also visited the cave, did some excavation, and found the partial remains of organic artifacts that matched the technological descriptions of those recovered by the Pyles (Bowers, 1885:45). Bowers ultimately sold several items in the collection to the Peabody Museum at Harvard in 1887.

The next phase of known work, and the first systematic archaeological investigation of the site, was conducted in 1951 (Van Valkenburgh, 1952). While the well-known Bowers Cave collection was housed in the Peabody Museum and represented a rare and widely known collection of Native California artifacts, the location of the cave was generally unknown. Archaeologist Richard van Valkenburgh found one of the Pyle brothers, Emmett, when working in the Los Angeles area in 1950. Pyle took Van Valkenburgh to the cave. Additional excavations found basket fragments and other remains similar to those from the Bowers collection (Elsasser and Heizer 1963). Blue and rose colored glass trade beads were found in the cave during these excavations, indicating a possible Protohistoric date for the cave. Southwestern pottery sherds, dated to the 1200s by the School of American Research in Santa Fe, New Mexico, were also discovered. The cave was noted at that time as having a blackened ceiling, and Van Valkenburgh hypothesized that the cave had been inhabited at some point (Van Valkenburgh, 1952).

In 1960, the items found in the cave that had been housed in the Peabody Museum were further described by Elsasser and Heizer (1963). The primary goal of Elsasser and Heizer was to analyze and to compare the Peabody collection with known artifacts from the Tataviam and Chumash cultures (Elsasser and Heizer, 1963). No additional excavations were conducted during this study. The last systematic study of the Bowers Cave artifacts was Hudson and Underhay's (1978) analysis of the "sunsticks" found at the site. In 1981, Louis Tartaglia and R. Wlodarski (Tartaglia and Wlodarski, 1981) revisited Bowers Cave and prepared an updated archaeological site survey record form. The site was revisited in 1993. At that time, Bowers Cave was determined to be adjacent to CCL (Cooley et al., 1993:17).

### 9.5.2.2 Isolated Find CA-LAN-IF-27

Isolated find CA-LAN-IF-27 (Toren et al., 1989), a United States Forest Reserve boundary monument dated 1905, is no longer present within CCL and was noted as having been destroyed by previous landfill grading (Cooley et al., 1993:13-14).

### 9.5.2.3 Archaeological Survey and CA-LAN-36 Field Investigation

Visibility throughout the 2010 archaeological survey area was excellent, at approximately 70 percent. A small section of the southern portion of CCL was fair, at approximately 50 percent, as much of this area was covered with thick non-native grass. No new cultural resources were identified during the 2010 survey.

Site CA-LAN-36 was revisited by CH2M HILL during the archaeological survey in 2010. No artifacts were found either inside the cave or immediately outside of the cave at that time. CH2M HILL returned to the site in 2012. During this phase, surface artifacts next to an animal nest, possibly a pack rat nest, were noted. The cave was videotaped, photographed, and sketched, and four 40-by-40-centimeter (cm) test units were placed within the

cave. Three 40-by-40-cm test units were completed on the floor of the main chamber of the cave. One 30-by-30-cm unit was placed within the northern chamber, or arm, of the cave, which also included surface collecting and examination of an animal nest. Because artifacts and ecofacts were identified in three of these four units, no additional test units were deemed necessary at that time.

