# Appendix B

## Cultural and Paleontological Resources Assessment, March 2021

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

# CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT FOR THE LINCOLN COLONY APARTMENT PROJECT, CITY OF ANAHEIM, ORANGE COUNTY, CALIFORNIA

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**Date**
March 2021

***Cogstone Project Number:*** 5164
***Type of Study:*** Cultural and Paleontological Resources Assessment
***Sites:*** none
***USGS 7.5' Quadrangle:*** Anaheim (1981)
***Area:*** Approximately 0.74 acres
***Key Words:*** Negative for cultural resources, negative for paleontological resources, Gabrielino/Tongva territory

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State Certifications DBE, WBE, SBE, UDBE

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# SUMMARY OF FINDINGS

The purpose of this study is to determine the potential effects to cultural and paleontological resources resulting from the implementation of the Lincoln Colony Apartment Project (Project). This assessment provides environmental documentation as required by the California Environmental Quality Act (CEQA). The City of Anaheim is the lead agency.

The Project involves the construction of a four-story 44-unit apartment building with 104 parking spaces located at 898, 900, and 914 West Lincoln Avenue in the City of Anaheim, Orange County, California. Expected maximum depth of excavation is four feet.

**Paleontological Resources**
The Project is mapped as late Pleistocene (less than 126,000 years old) to Holocene young alluvial fan deposits. Modern artificial fill is also common in previously developed areas.

A records search revealed that all of the fossils previously recovered within a ten mile radius were more than five feet deep in deposits mapped as Pleistocene at the surface. Sediments with a Holocene component such as those of the Project Area produced fossils starting at eight feet deep. As such, the project sediments less than eight feet below the modern surface are assigned a low potential for fossils (PFYC 2) due to the lack of fossils in these deposits. Sediments more than eight feet below the modern surface are assigned a moderate potential for fossils (PFYC 3) due to similar deposits producing fossils at that depth near to the study area. Additionally, since the Project Area was previously developed, there may be various amounts of artificial fill present. Artificial fill has very low potential for scientifically significant paleontological resources (PFYC 1).

Excavation for the Project is only expected to reach four feet below the original surface, therefore the potential for adverse impacts to scientifically significant paleontological resources is low. Because there is a low potential for impacts scientifically significant paleontological resources, no mitigation measures are currently recommended. No mitigation is required for any excavation into the young alluvial fan deposits and artificial fill. No further paleontological resources work is recommended for the proposed Project.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified paleontologist evaluates it.

**Cultural Resources**
A record search was conducted by the South Central Coastal Information Center (SCCIC) of the California Historic Resources Information System (CHRIS) on December 18, 2020 that included the entire proposed Project Area as well as a one-half mile radius. Results of the record search indicate that no previous studies have been completed within the Project Area.

The records search also determined no previously recorded resources are located within the Project boundaries. Twenty-two historic built cultural environment resources and one historic district are located within one-half mile of the Project Area. There are no previously recorded

archaeological resources within one-half mile of the Project Area.

A Sacred Lands File search requested from the Native American Heritage Commission (NAHC) indicated that there are no known sacred sites or heritage resources located within the same USGS Quadrangle, Township, Range, and Section as the Project Area

Based on the results of the pedestrian survey and the cultural records search, and the negative sacred lands file search, the Project Area has low sensitivity for prehistoric cultural resources. Analysis of these data sources and historical USDA aerial photographs indicate that the Project Area also has low sensitivity for buried historical archaeological features such as foundations or trash pits.

No further cultural resources work is recommended for the proposed Project.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified archaeologist evaluates it. In the unlikely event that human remains are encountered during project development, all work must cease near the find immediately.

In accordance with California Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods. Work may not resume in the vicinity of the find until all requirements of the health and safety code have been met.

# INTRODUCTION

## PURPOSE OF STUDY

The purpose of this study is to determine the potential effects to cultural and paleontological resources resulting from the implementation of the Lincoln Colony Apartment Project (Project). This assessment provides environmental documentation as required by the California Environmental Quality Act (CEQA). The City of Anaheim is the lead agency.


**Figure 1. Project vicinity map**

## PROJECT LOCATION AND DESCRIPTION

The Project involves the construction of a four-story 44-unit apartment building with 104 parking spaces located at 898, 900, and 914 West Lincoln Avenue in the City of Anaheim, Orange County, California. The Project is located on approximately 0.75 acres within Assessor Parcel Numbers (APNs) 036-112-32 and 036-112-03 on the United States Geological Survey (USGS) Anaheim 7.5' topographic quadrangle map. Specifically, the Project is located within Sections 15 and 16 of Township 4 South, Range 10 West, San Bernardino Baseline and Meridian. Expected maximum depth of excavation is four feet.

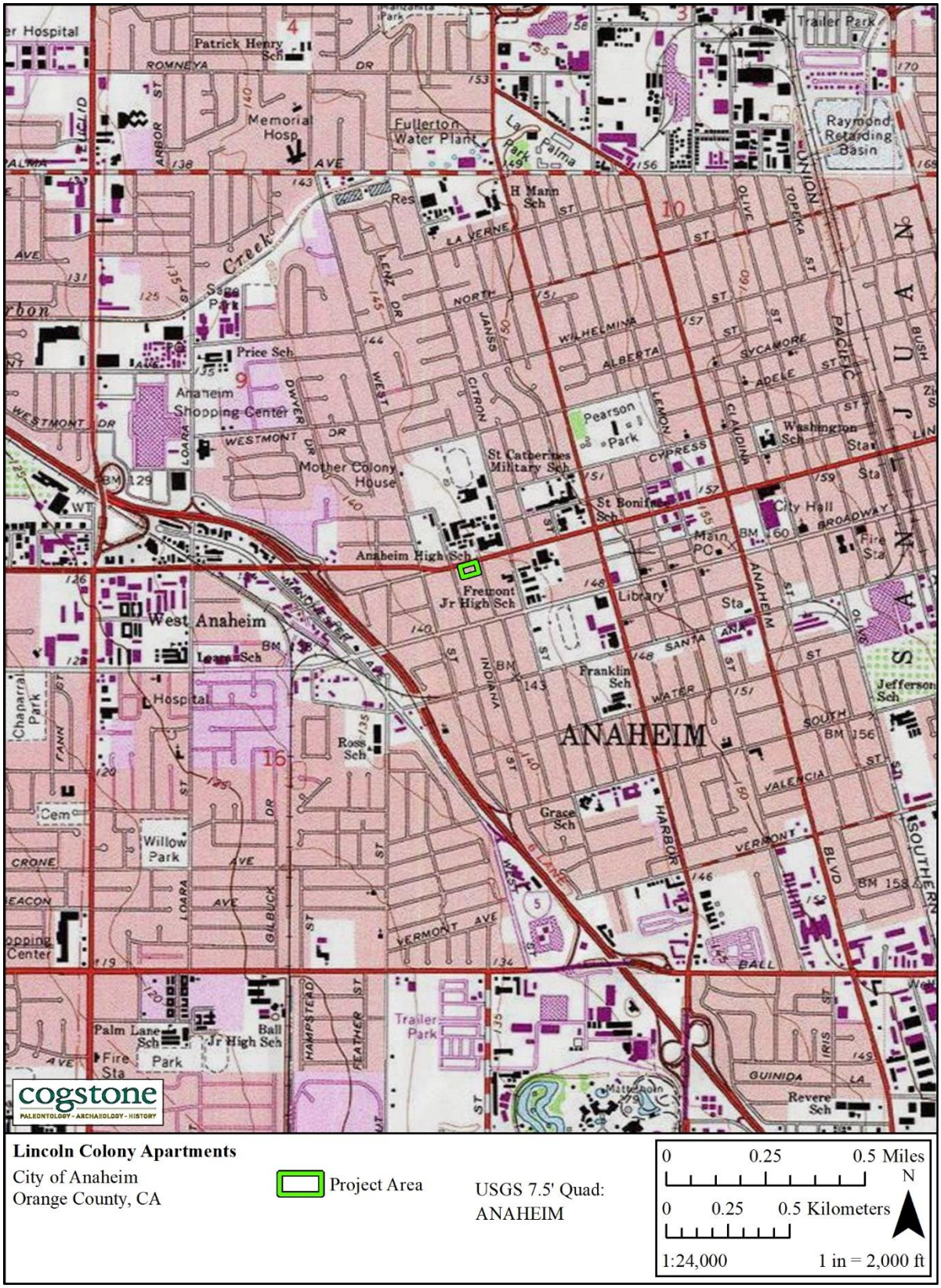


**Figure 2. Project location**

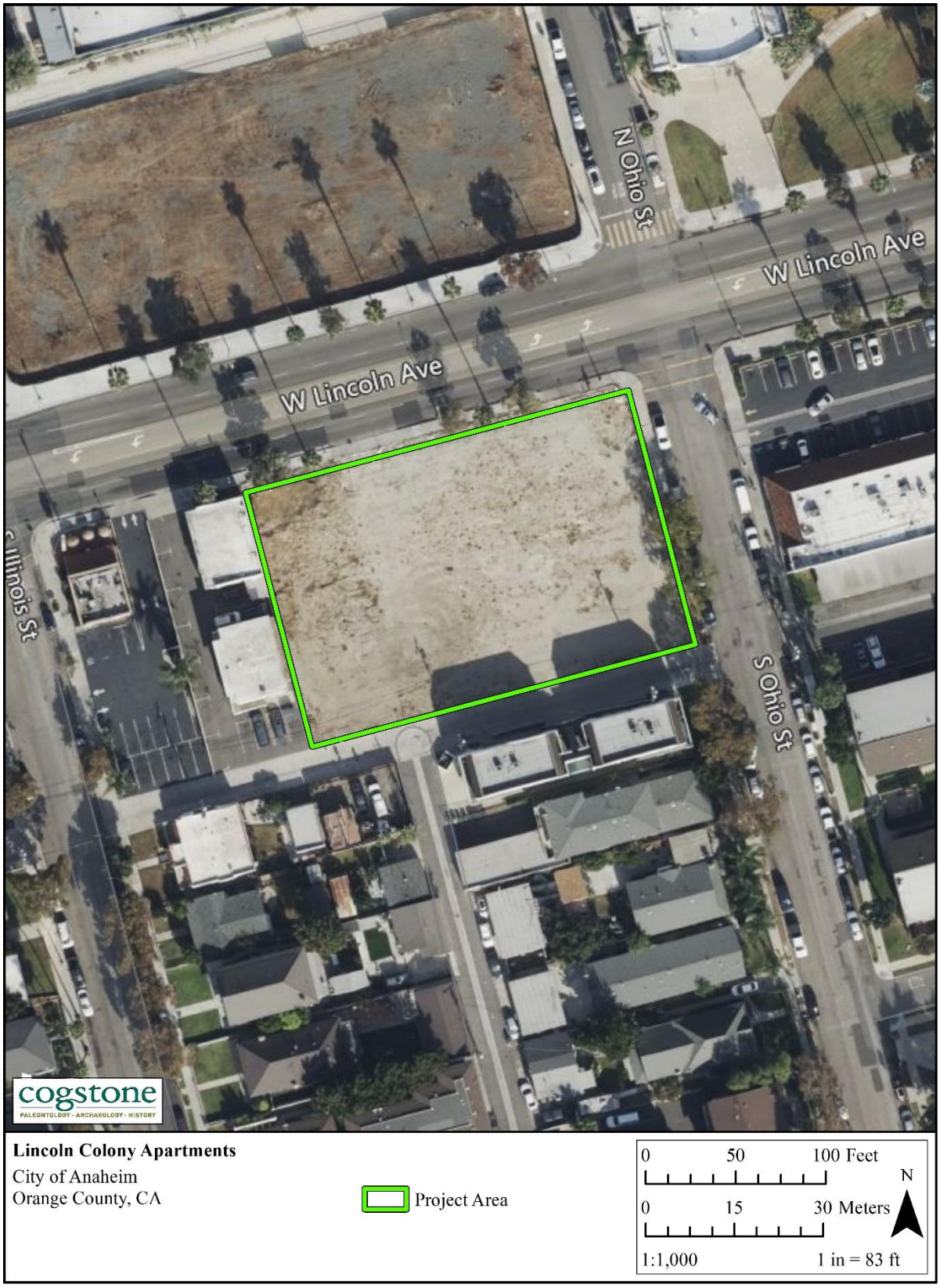


**Figure 3. Project aerial map**

## PROJECT PERSONNEL

Cogstone Resource Management, Inc. (Cogstone) conducted the cultural and paleontological resources study. Resumes of key personnel are provided in Appendix A.

Molly Valasik provided QA/QC for the Project. Ms. Valasik has an M.A. in Anthropology from Kent State University in Ohio and 12 years of experience in southern California archaeology.

Eric Scott provided QA/QC of the paleontology and geology sections of this technical memo. Mr. Scott has an M.A. in anthropology, with an emphasis in biological paleoanthropology, from University of California (UC) Los Angeles, and more than 37 years of experience in California paleontology.

John Gust, RPA, served as the Task Manager and Principal Investigator for Archaeology for the Project, and reviewed this report. Dr. Gust has a Ph.D in Anthropology from the University of California (UC), Riverside, and over 8 years of experience in archaeology.

Kim Scott served as the Principal Investigator for Paleontology for the Project. Mrs. Scott has an M.S. in Biology with paleontology emphasis from California State University (CSU), San Bernardino, a B.S. in Geology with paleontology emphasis from the UC Los Angeles, and over 24 years of experience in California paleontology and geology.

Kanak Somani, RPA coauthored this report. Ms. Somani holds an M.A. in Anthropology from Yale University and has over two years of experience in California archaeology.

Kelly Vreeland co-authored this report. Ms. Vreeland has an M.S. and B.S. in geology, with an emphasis in paleontology, from CSU Fullerton, as well as 10 years of experience in California paleontology and geology.

Logan Freeberg prepared the Geographic Information System (GIS) maps throughout this report. Mr. Freeberg has a B.A. in Anthropology from UC Santa Barbara and a GIS certification from CSU Fullerton and over 15 years of experience in California archaeology.

# REGULATORY ENVIRONMENT

## STATE LAWS AND REGULATIONS

### CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA states that: It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

CEQA declares that it is state policy to: "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

### TRIBAL CULTURAL RESOURCES

As of 2015, CEQA established that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code, § 21084.2). In order to be considered a "tribal cultural resource," a resource must be either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

**PUBLIC RESOURCES CODE**

Section 5097.5: No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

**CALIFORNIA REGISTER OF HISTORICAL RESOURCES**

The California Register of Historical Resources (CRHR) is a listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks No. 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic resources or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2) It is associated with the lives of persons important to local, California, or national history;
3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

#### NATIVE AMERICAN HUMAN REMAINS

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below:

In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

#### CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307

This section states that "No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value."

## LOCAL ORDINANCES

Based on the Environmental Impact Report (EIR) Number 330 Volume I: Final EIR (General Plan and Zoning Code Update) for the City of Anaheim General Plan (City of Anaheim 2004), the following Mitigation Measures shall be implemented to protect archaeological and paleontological resources:

### Project Mitigation Measures:

> **5.4-2** City staff shall require property owners/developers to provide studies to document the presence/absence of archaeological and/or paleontological resources for areas with documented or inferred resource presence. On properties where resources are identified, such studies shall provide a detailed mitigation plan, including a monitoring program and

recovery and/or in situ preservation plan, based on the recommendations of a qualified specialist.

**5.4-3** All archaeological resources shall be subject to the provisions of CEQA (Public Resources Code) Section 21083.2.

## PALEONTOLOGICAL RESOURCES SIGNIFICANCE CRITERIA

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

# BACKGROUND

The geologic, paleontological, and environmental sections below provide information on the environmental factors that affect archaeological and paleontological resources, while the prehistoric and historical settings provide information on the history of land use in the general Project region.

## GEOLOGICAL SETTING

The Project lies in the broad coastal plain of Orange County, California named the Tustin Plain. The Tustin Plain is bounded by the Santa Ana Mountains to the east, the Puente and Coyote Hills to the north, the Pacific Ocean to the west, and the San Joaquin Hills to the south. Orange County is part of the coastal section of the Peninsular Range Geomorphic Province, which is characterized by elongated northwest-trending mountain ridges separated by sediment-floored valleys. Faults branching off from the San Andreas Fault to the east create the local mountains and hills. The Peninsular Ranges Geomorphic Province is located in the southwestern corner of California and is bounded by the Transverse Ranges Geomorphic Province to the north and the Colorado Desert Geomorphic Province to the east (Wagner 2002).

## STRATIGRAPHY

The Project is mapped as late Pleistocene (less than 126,000 years old) to Holocene young alluvial fan deposits (Morton and Miller 2006). Additionally, modern artificial fill is also common in some previously developed areas, although not labeled by Morton and Miller (2006).

### ARTIFICIAL FILL, MODERN

In California, most artificial fill is less than 100 years old and is associated with construction activities. The Project Area has been previously developed and likely contains various amounts of artificial fill placed during prior development.

### YOUNG ALLUVIAL FAN DEPOSITS, LATE PLEISTOCENE TO HOLOCENE

Late Pleistocene to Holocene alluvial fan flood plain deposits consist of unconsolidated to moderately consolidated, poorly sorted, permeable clays to sands. Deposits are poorly consolidated and may be capped by poorly to moderately developed soils. These sediments were deposited by streams and rivers on canyon floors and in the flat flood plains of the area (Morton and Miller 2006).

## PALEONTOLOGICAL SETTING

In general, the entire western margin of North America is rich with marine fossils. This is because the coastline has been tectonically active for millions of years, creating numerous

marine basins that received large amounts of sediment from the adjacent continental land mass. Each such basin possesses a sequence of stacked sediments and fossils that records the history of the basin. A typical basin goes through several stages including rifting, deepening, and filling with sediment. Some basins fill with enough sediment to form shallow terrestrial plains that accumulate river, lake, and alluvial fan deposits. Although some fossilization occurs in lakes and rivers, very little occurs in other environments. This makes terrestrial fossils, and especially vertebrates, rare when compared to marine fossils.

During the Pleistocene Epoch (~2.6 million – ~11, 000 years ago), the ocean was receding, and coastal California changed from shallow marine to terrestrial. The developing terrestrial landscape had a climate that was moister than the present, with free flowing streams and relatively abundant standing water. Numerous water sources provided numerous opportunities for fossilization, giving us a fairly complete view of Pleistocene life. An increase in water also allowed the vegetation to flourish and would have resembled the flora that is now found near Monterey, California. Megafauna present in the region included ground sloths, mammoth, mastodon, horse, camel, bison, antelope, peccary, wolf, and saber-toothed cat. Small animals were abundant and included most of the same species found in the same areas today.

## ENVIRONMENTAL SETTING

The City of Anaheim is situated approximately 25 miles southeast of Los Angeles and 11 miles northeast of the Pacific Ocean. The Santa Ana River flows south-southwest through the City. Santiago Creek borders the City on the southern end and merges into the Santa Ana River in Santa Ana, prior to it flowing into the Pacific Ocean. The Santa Ana Mountains, a north-south trending range, and the Cleveland National Forest lie to the east.

The current Mediterranean-like climate is characterized by warm, dry summers and cool, moist winters, with rainfall predominantly falling between November and May. Mild breezes reach the area from the Pacific Ocean, located west of the Project Area.

Prior to development, the native vegetation of the Project Area consisted of California coastal sage scrub. Typical species include California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis* var. *consanguinea*), California buckwheat (*Eriogonum fasciculatum*), lemonade berry (*Rhus integrifolia*), poison oak (*Toxicodendron diversiloba*), purple sage (*Salvia leucophylla*), and black sage (*Salvia mellifera*; Ornduff et al. 2003). Additional common species include brittlebush (*Encelia californica*), chamise (*Adenostoma fasciculatum*), white sage (*Salvia apiana*), Our Lord's candle (*Hesperoyucca whipplei*), and prickly pear cactus (*Opuntia*; Hall 2007).

Modern vegetation in this portion of Orange County includes grasslands and California coastal sage scrub with non-native species mixed in. Grasses such as slender wild oat (*Avena barbata*),

ripgut brome (*Bromus diandrus*), and giant reed (*Arundo donax*); shrubs and trees including blackwood acacia (*Acacia melanoxylon*), saltcedar (*Tamarix ramosissima*), eucalyptus (*Eucalyptus* spp.), and Brazilian pepper (*Schinus terebinthifolius*) are common (Cal-IPC 2006). Large native land mammals of the region included mule deer (*Odocoileus hemionus*), bighorn sheep ([1]‡*Ovis canadensis*), tule elk (‡*Cervus canadensis nannodes*), pronghorn (‡*Antilocapra americana*), bison (‡*Bison bison*), bobcat (‡*Lynx rufus*), mountain lion (‡*Felis concolor*), jaguar (‡*Panthera onca*), coyote (*Canis latrans*), grey wolf (‡*Canis lupus*), black and grizzly bears (‡*Ursus americanus,* ‡*Ursus arctos*). Smaller native fauna included rabbits (‡*Lepus californicus, Sylvilagus audubonii,* ‡*Sylvilagus bachmani*), desert tortoise (‡*Gopherus agassizii*), and numerous other species (California Department of Fish and Game 2020). In recent history, urban development has driven most animals from the area, although mule deer, bobcat, and coyotes still occur in the surrounding hills.