Stephen Bowers' original descriptions of the cave are reminiscent of its current condition. Bowers noted the cave was not sufficiently high to stand upright, and the bottom was covered with sand caused by the disintegration of the roof and walls; he noted the presence of a large wood rat nest, the wood rats being the likely culprits for the damage to the baskets (Bowers, 1885). Portions of the ceiling of the cave have continued to collapse, leaving very little of its original surface intact, and the roof blackening which is mentioned in previous research is gone. While the majority of collapse appears to have occurred in the eastern portion of the cave, the northwest-west wall appears to have collapsed, as well. The engraving, "MAC 1884" is now gone, presumably due to wall collapse in this area, and has been replaced by modern graffiti, some marking the years 1911 and 2009, and the others mimicking "caveman" art, including stick-style animals and humans with spears. The flat area at the mouth of the cave now appears to be smaller than in historical photos, and a small mound of shells at the southern edge of the cave has accumulated from the erosion of the hillside above. Additionally, earlier measurements of the cave indicate that the space in the cave was smaller in area, but nearly 4 feet taller (Van Valkenburgh, 1952). There is no mention in previous studies of a small north- and west-extending chamber located on the northern interior wall of the cave until 1991, when it is noted on the CA-LAN-36 site form (W&S Consultants, 1994). This armature extends roughly 80 cm north from the main cave chamber and then due west approximately 2 m. It is unclear if this cave extension is natural or was excavated by humans or animals at some point after Van Valkenburgh's excavations. If it existed in 1952, he did not note it as an important feature of the cave. The cave collapses are likely caused by root disturbance, looting, previous excavations, and the Northridge quake, which caused the large landslide in 1994, just west of the cave along the access trail.

### 9.5.3 Paleontological Resources

CCL was investigated at different times during the past 40 years (Tartaglia, 1981; Cooley and Toren, 1989; Cooley et al., 1993; Lander, 2002).

#### 9.5.3.1 Adjacent Projects

In 1987, for the Phase I feasibility analysis for the Los Angeles County Airport Site Selection Study (Carbone et al., 1987), paleontologist William Gilmour examined the geologic and paleontological literature and reports for the region by securing baseline data on paleontological sensitivity from the San Bernardino County Museum and the Natural History Museum of Los Angeles County. The "Indian Dunes Alternative" included the southern portion of CCL in its secondary study area (Carbone et al., 1987:Figure 2).

Carbone et al. (1987:27) reported that records from the Natural History Museum of Los Angeles County revealed no documented fossil localities within the primary or secondary study areas for the Indian Dunes Alternative. Despite the lack of documented resources, Carbone et al.'s (1987) review of the paleontological and geologic literature indicated that the Pleistocene nonmarine deposits present in the secondary study area (e.g., within the southern portion of CCL) are similar to and have been correlated to the San Timoteo Formation (Dibblee, 1981). The San Timoteo Formation, which is Middle to Late Pleistocene in age, is known to contain very significant vertebrate fossils (Frick, 1921; Reynolds and Reeder, 1986). In contrast, the Quaternary alluvium common to the primary study area for the Indian Dunes Alternative (e.g., the airstrip located just south of State Route 162), does not regularly yield significant fossils.

In 2003, for the proposed Sterling Gateway project located east and northeast of the community of Val Verde and within Martinez Chiquito Canyon, paleontologist Samuel McLeod conducted a paleontological overview (McKenna, 2003:6-7) for the area immediately north of CCL. Surface exposures of the terrestrial Pliocene-Pleistocene Saugus Formation are present in the Sterling Gateway parcels a short distance to the north of CCL. Exposures of the marine Pliocene Pico Formation are present in the remaining areas of the Sterling Gateway parcels.

A fossil locality (LACM 6062) on the west side of Hasley Canyon produced specimens of fossil alligator lizard, *Gerrhonotus*, and fossil pocket gopher, *Thomomys*. Locality LACM 6063 is in the canyon that drains into Castaic Creek; it produced fossil specimens of horse, *Equus*. Localities in the Pico Formation (none near the Sterling Gateway or CCL parcels) have produced specimens of fossil bonito shark, *Isurus planus*, fossil great white shark, *Carcharodon carcharias*, and even rare fossil right whale, *Balaenidae* (McKenna, 2003:6-7).

As reported more recently by Cooley et al. (1993:5), the bedrock of the southern portion of CCL consists of sandstone, conglomerate, and siltstone rocks of the nonmarine Pliocene-Pleistocene age Saugus Formation. The northern portion of the property consists of sandstone, siltstone, and conglomerate bedrock of the Pliocene Pico Formation. Marine invertebrate fossils of pecten, oyster, and sand dollar were observed to be present in the area of this formation at CCL.

### 9.5.3.2 Master Plan Revision

As explained by Lander (2002:4-5), neither the literature review nor the archival search conducted documented any previously recorded fossil sites at CCL. However, several previously recorded fossil sites are known in areas mapped as being underlain by these rock units near CCL, including three fossil sites at the landfill.