## PREHISTORIC SETTING

Approaches to prehistoric frameworks have changed over the past half century from being based on material attributes to radiocarbon chronologies to association with cultural traditions. A large part of what was previously referred to as the Millingstone Period is now called the Topanga pattern of the Encinitas Tradition. The latest cultural revisions for the Project Area define traits for time phases of the Topanga pattern of the Encinitas Tradition applicable to coastal Los Angeles and Orange counties (Sutton and Gardner 2010; Table 1). This pattern is replaced in the Project Area by the Angeles pattern of the Del Rey Tradition later in time (Sutton 2010).

Topanga Pattern groups were relatively small and highly mobile. Sites tend to be along the coast in wetlands, bays, coastal plains, near-coastal valleys, marine terraces and mountains. The Topanga toolkit is dominated by manos and metates with projectile points scarce (Sutton and Gardner 2010: 9).

In Topanga Phase I other typical characteristics were a few mortars and pestles, abundant core tools (scraper planes, choppers, and hammerstones), relatively few large, leaf-shaped projectile points, cogged stones, and early discoidals (Table 1). Secondary inhumation under cairns was the common mortuary practice. In Orange County as many as 600 flexed burials were present at one site and dated 6,435 calibrated radiocarbon years before present (Sutton and Gardner 2010: 9, 13).

In Topanga Phase II, flexed burials and secondary burial under cairns continued. Adoption of the mortar and pestle is a marker of this phase. Other typical artifacts include manos, metates, scrapers, core tools, discoidals, charmstones, cogged stones, and an increase in the number of projectile points. In Orange County stabilization of sea level during this time period resulted in

[1] ‡ - indicates that the species has been extirpated from Southern California.

increased use of estuary, near shore and local terrestrial food sources (Sutton and Gardner 2010: 14-16).

**Table 1. Culture Change Chronology**

| Pattern | Phase | Dates (BP) | Material Traits | Other Traits |
|---|---|---|---|---|
| Encinitas | Topanga I | 8,500 to 5,000 | Abundant manos and metates, many core tools and scrapers, few but large points, charmstones, cogged stones, early discoidals, bone gorge fishhooks, faunal remains rare; *Olivella* spire/end lopped beads appear | Estuary/lagoon shellfish and sharks/rays common, hunting important, secondary burials under metate cairns (some with long bones only), some extended inhumations, no cremations |
| | Topanga II | 5,000 to 3,500 | Abundant but decreasing manos and metates, adoption of mortars and pestles, smaller points, cogged stones, late discoidals, fewer scraper planes and core tools, some stone balls and charmstones; inhumations common; Olivella Grooved Rectangular beads introduced | Estuary/lagoon shellfish and sharks/rays common, addition of acorns, reburial of long bones only, addition of flexed inhumations (some beneath metate cairns), cremations rare |
| Angeles | Angeles I | 3,500 to 2,600 | Appearance of Elko dart points and an increase in the overall number of projectile points from Encinitas components; beginning of large-scale trade in small steatite artifacts (effigies, pipes, and beads) and *Olivella* shell beads; appearance of single-piece shell fishhooks and bone harpoon points; Coso obsidian becomes important; appearance of donut stones; appearance of *Mytilus* beads | Apparent population increase; fewer and larger sites along the coast; collector strategy; less overall dependence on shellfish but fishing and terrestrial hunting more important; appearance of flexed and extended inhumations without cairns, cremations uncommon |
| | Angeles II | 2,600 to 1,600 | Continuation of basic Angeles I material culture with the addition of mortuary features containing broken tools and fragmented cremated human bone; fishhooks become more common | Shellfish change to mudflat species, more emphasis on fish, birds and mammals, continuation of basic Angeles I settlement and subsistence systems; appearance of a new funerary complex |
| | Angeles III | 1,600 to 1,250 | Appearance of bow and arrow technology (e.g., Marymount or Rose Spring points); changes in *Olivella* beads; asphaltum becomes important; reduction in obsidian use; Obsidian Butte obsidian largely replaces Coso | Larger seasonal villages; flexed primary inhumations but no extended inhumations and an increase in cremations; appearance of obsidian grave goods |
| | Angeles IV | 1,250 to 800 | Cottonwood points appear; some imported pottery appears; birdstone | Change in settlement pattern to fewer but larger permanent villages; flexed primary |

| Pattern | Phase | Dates (BP) | Material Traits | Other Traits |
|---|---|---|---|---|
| | | | effigies at the beginning of the phase and "spike" effigies dropped by the end of the phase; possible appearance of ceramic pipes, *Mytilus* shell disks | inhumations continue, cremations uncommon |
| | Angeles V | 800 to 450 | Trade of steatite artifacts from the southern Channel Islands becomes more intensive and extensive, with the addition or increase in more and larger artifacts, such as vessels and comals; larger and more elaborate effigies; portable mortars and pestles | Strengthening of ties, especially trade, with southern Channel Islands; expansion into the northern Santa Ana Mountains and San Joaquin Hills |
| | Angeles VI | 450 to 150 | Addition of Euroamerican material culture (e.g., glass beads and metal tools), locally made pottery, metal needle-drilled *Olivella* beads | Change of settlement pattern, movement close to missions and ranches; use of domesticated species obtained from Euroamericans; flexed primary inhumations continue; apparent adoption of Chingichngish religion |

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing. In Angeles Phase I Elko points for atlatls or darts appear, small steatite objects such as pipes and effigies are found, shell beads and ornaments increase, fishing technologies increase including bone harpoons/fishhooks and shell fishhooks, donut stones appear, and hafted micro blades for cutting/graving wood or stone appear. In addition, several Encinitas traits, such as discoidals, cogged stones, plummet-like charm stones and cairn burials virtually disappear from the record. Mortuary practices changed to consist of primarily flexed primary inhumations, with extended inhumations becoming less common. Settlement patterns made a shift from general use sites being common to habitation areas separate from functional work areas. Subsistence shifted from mostly collecting to increased hunting and fishing.

The Angeles Phase II is identified primarily by the appearance of a new funerary complex, with other characteristics similar to Angeles I. The complex features killed (broken) artifacts plus highly fragmented cremated human bones and a variety of faunal remains. In addition to the cremains, the other material also often burned. None of the burning was performed in the burial feature.

The Angeles III Phase is the beginning of what has been known as the Late Period and is marked by several changes from Angeles I and II. These include the appearance of small projectile

points, steatite shaft straighteners and increased use of asphaltum all reflecting adoption of bow and arrow technology, obsidian sources changed from mostly Coso to Obsidian Butte and shell beads from Gulf of California species began to appear. Subsistence practices continued as before and the geographic extent of the Angeles Pattern increased (Sutton 2010).

Angeles Phase IV is marked by new material items including Cottonwood points for arrows, *Olivella* cupped beads and *Mytilus* shell disks, birdstones (zoomorphic effigies with magico-religious properties) and trade items from the Southwest including pottery. It appears that populations increased and that there was a change in the settlement pattern to fewer but larger permanent villages. Presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. The settlement pattern altered to one of fewer and larger permanent villages. Smaller special-purpose sites continued to be used.

Angeles V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined and use of small seeds increased. Inhumations contained grave goods while cremations did not.

The Angeles VI phase reflects the post-contact (i.e., post-A.D. 1542) period. One of the first changes after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption. Angeles VI material culture is essentially Angeles V augmented by a number of Euroamerican tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euroamerican material culture increased through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled *Olivella* disk beads.

The subsistence system was based primarily on terrestrial hunting and gathering, although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited (Sutton 2010).

## ETHNOGRAPHY

### GABRIELINO-TONGVA

Early Native American peoples of the Project vicinity are poorly understood. They were replaced about 1,000 years ago by the Gabrielino (Tongva) who were semi-sedentary hunters and gatherers. The Gabrielino speak a language that is part of the Takic language family. Their territory encompassed a vast area stretching from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978; McCawley 1996; Figure 4). At European contact, the tribe consisted of more than 5,000 people

living in various settlements throughout the area. Some of the villages could be quite large, housing up to 150 people.

The Gabrielino-Tongva are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with (Kroeber 1925). Houses were domed, circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The best known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship (Bean and Smith 1978:542).

The main food zones utilized were marine, woodland, and grassland (Bean and Smith 1978). Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages (Bean and Smith 1978:538-540).

The closest known major ethnohistoric villages to the Project Area is Pasbenga located approximately 5.5 miles to the south (McCawley 1996). However, smaller villages and seasonal camps may have been present closer to the Project Area.

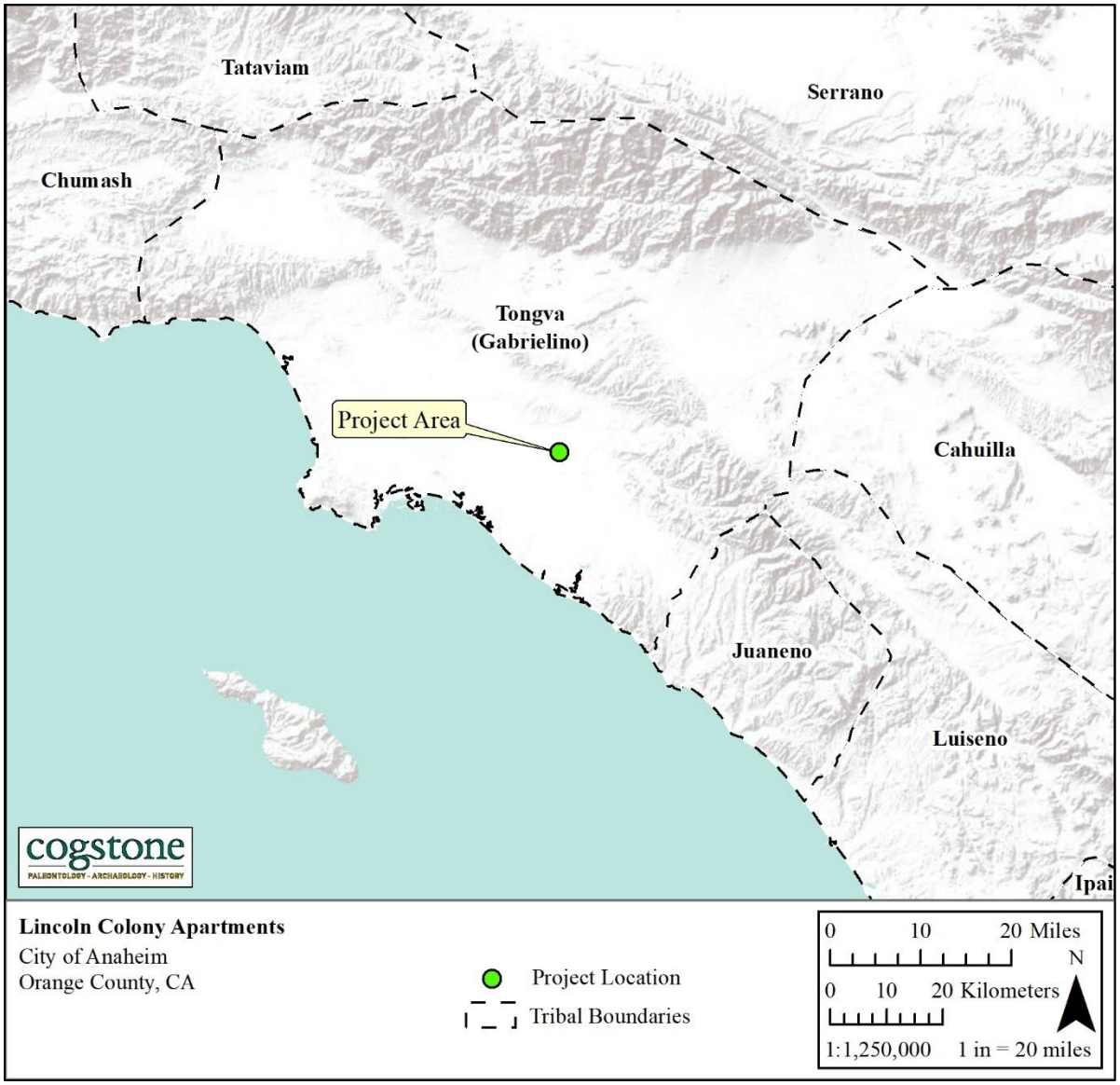


**Figure 4. Native American traditional tribal territories**

## HISTORIC SETTING

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). During the Spanish colonial period between 1769 and 1822, the Spanish established missions, presidios and pueblos (McCawley 1996).

In 1821, Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, giving the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands in the form of grants, to private owners.

Ranchos in California numbered over 500 by 1846, all but approximately 30 of which resulted from land grants (Bean and Rawls 1993).

Rancho San Juan Cajón de Santa Ana was a 35,971-acre land grant given to Juan Pacifico Ontiveros by Alta California Governor Juan Alvarado in 1837. Following the end of the Mexican-American War, Ontiveros sold 21,527 acres to Abel Sterns in 1853, and another 1,160 acres to George Hansen in 1857 in order to buy Rancho Tepusquet from his father in law (Ranchos de Ontiveros 2021). He then deeded 3,900 acres of the rancho to sons Juan Patricio and Juan Nicholas in 1863. Juan Pacifico Ontiveros received a United States government land patent for the now smaller rancho in 1877, the year he died.

Members of the Abila/Yorba family received a patent to the western portion of the Project Area in 1874 (see Table 6). This family owned Rancho Las Bolsas, located to the southwest of the Project Area, that today includes the some or all of the cities of Huntington Beach, Westminster, Fountain Valley, and Garden Grove (United States Government Printing Office 1930).

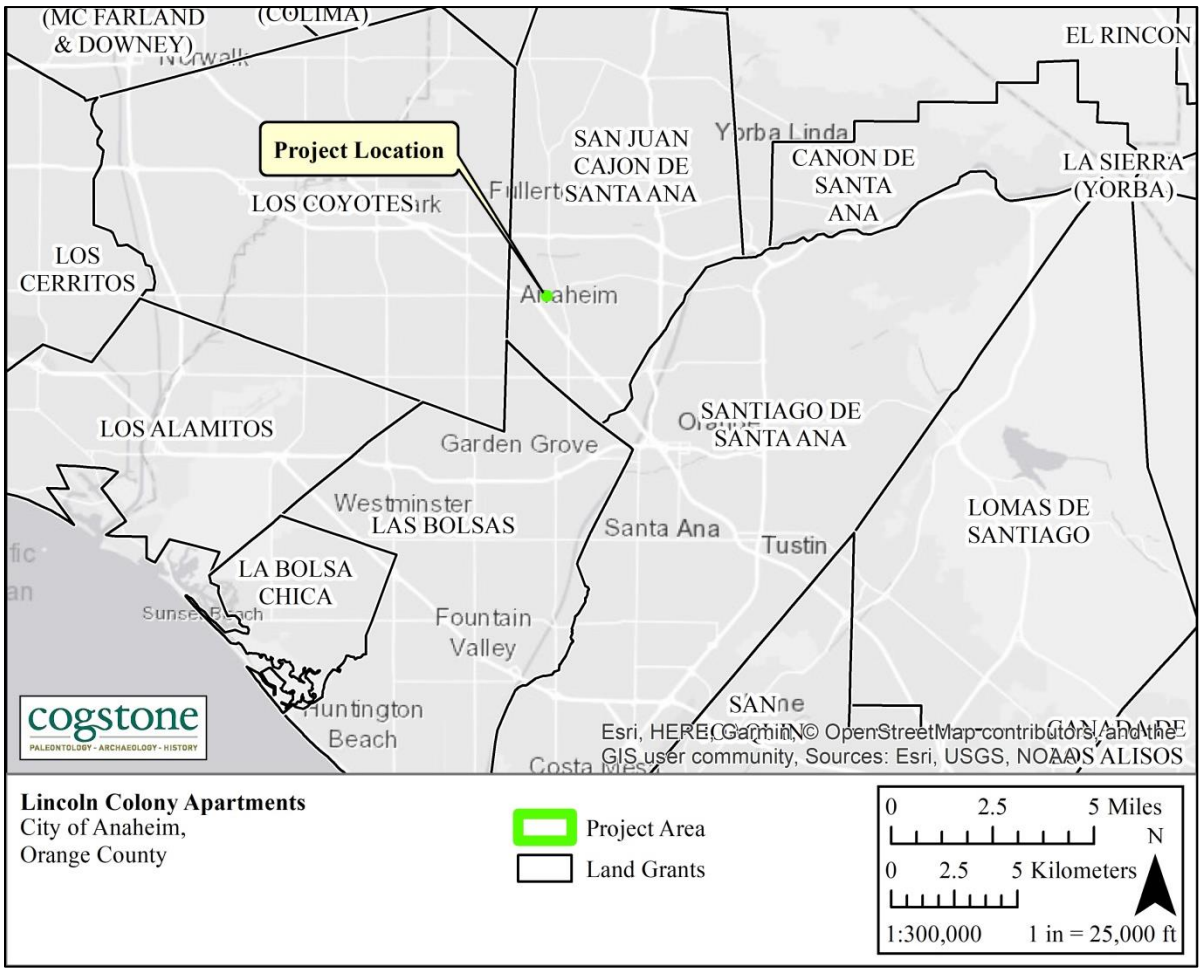


**Figure 5. Land grants map**

### CITY OF ANAHEIM HISTORY

The City of Anaheim was founded in 1857 by 50 German-Americans who were residents of San Francisco and whose families had originated in Rothenburg ob der Tauber, the Franconia region of Bavaria. After traveling through the state looking for a suitable area to grow grapes, the group decided to purchase a 1,165-acre (4.71 $km^2$) parcel from Juan Pacifico Ontiveros' large Rancho San Juan Cajon de Santa Ana in present day Orange County for $2 per acre. For $750 a share, the group formed the Anaheim Vineyard Company. Their new community was named Anaheim, meaning "home by the Santa Ana River" in German. To the Spanish-speaking neighbors, the settlement was known as Campo Alemán.

Although grape-growing and wine-making was their primary objective, the majority of the 50 settlers were mechanics, carpenters and craftsmen with no experience in wine-making. The community set aside 40 acres for a town center and a school. The first building erected there, a home, was built in 1857. The *Anaheim Gazette* newspaper was established in 1870, and a hotel built in 1871. For 25 years, the area was the largest wine producer in California. However, in 1884, a disease infected the grape vines and by the following year the entire industry was destroyed. Other crops – walnuts, lemons and oranges – soon filled the void. Fruits and vegetables had become viable cash crops when the Los Angeles-Orange County region was connected to the continental railroad network in 1887.

### PROJECT AREA HISTORY

The earliest available USGS topographic quadrangle map (Anaheim; 1:62,500) dates to 1898 and shows no development within the Project Area. The 1935 Garden Grove (1:31,680) USGS topographic quadrangle map shows a small structure present at the northeast corner of the Project Area. The 1953 United States Department of Agriculture (USDA) historic aerial photograph shows the Project Area as fully developed with single family homes and a large paved parking lot (NETROnline 1953). In the 1963 USDA historic aerial photograph (NETROnline 1963), one of the homes has been removed from the western half of the Project Area and replaced by a long rectangular commercial building. An irregularly shaped commercial building is present in the western half of the Project Area. The built environment changes little until 2019, when the USDA aerial photograph (NETROnline 2019) shows that all buildings and hardscaping have been removed.

# RECORDS SEARCHES

## PALEONTOLOGICAL RECORD SEARCH

The following are confidential museum records. As such no maps of the localities are provided unless the locality may be impacted by the Project. Cogstone requested a records search from the Natural History Museum of Los Angeles County, Department of Vertebrate Paleontology (LACM) that covered the Project Area as well as a one mile radius (Bell 2020a; Appendix B). Additional records from the University of California Museum of Paleontology database (UCMP 2020) and the PaleoBiology Database (PBDB 2020), and print sources were searched for fossil records. Print resources including published material (Jefferson 1991a, 1991b) and previous nearby record searches were also checked for fossil localities.

### PALEONTOLOGICAL RECORDS SEARCH RESULTS

No fossils are known from within sediments of similar age as those of the Project or within one mile of the Project Area. There is record of 13 localities that were found within 10 miles from the Project. Extinct megafauna from these sites include Harlan's ground sloth (†[2]*Paramylodon harlani*), Columbian mammoth (†*Mammuthus columbi*), saber-toothed cat (†*Smilodon fatalis*), western horse (†*Equus occidentalis*), tapir (†*Tapirus californicus*), yesterday's camel (†*Camelops hesternus*), and bison (†*Bison antiquus*; Table 2). All of the fossils were a minimum of five feet deep in deposits mapped as late Pleistocene at the surface, while sediments with a Holocene component produced fossils starting at 11 feet deep.