### 9.5.3.3 Upper Pico Formation

Although no previously recorded fossil site is reported in the upper Pico Formation within CCL, fossilized shells representing extinct Pliocene marine species of snails and clams and the fossilized tests of extinct species of sand dollars were recovered at several previously recorded fossil sites in this rock unit near CCL (Winterer and Durham, 1962). One of these fossil sites occurs at the landfill but outside the grading footprint, and three other fossil sites lie east of San Martinez Chiquito Canyon and only 0.1 to 0.3 miles from the landfill. Fossil site V84 yielded the fossilized teeth of the extinct, late Cenozoic genus of horse *Pliohippus* (Winterer and Durham, 1962).

The occurrence of several previously recorded fossil sites near CCL suggests that there is a potential for additional similar, fossil remains being encountered by earth-moving activities at previously unrecorded fossil sites in the upper Pico Formation at CCL.

### 9.5.3.4 Saugus Formation

No previously recorded fossil site is reported as occurring in the Saugus Formation at CCL. Fossilized bones and teeth of extinct and possibly extant species of Pliocene land mammals assignable to the Blancan North American Land Mammal Age have been recovered at a number of previously recorded fossil sites in this rock unit near CCL (Lander, 1988, 1990; Pollard, 1958; Reynolds, 1987; Winterer and Durham, 1962). Two of these sites occur at the landfill but outside the grading footprint, and three other sites lie only 0.05 miles to less than 0.7 miles from the landfill (Lander, 2002:Figure 1). These fossils included fossilized jaws and teeth of *Pliohippus*, alligator lizard (*Gerrhonotus*), rabbit, pocket gopher (*Thomomys*), and the pocket mouse (*Perognathus*).

The occurrence of a number of previously recorded fossil sites near CCL suggests a potential for additional similar, fossil remains being encountered by earth moving at previously unrecorded fossil sites in the Saugus Formation at CCL.

### 9.5.3.5 Younger Alluvium

At and near the surface, the younger alluvium is probably too young to contain remains old enough to be considered fossilized. For this reason, there is probably only a low potential for scientifically highly important fossil remains being encountered by earth moving at previously unrecorded fossil sites.

### 9.5.3.6 Artificial Fill

There is no potential for scientifically highly important fossil remains being encountered by earth-moving activities within artificial fill.

## 9.6 Potential Impacts

### 9.6.1 Standards of Significance

#### 9.6.1.1 Cultural Resources

*CEQA Guidelines* define three ways that a property may qualify as a historical resource for the purposes of CEQA review:

- If the resource is listed in or determined eligible for listing in the CRHR
- If the resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC unless the preponderance of evidence demonstrates that it is not historically or culturally significant
- If the lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record (CCR, Title 14, Division 6, Chapter 3, Section 15064.5(a))

Each of these ways of qualifying as a historical resource for the purpose of CEQA is related to the eligibility criteria for inclusion in the CRHR (PRC 5020.1(k), 5024.1, 5024.1(g)). A historical resource may be eligible for inclusion in the CRHR if it meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. Is associated with the lives of persons important in our past
3. 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
4. Has yielded, or may be likely to yield, information important in prehistory or history

Properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purpose of CEQA (PRC Section 5024.1(d)(1)).

#### 9.6.1.2 Integrity

Integrity is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources eligible for listing in the CRHR must meet one of the criteria of significance described above and retain enough of their historical character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.

Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criterion under which a resource is proposed for eligibility. Alterations over time to a resource or historical changes in its use may themselves have historical, cultural, or architectural significance.

It is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the NRHP, but they may still be eligible for listing in the CRHR. A resource that has lost its historical character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

#### 9.6.1.3 Paleontological Resources

CEQA requires that project proponents assess potential impacts to paleontological resources, including whether the project would directly or indirectly destroy a unique paleontological resource. With few exceptions, CEQA requires the mitigation of all project impacts to less-than-significant levels.



According to *CEQA Guidelines*, a project would result in significant paleontological impacts if it were to:

- Directly or indirectly destroy a unique paleontological resource or site.