### MODERN RECORDS

A burn test was performed on the specimens reported by Bell (2020a; Appendix B). Both the sheep (*Ovis* sp.) recovered from Rio Vista Avenue south of Lincoln Avenue in Anaheim (LACM 1652) and the horse (*Equus* sp.) from Fletcher Avenue east of Glassell Street in Orange between 8 feet and 10 feet deep (LACM 4943; Bell 2020b) proved to be modern. As such both specimens are removed from consideration.

[2]† = the taxon is extinct, although there may be living relatives in same genus or family

## Table 2. Fossil localities from near to the Project Area

† = the taxon is extinct, although there may be living relatives in same genus or family

| Common Name | Taxon | Depth below original surface | Formation mapped at surface | Age/ dates | Locality | Location | Reference |
|---|---|---|---|---|---|---|---|
| horse | *Equus* sp. | 8-10 feet | Quaternary young alluvial fan | modern | LACM 4943 | Fletcher Ave. east of Glassell St., Orange | Bell 2020b |
| sheep | *Ovis* sp. | unknown | Quaternary young alluvial fan | modern | LACM 1652 | Rio Vista Ave. south of Lincoln Ave., Anaheim | Bell 2020a |
| plant | Plantae | 7'9" | Quaternary very old alluvial fan | Pleistocene | 2011SRW0728.1 | SR 57 NB between Imperial Highway or Greenbrier Lane, Brea | Gust and Richards 2012 |
| bivalve | Pelecypoda | | | | | | |
| bony fish | Teleostei | | | | | | |
| snake | Ophidia | | | | | | |
| cottontail rabbit | *Sylvilagus* sp. | | | | | | |
| rodent | Cricetinae | | | | | | |
| rodent | Rodentia | | | | | | |
| vertebrate | Vertebrata | | | | | | |
| rattlesnake | *Crotalus* sp. | 21"-38" | Quaternary very old alluvial fan | Pleistocene | 2011JLM0721.1 | SR 57 NB between Imperial Highway or Greenbrier Lane, Brea | Gust and Richards 2012 |
| bird | Passeriformes (sparrow-sized species) | | | | | | |
| rodent | Rodentia | | | | | | |
| vertebrate | Vertebrata | | | | | | |
| cottontail rabbit | *Sylvilagus* sp. aff. *S. audubonii* | 24 feet - 25.66 feet | Quaternary very old alluvial fan | Pleistocene | 2011KMS0520.2 | SR 57 NB west of Mystic Ave., Fullerton | Gust and Richards 2012 |
| rodent | Rodentia | | | | | | |
| herbivore (large) | herbivore | | | | | | |
| vertebrate | vertebrata | | | | | | |
| cottontail rabbit | *Sylvilagus* sp. aff. *S. audubonii* | 10.32 feet - 8.5 feet | Quaternary very old alluvial fan | Pleistocene | 2011KMS0520.1 | SR 57 NB west of Deerpark Drive or Devonshire Ave., Fullerton | Gust and Richards 2012 |
| rodent | Rodentia | | | | | | |
| vertebrate | Vertebrata | | | | | | |
| rodent | Rodentia | 5 feet | Quaternary very old alluvial fan | Pleistocene | 2011JLM1209.1 | SR 57 NB west of Deerpark Drive, Fullerton | Gust and Richards 2012 |
| vertebrate | Vertebrata | | | | | | |
| plant | Plantae | 4'2"-5'6" | Quaternary very old alluvial fan | Pleistocene | 2011JLM1209.2 | SR 57 NB west of Deerpark Drive or Devonshire Ave., Fullerton | Gust and Richards 2012 |
| carnivore | Carnivora | 4 feet | Quaternary | Pleistocene | 2011JLM1209.3 | SR 57 NB west of Deerpark Drive | Gust and |

| Common Name | Taxon | Depth below original surface | Formation mapped at surface | Age/ dates | Locality | Location | Reference |
|---|---|---|---|---|---|---|---|
| vertebrate | Vertebrata | | very old alluvial fan | | | or between Bedford Drive or Braeburn Ave., Fullerton | Richards 2012 |
| Harlan's ground sloth | †*Paramylodon harlani* | 12-20 feet | Quaternary old alluvium | late Pleistocene | OCPC, no number as yet | North of Jamboree and Michelson, Irvine | Scott et al. 2007 |
| ground sloth | †*Paramylodon sp.* | | | | | | |
| sabre-toothed cat | †*Smilodon fatalis* | | | | | | |
| carnivore? | Carnivora? | | | | | | |
| western horse? | †*Equus occidentalis?* | | | | | | |
| yesterday's camel | †*Camelops hesternus* | | | | | | |
| ancient bison | †*Bison antiquus* | | | | | | |
| bison | †*Bison sp.* | | | | | | |
| Columbian mammoth | †*Mammuthus columbi* | | | | | | |
| rabbit? | Leporidae? | | | | | | |
| Botta's pocket gopher | *Thomomys bottae* | | | | | | |
| gopher | Geomyidae | | | | | | |
| squirrel | Sciuridae | | | | | | |
| rodent | Rodentia | | | | | | |
| mammal | Mammalia | | | | | | |
| black vulture | †*Coragyps occidentalis* | | | | | | |
| bird | Aves | | | | | | |
| rattlesnake | *Crotalus* sp. | | | | | | |
| pine snake | *Pituophis melanoleucus* | | | | | | |
| snakes | Serpentes | | | | | | |
| alligator lizard | *Elegaria* sp. | | | | | | |
| oak | *Quercus* sp. | | | | | | |
| ground sloth | †*Paramylodon sp.* | unknown | Quaternary old alluvium | late Pleistocene, Rancholabrean | LACM 1068 | East of MacArthur Boulevard and north of what is now Bison Avenue, Irvine | McLeod 2018 |
| tapir | †*Tapirus californicus* | | | | | | |
| horse | †*Equus* sp. | | | | | | |
| yesterday's camel | †*Camelops* sp. | | | | | | |
| deer | *Odocoileus* sp. | | | | | | |
| bison | †*Bison sp.* | | | | | | |
| rabbit | *Sylvilagus* sp. | | | | | | |

| Common Name | Taxon | Depth below original surface | Formation mapped at surface | Age/ dates | Locality | Location | Reference |
|---|---|---|---|---|---|---|---|
| mammal | Mammalia | unknown | Quaternary alluvium | Quaternary | LACM 1069 | South side of University Drive east of MacArthur Boulevard | McLeod 2018 |
| even-toed ungulate | Artiodactyla | unknown | Quaternary alluvium | Quaternary | LACM 3978 | Adjacent to the southeastern side of the intersection of University Drive and MacArthur Boulevard | McLeod 2018 |
| turkey | *Meleagris* sp. | | | | | | |
| ground sloth | †Mylodontidae | shallow but unknown | Quaternary old alluvium | Pleistocene | LACM 7713 | Southwest side Highway (Hwy) 133 or Hwy 405 interchange, Irvine | McLeod 2015 |
| pocket gopher | *Thomomys* sp. | 25 feet | Quaternary alluvium | Quaternary | LACM 7867 | Southeast of Highway 133 or Interstate 5 interchange, C & 5th on El Toro base, Irvine | McLeod 2015 |

## CULTURAL RECORDS SEARCH

### CALIFORNIA HISTORIC RESOURCES INFORMATION SYSTEM

Cogstone requested a search of the California Historic Resources Information System (CHRIS) from the South Central Coastal Information Center (SCCIC) on November 19, 2020 that included the entire proposed Project Area as well as a one-half mile radius. SCCIC staff completed the request on December 18, 2020. Results of the record search indicate that nine previous studies have been completed within one-half mile of the proposed Project Area, including one large regional study. No previous studies have been completed within the Project Area (Table 3).

**Table 3. Previous Cultural Resource Studies**

| Report No. (OR-) | Author(s) | Year | Title | Distance to Project Area (miles) |
|---|---|---|---|---|
| 00814 | Romani, John F. | 1982 | Archaeological Survey Report for the Route I-5 Santa Ana Transportation Corridor, Route 405 in Orange County to Route 605 in Los Angeles County Pm 21.30/44.38; 0.00/6.85 | 0 - 0.5 |
| 01898 | Anonymous | 1990 | Finding of Effect Widening of Interstate 5 and Reconstruction of Interchanges Between State Routes 22/57 and 91 in the Cities of Santa Ana, Orange, Anaheim, Fullerton and Buena Park | 0 - 0.5 |
| 02103 | Lapin, Philippe | 2000 | Cultural Resource Assessment for Pacific Bell Mobile Services Facility Cm 445-04, County of Orange | 0 - 0.5 |
| 02362 | Ballard, Hanna | 2001 | Archaeological Survey and Record Search for World Com 905 Discovery Lane Project | 0 - 0.5 |
| 02847 | Bonner, Wayne H. | 1999 | Records Search for Attws Site Number R138.1, 105 S. Manchester Avenue, Anaheim; Anaheim Quadrangle | 0 - 0.5 |
| 03373 | Arrington, Cindy, and Nancy Sikes | 2006 | Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II | 0 - 0.5 |
| 04196 | Wlodarski, Robert | 2012 | LAR138 -- Manchester/Broadway, 1500 West Center Street Anaheim, CA 92802 | 0 - 0.5 |
| 04255 | Billat, Lorna | 2012 | All Aboard Storage 155 S. Adams Street, Anaheim, Orange County | 0 - 0.5 |
| 04304 | Bonner, Diane, and Robert Wlodarski | 2010 | Cultural Resources Record Search and Archaeological Survey Results for the proposed Clear Wireless LLC Site CA-ORC1517A (Wells Fargo Bank) located at 222 Harbor Boulevard, Anaheim, Orange County, California | 0 - 0.5 |

The records search also determined no previously recorded resources are located within the Project boundaries. In addition, 22 historic built environment resources and one historic district are located within one-half mile of the Project Area (Table 4). There are no previously recorded archaeological resources within one-half mile of the Project Area.

**Table 4. Cultural Resource Sites**

| Primary No. (P-30-) | Other Designations | Resource Type | Resource Description | Year(s) Recorded | Distance to Project Area (miles) |
|---|---|---|---|---|---|
| 161772 | OHP Property No. 041179 | Historic building | Knights of Pythias Lodge/Martenet Hardware | 1978 | 0-0.5 |
| 161774 | OHP Property No. 041181 | Historic building | Rose-Marie Apartments | 1978 | 0-0.5 |
| 161778 | OHP Property No. 041186 | Historic building | Marietta Court Apartments | 1978 | 0-0.5 |
| 161779 | OHP Property No. 041187 | Historic building | Fox Theater Block, California Theater Block | 1978 | 0-0.5 |
| 161785 | OHP Property No. 041193 | Historic building | German Methodist Church, Church of the Divine Science of the Soul | 1978 | 0-0.5 |
| 161786 | OHP Property No. 041194; | Historic building | Church of His Holy Presence | 1978 | 0-0.5 |
| 161790 | OHP Property No. 041199 | Historic structure | Charles A. Pearson Park | 1978 | 0-0.5 |
| 161792 | OHP Property No. 041201 | Historic district | The Anaheim Colony Historic District | 1978 | 0-0.5 |
| 161797 | OHP Property No. 041206; CHL 201 | Building | Pioneer House of the Mother Colony | 1935, 1980 | 0-0.5 |
| 176593 | | Historic building | Frasier House | 1987 | 0-0.5 |
| 176594 | | Historic building | 123 S. Cherry | 1987 | 0-0.5 |
| 176595 | | Historic building | 119 S. Cherry | 1987 | 0-0.5 |
| 176596 | | Historic building | 117 S. Cherry | 1987 | 0-0.5 |
| 176597 | | Historic building | 1310 W. Center | 1987 | 0-0.5 |
| 176600 | | Historic building | Doll's Hut | 1987 | 0-0.5 |
| 176601 | | Historic building | 217 S. Walnut | 1987 | 0-0.5 |
| 176602 | | Historic building | Anaheim Foursquare Church | 1987 | 0-0.5 |
| 176603 | | Historic building | Malmstrom House | 1987 | 0-0.5 |

| Primary No. (P-30-) | Other Designations | Resource Type | Resource Description | Year(s) Recorded | Distance to Project Area (miles) |
|---|---|---|---|---|---|
| 176604 | | Historic building | Anaheim Scale Co. | 1987 | 0-0.5 |
| 176605 | | Historic building | Anaheim Winery | 1987 | 0-0.5 |
| 176606 | | Historic building | Klein Construction Co. | 1987 | 0-0.5 |
| 176607 | | Historic building | Lincoln Ave. Service Station | 1987 | 0-0.5 |
| 177472 | | Historic building | George Hanse & John Woelke House | 2013 | 0-0.5 |

**OTHER SOURCES**

In addition to the SCCIC records search, a variety of sources were consulted in January 2021 to obtain information regarding the cultural context of the Project Area (Table 5). Sources included the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), Built Environment Resource Directory (BERD, California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Specific information about the Project Area, obtained from historic-era maps and aerial photographs, is presented in the Project Area History section.

**Table 5. Additional Sources Consulted**

| Source | Results |
|---|---|
| National Register of Historic Places (NRHP; 1979-2002 & supplements) | Negative |
| Historic USGS Topographic Maps | Per the earliest topographic map (Anaheim; 1:62,500), there was no built environment within the Project Area (PA) in 1898. The only depiction of built environment within the PA is found in a 1935 topographic map (Garden Grove; 1:31,680) which shows a small structure at the northeast corner of the PA. |
| Historic US Department of Agriculture Aerial Photographs | As seen in a 1953 USDA historic aerial photograph, the PA is fully developed with two single family residential homes. The majority of the PA is a paved parking lot. A 1963 USDA historic aerial photograph shows that one of the residential homes was removed and a long rectangular commercial building is in the eastern half of the PA. This photograph also shows an irregularly shaped commercial building in the western half of the PA. The built environment within the PA remained relatively unchanged until ca. 2019 when all previously existing buildings and hardscaped areas were demolished. |

| Source | Results |
|---|---|
| California Register of Historical Resources (CRHR; 1992-2014) | Negative |
| Built Environment Resource Directory (BERD\) | Negative |
| California Historical Landmarks (CHL; 1995 & supplements to 2014) | Negative |
| California Points of Historical Interest (CPHI; 1992 to 2014) | Negative |
| Bureau of Land Management (BLM) General Land Office Records | Positive, see Table 6 |

Several land patents were issued to individuals for portions of the Project Area beginning in 1877 (Table 6). Specific information on these individuals, if available, is provided in the Historic Setting section

**Table 6. BLM Land Patents**

| Name(s) | Year | Accession Number | Type | T; R; Section |
|---|---|---|---|---|
| Juan Pacifico Ontiveros | 1877 | CACAAA 08478 | Former Spanish/Mexican land grant | T: 4S; R: 10W, Section 15 |
| Juan Abila<br>Soledad Yorba Abila<br>Cristobal Aguilar<br>Dolores Yorba Aguilar<br>Julian Chavez<br>Dominga Yorba<br>Ramon Yorba | 1874 | CACAAA 084712 | Former Spanish/Mexican land grant | T: 4S; R: 10W, Section 15 |

### NATIVE AMERICAN CONSULTATION

A Sacred Lands File search requested from the Native American Heritage Commission (NAHC) was received on November 30, 2020 and indicated that there are no known sacred sites or heritage resources located within the same USGS Quadrangle, Township, Range, and Section as the Project Area (Appendix C). The NAHC also provided a list of Native American individuals/organizations that may have knowledge of cultural resources and/or sacred lands within or near the Project. The City of Anaheim is conducting consultations to meet the requirements of Assembly Bill 52.

# SURVEY

## METHODS

The survey stage is important in a Project's environmental assessment phase to verify the exact location of each identified cultural resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. All undeveloped ground

surface areas within the ground disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g., cutbanks, ditches, animal burrows, etc.) were visually inspected. Photographs of the Project Area, including ground surface visibility and items of interest, were taken with a digital camera.

## RESULTS

Cogstone archaeologist Sandy Duarte surveyed the Project Area on December 10, 2020. Ground visibility within the Project Area was good, with 60 percent visibility. The vegetation consisted of shrubs, weeds, and plants. No fauna was observed, and the closest water was Carbon Creek, 75 meters to the northwest. The intensive pedestrian survey revealed that the Project Area was relatively flat. Approximately forty percent of the area was covered in asphalt, gravel, and modern trash. The surface seems to be covered in modern fill. Sediments consisted of light gray tan silt mixed with pebbles and small cobbles. No cultural or paleontological resources were observed during the pedestrian survey.

**Figure 6. Project Area overview from southeast corner, view west**

**Figure 7. Project Area overview from southwest corner, view north**

**Figure 8. Project Area overview from northwest corner, view southeast**

**Figure 9. Project Area overview from northeast corner, view southwest**

**Figure 10. Exposed sediments in northwest corner of Project Area**

# IMPACT ANALYSIS

## PALEONTOLOGICAL SENSITIVITY

A multilevel ranking system was developed by professional resource managers within the Bureau of Land Management (BLM) as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system (BLM 2016; Appendix D) has a multi-level scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings.

Fossil resources occur in geologic units (e.g., formations or members). The probability for finding significant fossils in a Project Area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria.

All alluvial deposits may increase or decrease in fossiliferous potential depending on how coarse the sediments are. Sediments that are close to their basement rock source are typically coarse; those farther from the basement rock source are finer. The chance of fossils being preserved greatly increases once the average size of the sediment particles is reduced to 5 mm or less in diameter. Moreover, fossil preservation also greatly increases with rapid burial in flood-plains, rivers, lakes, oceans, etc. Remains left on the ground surface become weathered by the sun or consumed by scavengers and bacterial activity, usually within 20 years or less. So the sands, silts, and clays of flood-plains, rivers, lakes, and oceans are the most likely sediments to contain fossils.

Using the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment.

The Project is mapped entirely as late Pleistocene to Holocene young alluvial fan deposits. A records search revealed that all of the fossils previously recovered within a ten mile radius were more than five feet deep, in deposits mapped as Pleistocene at the surface. Sediments with a Holocene component such as those of the Project Area produced fossils starting at eight feet deep. As such, the project sediments less than eight feet below the modern surface are assigned a low potential for fossils (PFYC 2) due to the lack of fossils in these deposits. Sediments more than eight feet below the modern surface are assigned a moderate potential for fossils (PFYC 3)

due to similar deposits producing fossils at that depth near to the study area. Additionally, since the Project Area was previously developed, there may be various amounts of artificial fill present. Artificial fill has very low potential for scientifically significant paleontological resources (PFYC 1).

### CULTURAL SENSITIVITY

Based on the history of ground disturbance, results of the pedestrian survey and the cultural records search, and the negative sacred lands file search, the Project Area has low sensitivity for prehistoric cultural resources. Analysis of these data sources and historical USDA aerial photographs indicate that the Project Area also has low sensitivity for buried historical archaeological features such as foundations or trash pits.

## CONCLUSIONS AND RECOMMENDATIONS

### PALEONTOLOGICAL RESOURCES

The Project is mapped entirely as late Pleistocene to Holocene young alluvial fan deposits. The record search revealed no fossil localities from within the Project or immediate vicinity, however localities are known from the same sediments as found within the study area near to the Project.

Late Pleistocene to Holocene young alluvial fan deposits less than eight feet below the modern surface are assigned a low potential for fossils (PFYC 2) due to the lack of fossils in these deposits. More than eight feet below the modern surface these sediments are assigned a moderate potential for fossils (PFYC 3) due to similar deposits producing fossils at that depth near to the study area. Additionally, since the Project Area was previously developed, there may be various amounts of artificial fill present. Artificial fill has very low potential for scientifically significant paleontological resources (PFYC 1).

Excavation for the Project is only anticipated to reach four feet below the original surface, therefore potential impacts to scientifically significant paleontological resources is low. Because there is a low potential for impacts scientifically significant paleontological resources, no mitigation measures are currently recommended. No mitigation is required for any excavation into the young alluvial fan deposits and artificial fill. No further paleontological resources work is recommended for the proposed Project.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified paleontologist evaluates it.

## CULTURAL RESOURCES

No further cultural resources work is recommended for the proposed Project.

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified archaeologist evaluates it. In the unlikely event that human remains are encountered during project development, all work must cease near the find immediately.

In accordance with California Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods. Work may not resume in the vicinity of the find until all requirements of the health and safety code have been met.

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# APPENDIX A. QUALIFICATIONS

**EDUCATION**

2009 M.A., Anthropology, Kent State University, Kent, Ohio
2006 B.A., Anthropology, Ohio State University, Columbus, Ohio

**SUMMARY QUALIFICATIONS**

Ms. Valasik is a Registered Professional Archaeologist (RPA) with more than 10 years of experience. She is a skilled professional who is well-versed in the compliance procedures of CEQA and Section 106 of the NHPA and regularly prepares cultural resources assessment reports for a variety of federal, state, and local agencies throughout California. Ms. Valasik has managed a variety of projects at Cogstone in the water, transportation, energy, development, and federal sectors. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. She is accepted as a principal investigator for prehistoric archaeology by the State Office of Historic Preservation's Information Centers.