As described by Lander (2002:7), significance criteria are set forth in compliance with Society of Vertebrate Paleontology (SVP) guidelines (SVP, 1995) for assessing the significance of construction-related adverse environmental impacts on paleontological resources or the paleontological sensitivity of a particular rock unit to adverse impacts.

The paleontological significance (high, moderate, low, none, undetermined) of a rock unit exposed at a project site is the measure most appropriate to assessing the scientific importance of the paleontological resources of the project site, because the areal distribution of a rock unit can be delineated on a topographic map. The paleontological importance of a rock unit reflects (1) its potential paleontological productivity and (2) the scientific importance of the fossils it has produced locally.

The potential paleontological productivity (high, moderate, low, none, undetermined) of a rock unit exposed at a project site is based on the abundance/densities of fossil specimens and/or previously recorded fossil sites in exposures of the unit at and near the project site. Exposures of a specific rock unit at a project site are most likely to yield fossil remains representing particular species in quantities or densities similar to those previously recorded from the unit at and near the project site. The criteria for establishing the potential paleontological productivity of a rock unit exposed at a project site are described here:

- **High potential.** The rock unit contains a comparatively high density of previously recorded fossil sites, has produced numerous fossil remains at and/or near the project site, and is very likely to yield additional similar remains at the project site.
- **Moderate potential.** The rock unit contains a relatively moderate density of previously recorded fossil sites and has produced some fossil remains at and/or near the project site.
- **Low potential.** The rock unit contains no or a comparatively low density of previously recorded fossil sites, has yielded very few or no fossil remains near the project site, and is not likely to yield any remains at the project site.
- **Undetermined potential.** The rock unit has limited or no exposure at the project site, is poorly studied, contains no previously recorded fossils, and has produced no fossil remains near the project site.
- **No potential.** There are unfossiliferous artificial fill and igneous and high-grade metamorphic rock units with no potential for containing any unrecorded fossils or yielded any fossil remains.

A fossil is considered scientifically important if it is (1) identifiable, (2) complete, (3) well preserved, (4) temporally diagnostic, (5) useful in environmental reconstruction, (6) a type or topotypic specimen, (7) a member of a rare species, (8) a species that is part of a diverse assemblage, and/or (9) a skeletal element different from, or a specimen more complete than, those now available for its respective species. Identifiable fossil land mammal remains are considered scientifically highly important because of their potential use in providing very accurate age determinations and environmental reconstructions for the rock units in which they occur. Using these definitions, the paleontological importance of a rock unit exposed at the project site would be assessed using the following criteria:

- **High importance.** The rock unit has a comparatively high potential for containing unrecorded fossil sites and for yielding scientifically important fossil remains at the project site similar to those previously recorded from rock units at and/or near the project site.
- **Moderate importance.** The rock unit has relatively moderate potential for containing unrecorded fossil sites and for yielding scientifically important fossil remains at the project site similar to those previously recorded from rock units near the project site.
- **Low importance.** The rock unit has comparatively low potential for containing any unrecorded fossil site or for yielding any scientifically important fossil remains at the project site.

- **Undetermined importance.** The rock unit is one for which too few data are available from the project site and vicinity to allow an accurate assessment of its potential for containing any unrecorded fossil site or for yielding any scientifically important fossil remains at the project site.
- **No importance.** There are unfossiliferous artificial fill and igneous and high-grade metamorphic rock units having no potential for containing any unrecorded fossil site or for yielding any fossil remains.

## 9.6.2 Proposed Project

### 9.6.2.1 Cultural Resources

CA-LAN-36 is located within the proposed area of disturbance of the Proposed Project. However, Mitigation Measure CR-1 states that grading plans should clearly depict the sensitive area of CA-LAN-36. A buffer around this sensitive area will be established in consultation with a qualified archaeologist and the Permittee, and grading will not occur beyond this established buffer.

Therefore, grading will not impact the cave. The view from the cave will not be significantly altered as the landfill is currently clearly visible from the cave. Mitigation Measure CR-1 also states that a qualified archeologist shall monitor earth-moving activities that would occur within close proximity to the established buffer.