**SELECTED EXPERIENCE**

**Rockcroft Parcels, City of Malibu, Los Angeles, CA.** This study was conducted to determine the potential impacts to cultural resources during the proposed construction of a single residence. Cogstone assessed two parcels; conducted a record search, Sacred Lands File search, pedestrian survey; and produced a cultural resources assessment. The assessment was in compliance with the requirements of CEQA and included all information required by the City of Malibu Archaeology Guidelines. Sub to Advance Construction. Task Manager. 2020

**Brea 265 Specific Plan, City of Brea, Orange County, CA.** The objective of this study was to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the proposed Specific Plan. This study provided environmental documentation as required by CEQA. A Paleontological Resource Impact Mitigation Program and full-time monitoring was recommended. Due to the high sensitivity for subsurface archaeological resources, a cultural resources mitigation plan and monitoring was also recommended. Sub to PlaceWorks. Project Manager and Principal Investigator for Archaeology. 2018-2019

**1874 Alisos Avenue Project, City of Laguna Beach, Orange County, CA.** The purpose of this study was to determine whether the construction of a building site for a single-family residence had the potential to impact cultural or paleontological resources. Cogstone conducted record searches, a Sacred Lands File Search, background research, a pedestrian survey, and produced both a cultural resources and a paleontological assessment. Principal Investigator for Archaeology. 2019

**La Verne General Plan Update, City of La Verne, Los Angeles County, CA.** Cogstone reviewed and summarized available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of La Verne to support an update of the City's General Plan. Cogstone conducted archaeological and paleontological record searches, extensive historical research at City Hall, a Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC), and a general analysis of impacts of future projects within the city that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to De Novo. Principal Investigator for Archaeology. 2018

**River Street Marketplace, City of San Juan Capistrano, Orange County, CA.** Cogstone conducted record searches, literature studies, and intensive archaeological and paleontological surveys to determine the potential effects to cultural and paleontological resources resulting from the construction of 64,900 square feet of proposed commercial and office space, along with associated improvements. The proposed project consisted of five buildings and was located on a 5.6-acre property occupied by the Ito Nursery which has been in operation since 1970. Sub to PlaceWorks. Principal Investigator for Archaeology. 2018

**ERIC SCOTT**
Paleontology QA/QC

**EDUCATION**

1990 M.A., Anthropology (Biological), University of California, Los Angeles
1985 B.A., Anthropology (Physical), California State University, Northridge

**SUMMARY QUALIFICATIONS**

Mr. Scott is a professional vertebrate paleontologist with over four decades of experience in paleontological mitigation, fieldwork, curation, and research. He is an emeritus paleontology curator at the San Bernardino County Museum, an adjunct instructor at California State University, San Bernardino, and a research associate of the Natural History Museum of Los Angeles County and the La Brea Tar Pits and Museum. He is a 30+ year member of the Society of Vertebrate Paleontology, an international society of professional scientists where he currently serves on the Government Affairs Committee and also holds membership in the Geological Society of America and other professional societies. Eric currently serves as an editor for the Journal of Vertebrate Paleontology. He has published over 40 research articles in professional scientific journals.

**SELECTED PROJECTS**

**Purple Line Extension (Westside Subway), Section 1, Metropolitan Transit Authority (METRO), Los Angeles, CA.** The project involves construction of seven stations from the existing Purple Line at Wilshire/Western Avenue along Wilshire Boulevard to the Veterans Administration Hospital in Westwood for 8.6 miles. Cogstone supervises paleontological monitoring, fossil recovery, and fossil preparation in the lab. Sub to JV West. Task Manager. 2017-ongoing

**Deep Soil Mixing Pilot Project, Community of Pacific Palisades, Los Angeles County, CA.** As part of an on-call contract with the Los Angeles Bureau of Engineering (LABOE), Cogstone provided cultural and paleontological resources monitoring as well as managed Native American monitoring during ground-disturbing activities. The City of Los Angeles was the lead agency under the California Environmental Quality Act (CEQA). Monitoring for the Project was conducted in compliance with the Contingency Plan conditions for the Coastal Development Permit (CDP) from the California Coastal Commission (CCC). No cultural or paleontological resources were identified. No further work was necessary. Sub to ICF. Principal Investigator for Paleontology. 2020

**Gates Canyon Stormwater Capture Project, unincorporated area of Calabasas, Los Angeles County, CA.** Cogstone conducted cultural and paleontological resources monitoring for 31 days during proposed improvements to Gates Canyon Park that will allow the capture and storage of stormwater runoff from an adjacent 105-acre residential area. Monitoring complied with program mitigation measures and as defined by the County of Los Angeles, Department of Public Works (LACDPW). LACDPW was the project proponent and acted as the lead agency under CEQA. Sub to Aspen Environmental. Task Manager. 2019

**Irvine General Plan Update - Phase II, City of Irvine, Orange County, CA.** Cogstone conducted a study to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Irvine to support the Phase II update of the City's General Plan. A general analysis of impacts of future projects within the City of Irvine that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to PlaceWorks. Paleontology QA/QC. 2018-2019

**Camino de la Cumbre Project, City of Sherman Oaks, Los Angeles County, CA.** Cogstone conducted a paleontological resources assessment to determine the potential for impacting fossil resources during excavations of the Camino de la Cumbre residential development project. Services included a records search, background research, pedestrian survey, and report preparation. Sub to Ridge, Inc. Task Manager. 2018

**Ava Hollywood Mixed-Use High-Rise Project, City of Los Angeles, Los Angeles County, CA.** In compliance with the mitigation measuresas defined by the Los Angeles Department of City Planning, Cogstone provided paleontological monitoring during the excavation and grading for a seven-story building with two levels of underground parking on a full-time basis. Sub to Avalon Bay Communities, Inc. Task Manager. 2018

**JOHN GUST**
Task Manager and Principal Investigator for Archaeology

**EDUCATION**

2016 Ph.D., Department of Anthropology, University of California, Riverside (UCR)
2011 M.A., Department of Anthropology, UCR
2007 M.A., Applied Geography, University of Colorado, Colorado Springs (UCCS)
2002 B.A., Department of Anthropology, minor in Geography/Environmental Studies, UCCS

**SUMMARY QUALIFICATIONS**

Dr. Gust is a Registered Professional Archaeologist (RPA) with over 9 years of experience in field archaeology. He meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and his field expertise includes pedestrian surveys, excavation monitoring, resource recording, and historic artifact analysis. Dr. Gust has managed cultural assessments for over 20 cellular tower projects and multiple assessments for construction of commercial and residential structures. He has also managed cultural resources monitoring projects for both public and private sector clients. Dr. Gust is a member of the Society for California Archaeology, Society for American Archaeology, and the American Anthropological Association.

**SELECTED EXPERIENCE**

**Dogwood Road Project, City of El Centro, Imperial County, CA.** Cogstone conducted a cultural resources assessment to determine the potential effects to cultural resources resulting from the construction of United States Department of Agriculture (USDA) Part 70-B RD Funding assisted housing on a 2.2-acre parcel. Cogstone conducted a record search, pedestrian survey, and determined that no further cultural resources work was necessary. The assessment provided environmental documentation as required by Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA). The City of El Centro acted as the lead agency. Sub to Partner Science & Engineering, Inc. Principal Investigator for Archaeology. 2019-2020

**Euclid Fueling Station Project, City of Santa Ana, Orange County, CA.** Cogstone conducted a cultural resources assessment to determine the potential impacts to cultural and paleontological resources during the construction of a convenience store, associated parking, gas station, and underground fuel storage tank. The assessment was conducted to meet the requirements of CEQA with the City of Santa Ana acting as lead agency. Cogstone conducted record searches, a Sacred Lands File Search, an intensive pedestrian survey, gave mitigation recommendations, and produced a report. Sub to Sagecrest Planning + Environmental. Principal Investigator for Archaeology. 2019

**Jackson St HUD 58 EA Project, City of Riverside, Riverside County, CA.** Cogstone conducted a cultural resources assessment to determine the potential effects to cultural resources resulting from the construction of United States Department of Housing and Urban Development (HUD) assisted housing on a 3.58-acre parcel. This assessment provided environmental documentation as required by Section 106 of the National Historic Preservation Act (NHPA). The City of Riverside was the lead agency. Cogstone conducted a records search, a Sacred Lands File Search, a pedestrian survey, and produced a report. Sub to Partner Science & Engineering. Principal Investigator for Archaeology and Report Author. 2019

**Heathercliff Malibu Development Project, City of Malibu, Los Angeles County, CA.** Cogstone conducted a study to determine the potential impacts to cultural resources resulting from the construction of a single residence bounded by Heathercliff Road to the southeast and the Pacific Coast Highway to the northwest. This study included all information required by the City of Malibu Archaeology Guidelines. Cogstone conducted a record search, Sacred Lands File Search, pedestrian survey, and produced an assessment. Sub to ACS Construction. Principal Investigator for Archaeology and Report Author. 2019

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**KIM SCOTT**
Principal Investigator for Paleontology

**EDUCATION**

2013 M. S., Biology with Paleontology Emphasis, California State University San Bernardino
2000 B. S., Geology, University of California, Los Angeles

**SUMMARY QUALIFICATIONS**

Ms. Scott has more than 20 years of experience in California as a paleontologist and sedimentary geologist and 17 years with Cogstone. She has written over 100 paleontological assessments, paleontological mitigation plans, and monitoring compliance reports to all agency requirements. She has experience with street, roadway, interchange, bridge, and grade separation projects. She has managed multiple projects and prepared technical reports with Caltrans/FHWA/FTA/FRA as the lead agency and is knowledgeable of the processes and procedures required to obtain NEPA, NHPA Section 106 and CEQA environmental approvals. Ms. Scott meets the qualifications outlined in Attachment 1 to Caltrans Section 106 Programmatic Agreement with the FHWA; and Chapter 1, Volume 8, on paleontology of the Caltrans Standard Environmental Reference (SER). Ms. Scott serves as company safety officer and is the author of the company safety and paleontology manuals. She is a Member of the Society of Vertebrate Paleontology and the Pacific Section of the Society of Economic Paleontologists and Mineralogists.