The Proposed Project will not directly affect any historical resources as defined by CEQA. The areas delineated for extension of the grading footprint have already been archaeologically surveyed with negative results; no historical resources are present. The archaeological survey conducted in 2010 confirms the presence of CA-LAN-36 within the Proposed Project, and Mitigation Measure CR-1 will be employed to avoid impacts to the cave.

The current inventory has demonstrated that the survey area contains prehistoric and historical archaeological resources. Further, the geomorphological environment of CCL is one of alluvial deposition. As with any ground-disturbing project, there remains a potential for the accidental discovery of buried cultural resources not detected through a surface inventory; therefore, Mitigation Measure CR-2 should be followed. Mitigation Measure CR-3 would be implemented if buried cultural resources are found during ground disturbance.

### 9.6.2.2 Paleontological Resources

The Proposed Project will not directly affect any known paleontological resources as defined by CEQA. The areas delineated landfill extension have already been archaeologically surveyed with negative results; no paleontological resources were detected.

In a more recent evaluation, Lander (2002:7) suggests that the Proposed Project (excavation of new cells) and the landfill operation (acquisition of daily cover) could adversely affect presently undetermined/unrecorded fossil sites. Direct impacts would result mostly from earth moving in previously undisturbed strata but also from any earth-moving activity that buried previously undisturbed strata, making the strata and their paleontological resources unavailable for future scientific investigation. As with any ground-disturbing project, there remains a potential for the accidental discovery of buried paleontological resources. If paleontological resources are discovered during ground-disturbing activities, appropriate mitigation measures (CR-4 through CR-11) should be followed.

Lander (2002:7) further suggests that the possible loss of some fossil remains, unrecorded fossil sites, associated specimen data and corresponding geologic and geographic site data, and the fossil-bearing strata is a potentially significant long-term environmental impact. Easier access to fresh exposures of fossiliferous strata and the potential for unauthorized collecting by landfill personnel, rock hounds, and amateur and commercial fossil collectors could result in the loss of some additional fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data. The loss of these additional paleontological resources is another potentially significant long-term environmental impact.

### 9.6.2.3 Upper Pico Formation

The upper Pico Formation has yielded fossil remains from fossil sites near CCL. As a result, adverse environmental impacts on the paleontological resources of the upper Pico Formation resulting from earth moving would be considered to be of high paleontological significance, because there is a high potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data.

### 9.6.2.4 Saugus Formation

The Saugus Formation has yielded fossil remains near CCL. As a result, adverse environmental impacts on the paleontological resources of the Saugus Formation resulting from earth moving would be considered to be of high paleontological significance, because there is a high potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data.

### 9.6.2.5 Younger Alluvium

Any adverse environmental impact on paleontological resources resulting from earth moving in the younger alluvium would be of low significance, since it is probably too young at and near the surface to contain remains old enough to be considered fossilized.

### 9.6.2.6 Artificial Fill

There would be no impact on paleontological resources associated with earth moving in the artificial fill, which is unfossiliferous.

## 9.7 Mitigation Measures

### 9.7.1 Cultural Resources

- CR-1** A qualified archaeologist will flag off the area around Bowers Cave and establish a buffer in consultation with the Permittee to ensure avoidance of grading of the cave site. Grading plans will clearly depict the sensitive area and state that grading must not occur beyond the established buffer. The qualified archeologist will monitor earth-moving activities that would occur within 100 feet of the established buffer.
- CR-2** Prior to the start of monitoring activities, a Cultural Resources Monitoring Plan (CRMP) will be developed. The CRMP will include, at a minimum: 1) the location of areas to be monitored, 2) frequency of monitoring, 3) description of resources expected to be encountered, 4) description of circumstances that would result in a construction halt, 5) description of monitoring reporting requirements, and 6) disposition of found/collected materials.
- CR-3** Native American consultation has indicated that Bowers Cave and the surrounding region may be important to local Native Americans, specifically Tataviam. Provisions will be made to provide cave access to Tataviam, and Tataviam will have the option to provide a construction oversight monitor during ground-disturbing activities. The Tataviam monitor will act as a liaison between archaeologists, the permittee, contractors, and public agencies to ensure that cultural features are treated appropriately from the Tataviam point of view. All artifacts that may be found will be returned to the Tataviam or reinterred into the earth.

### 9.7.2 Paleontological Resources

- CR-4** Prior to construction, the services of a qualified vertebrate paleontologist shall be retained to develop and implement a Paleontological Resources Mitigation Plan prior to earth moving activities. The Plan will include the following elements:
- development of agreement with a recognized museum repository;

- identification of final disposition, permanent storage, and maintenance of any fossil remains and associated specimen data and corresponding geologic and geographic site data that might be recovered; and
- determination of level of treatment (preparation, curation, cataloguing) of the remains that would be required before the mitigation program fossil collection would be accepted for storage.

- CR-5** The paleontologist and/or monitor shall conduct a preconstruction survey of the project site prior to the start of any earth moving associated with the landfill expansion.
- CR-6** The paleontologist or monitor shall coordinate with landfill personnel to provide information regarding regulatory agency requirements for the protection of paleontological resources. Landfill personnel also will be briefed on procedures to be followed in the event that a fossil site or fossil occurrence is encountered during construction, particularly when the monitor is not onsite. The briefing will be presented to new landfill personnel as necessary. Names and telephone numbers of the monitor and other appropriate mitigation program personnel shall be provided to the landfill manager.
- CR-7** Earth-moving activities shall be monitored by the paleontologist only in those areas of the project site where these activities would disturb previously undisturbed strata in the Saugus and upper Pico Formations (not in areas underlain by artificial fill or younger alluvium). With concurrence from the project paleontologist, if no fossil remains are found once 50 percent of earth moving has been completed in an area underlain by a particular rock unit, monitoring can be reduced or suspended in that area.
- CR-8** All diagnostic fossil specimens recovered from the project site shall be treated (prepared, curated, catalogued) in accordance with designated museum repository requirements.
- CR-9** The monitor shall maintain daily monitoring logs. A final technical report of results and findings shall be prepared by the paleontologist and included with the material submitted for curation (see above).

## 9.8 Significance After Mitigation

### 9.8.1 Cultural Resources

Implementation of mitigation measures would reduce Proposed Project impacts upon historical resources to below the level of significance.

### 9.8.2 Paleontological Resources

Implementation of mitigation measures would reduce Proposed Project impacts upon paleontological resources to below the level of significance.

## 9.9 Cumulative Impacts

### 9.9.1 Potential Cumulative Impacts

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (PRC Section 21083; CCR, Title 14, Sections 15064(h), 15065(c), 15130, and 15355). Impacts to known significant archaeological sites or subsurface archaeological resources from the Proposed Project and other projects in the vicinity could occur.

However, project proponents for this and future projects in the area can mitigate impacts to known significant and as yet undiscovered subsurface archaeological sites by implementing mitigation measures. If a large, stratified, buried prehistoric archaeological site or discrete filled-in historic period features were encountered during the Proposed Project, the possibility of cumulative impacts would arise, because such sites might be

highly significant, and in the past, others have been destroyed or damaged by agricultural activity and/or commercial/industrial/residential development near the Proposed Project.

However, given the relative low level of impact to such a site that the Proposed Project would cause, it is also possible, but unlikely, that Proposed Project activities would lead to significant cumulative impacts. The potential impact will depend on the extent of any discovered archaeological deposits. The Proposed Project's contribution to this cumulative impact is considered adverse but not significant. Any potential impact to a known significant cultural resource would be mitigated to a level of insignificance; and potential impact to an unknown site would be minimized by a stop-work procedure if a site were uncovered, allowing time for proper survey and mitigation of the site to occur. No impacts to architectural resources are expected to occur.

## **9.9.2 Mitigation Measures Required for Cumulative Impacts**

### **9.9.2.1 Cultural Resources**

Implementation of Mitigation Measures CR-1 and CR-3 would address both potential Proposed Project impacts to cultural resources, as well as potential cumulative impacts.

### **9.9.2.2 Paleontological Resources**

Implementation of Mitigation Measures CR-4 through CR-11 would address both potential Proposed Project impacts to paleontological resources and potential cumulative impacts.