**SELECTED PROJECTS**

**City of Irvine General Plan update, Orange County, CA.** The project assessed the City of Irvine for paleontologically sensitive sediments as well as previously recorded fossil localities. Prepared a Cultural and Paleontological Assessment. Sub to PlaceWorks. Principal Paleontologist. 2019

**City of Lake Forest General Plan update, Orange County, CA.** The project assessed the City of Lake Forest for paleontologically sensitive sediments as well as previously recorded fossil localities. Prepared a Cultural and Paleontological Assessment. Sub to De Novo Planning Group. Principal Paleontologist. 2019

**I-405 from SR-73 to I-605 Improvements Project, Caltrans District 12, Orange and Los Angeles counties, CA (EA 0H100).** The project is to improve 16 miles of Interstate 405 (I-405) by adding General Purpose lanes (GP) and a tolled Express Lane in each direction as well as other improvements to ramps and bridges. Prepared a Paleontological Mitigation and Monitoring Plan (PMMP). Currently supervising paleontological monitoring. Sub to OC405 Partners Joint Venture. Principal Paleontologist. 2017 to present

**Purple Line Extension (Westside Subway), Los Angeles County Metropolitan Transportation Authority, Los Angeles County, CA.** The project involves extension of the subway in Westwood for 9 miles. Currently supervising paleontological monitoring and fossil recovery of excavations and fossil preparation in the lab. Ms. Scott is also serving as the paleontological consultant for the construction management team's design-build of three stations. Sub to Sub to WEST (Stantec/Jacobs JV). Paleontology Director and co-author. 2014-present

**State Route 57 Northbound Widening Project, Caltrans District 12/ Orange County Transportation Authority (OCTA), City of Anaheim, Orange County, CA.** Caltrans is widening State Route 57 between Orangewood and Katella Avenues. Paleontological Identification Report (PM 11.5/12.5; EA 0M9700). Under contract to WSP. Principal Paleontologist and report author. 2017.

**Interstate 605 and Katella Interchange Improvement Project, Caltrans District 12/ Orange County Transportation Authority (OCTA), City of Anaheim, Orange County, CA.** Caltrans is updating the southbound onramp to the interchange at Katella Avenues. Combined Paleontological Identification and Evaluation Report (PM 1.1/1.6; EA 0K8700). Under contract to Michael Baker International. Principal Paleontologist and report author. 2017.

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**KANAK SOMANI**
Archaeologist and report co-author

**EDUCATION**

2019 M.A., Archaeological Studies, Yale University, New Haven, Connecticut
2016 B.A. (dual), History & Anthropology, San Jose State University

**SUMMARY QUALIFICATIONS**

Ms. Somani is a Registered Professional Archaeologist and cross-trained paleontologist with three years of experience in archaeological and paleontological monitoring, surveying, and excavation. Additionally, Ms. Somani is skilled at excavating, handling, and analyzing material culture as well as skeletal remains. She is proficient in laboratory techniques such as non-metric and metric analysis of identifying age at death and sex, as well as biomechanics, and pathological analysis of skeletal remains, and analytical techniques. From 2015 to 2016, she served as an intern at the Rosicrucian Egyptian Museum where she lead daily tours, researched and took care of artifacts displayed, and catalogued artifacts in storage as well as those in display. Ms. Somani also recently organized a colloquium at Yale University covering the Archaeology of Sudan & Nubia.

**SELECTED PROJECTS**

**Santa Clara University Athletic Excellence Center Project, City of Santa Clara, Santa Clara County, CA.** Cogstone conducted cultural resources monitoring during ground-disturbing activities for the construction of the new athletic center. Previous studies and historic maps indicated the area has a moderate potential for historic resources, particularly from University Village, the site that housed veterans after World War II. Archaeological Monitor. 2019

**Japantown Square Mixed Use Development, City of San Jose, Santa Clara County, CA.** The project area was comprised of an entire city block located at 696 North 6th Street in the Japantown neighborhood (historically the Heinlenville Chinatown neighborhood). The location has been in private ownership since before California joined the United States and is therefore not part of the Township and Range system, which was a survey of federal lands. Cogstone conducted archaeological and paleontological monitoring for the 5.25-acre project area, which includes construction of three towers that will allow for residential units with retail, amenity spaces, leasing, and subgrade parking spaces. Archaeological and Paleontological Monitor. 2019

**Pacific Gas and Electric (PG&E) Environmental Clearance On-Call Program, Statewide, CA.** Cogstone was sub-contracted to provide on-call cultural resource monitoring services for various PG&E projects throughout California. Cogstone conducted archaeological monitoring, GIS mapping, and prepared technical reports for multiple sites. Sub to Cardno. Cultural Resources Monitor at three sites. 2019-ongoing

**Southern California Edison (SCE) Environmental Clearance On-Call Program, Statewide, CA.** Cogstone was sub-contracted to provide on-call cultural resource monitoring services for various SCE projects throughout California. Cogstone conducted archaeological monitoring, GIS mapping, and prepared technical reports for nearly 70 different sites. Sub to Cardno. Report Author. 2019-ongoing

**Rincon Site Evaluation Survey, Rincon Indian Reservation, Valley Center, CA.** Cogstone was contracted to complete archaeological survey and reevaluation and testing of known cultural resources by the Rincon Band of Luiseño Indians. Cogstone conducted survey, mapping, shovel-testing, and prepared updated site records for multiple sites. Site Record Author 2019.

**Cross-cultural comparison of two mummified sub-adults from Peru and Egypt, Yale University.** Analyzed mummies using non-invasive technology such as computed tomographic scans and digital radiography, to detect soft-tissue and possible pathology, and trauma. Cross-referenced skeletal indicators of pathology with nutritional deficiencies using information regarding diet gained from stable isotope analysis. Conducted radiocarbon dating on the skeletons, as well as the textile wrappings. Studied mortuary treatment of mummies using textile, other materials such as beads and artifacts, in order to gain a deeper understanding of mortuary rituals and customs followed. Archaeologist. 2018-2019

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**KELLY VREELAND**
Paleontologist and report co-author

**EDUCATION**

2010 B.S., Geology with paleontology emphasis, California State University, Fullerton
2014 M.S., Geology with a paleontology emphasis, California State University, Fullerton

**SUMMARY QUALIFICATIONS**

Ms. Vreeland is a Paleontologist with over 10 years of experience in paleontology and geology. Her field and laboratory experience includes fieldwork, fossil preparation and curation, and research projects throughout California and Nevada, as well as conducting fieldwork and surficial geologic mapping in Montana.

**SELECTED PROJECTS**

**South Campus Student Housing Project, City of Sacramento, Sacramento County, CA.** Work on this project included preparation of the Paleontological Resources Monitoring and Mitigation Plan as well as developing and conducting the Workers Environmental Awareness Program (WEAP) training for the South Campus Student Housing Project in Sacramento. This involved the construction and operation of student housing facilities for upper-division university students adjacent to the California State University, Sacramento campus. 2020

**Alameda Corridor East Grade Separation Projects, various cities, Los Angeles County, CA.** Tasks included on-call paleontological resource monitoring for various railway grade separation projects and preparation of Paleontological Mitigation Plans. 2019-2020

**American Kings Solar Project, Kings County, CA.** This project involved a Paleontological Analysis for the proposed construction, operation, maintenance, and decommissioning of an up to 128-megawatt alternating current photovoltaic solar power-generating facility. 2019

**Camino Del Norte Improvements Project, City of Lake Elsinore, Riverside County, CA.** The project consisted of extending the alignment of Camino del Norte to join with the intersection of Franklin Street/Grunder Drive and Canyon View Drive and Canyon Estates Drive in Lake Elsinore. Work conducted included preparing the Paleontological Resources Impact Mitigation Program, paleontological resource monitoring, and preparation of the final monitoring report for the project. 2019

**High Desert Gateway West Project, City of Hesperia, San Bernardino County, CA.** The project includes construction of nine retail buildings totaling 126,763 square feet and 939 vehicle parking spaces, including 11 Americans with Disabilities Act-accessible stalls. Work conducted included preparation of the Paleontological Resources Technical Letter Report for the project, paleontological resource monitoring, and a final paleontological monitoring report. 2019

**I-15/Railroad Canyon Road Project, Cities of Wildomar and Lake Elsinore, Riverside County, CA.** The project involved reconstructing the northbound diagonal ramps to a hook configuration at Grape Street, maintaining a diamond configuration for the southbound ramps at Railroad Canyon Road, widening the southbound entrance ramp to two lanes at Railroad Canyon Road merging to a single lane as it connects with the planned auxiliary lane to southbound I-15, and constructing an acceleration lane at the entrance ramps and a deceleration lane at the exit ramps. Responsibilities included preparation of the Paleontological Mitigation Plan for the project, paleontological resources monitoring, and preparation of a final monitoring report. 2019

**La Pata Avenue Road Extension Project, City of San Juan Capistrano, Orange County, CA.** This project consisted of a massive undertaking to extend La Pata Avenue and Camino del Rio in San Juan Capistrano, and involved the removal of 14.8 million cubic yards of earth material. Responsibilities included paleontological resource monitoring; fossil salvage, preparation, and identification; and preparation of a final monitoring report. 2015-2016

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**LOGAN FREEBERG**
GIS Supervisor

**EDUCATION**

2018 Geographic Information Systems (GIS) Certificate, California State University, Fullerton
2003 B.A., Anthropology, University of California, Santa Barbara

**SUMMARY QUALIFICATIONS**

Mr. Freeberg has over 15 years of professional experience in cultural resource management, and has extensive experience in field surveying, data recovery, monitoring, and excavation of archaeological and paleontological resources associated with land development projects in the private and public sectors. He has conducted all phases of archaeological work, including fieldwork, laboratory analysis, research, and reporting. Mr. Freeberg also has a strong grounding in conventional field and laboratory methods and is skilled in the use of ArcGIS.

**SELECTED PROJECTS**

**Laguna Creek Trail and Bruceville Road Project, Caltrans District 3, City of Elk Grove, Sacramento County, CA.** The City of Elk Grove, in cooperation with Caltrans, proposed multiple trail extensions and gap closures in effort to provide connecting links that would ultimately provide trail users with access to a vast system of trails, with connections to parks, schools, community centers, commercial retail and office areas, and transit facilities. Cogstone conducted pedestrian surveys, records search, and prepared an Archaeological Survey Report (ASR) and a Historic Property Survey Report (HPSR). Sub to Helix Environmental. GIS Technician. 2019

**Roosevelt Park Regional Stormwater Capture Project, unincorporated area of Florence-Firestone, Los Angeles County, CA.** Conducted cultural and paleontological monitoring during all ground disturbing activities in native sediments. This project includes the construction of three diversion structures and pipelines. Sub to Environmental Advisors. GIS Technician. 2019

**Goddard School Project, City of Chino Hills, San Bernardino County, CA.** Cogstone produced a paleontological resources mitigation and monitoring program for a proposed 59,129 square foot development that would would consist of a one-story, 10,587-square foot pre-school/daycare with nine classrooms, fenced play yards and play structures, and a parking lot with 40 stalls. Cogstone put forward mitigation measures that included monitoring for all ground-breaking activities, paleontological resource awareness training for construction personnel, and the completion of a final mitigation report. GIS Technician. 2019

**Euclid Fueling Station Project, City of Santa Ana, Orange County, CA.** This study was conducted to determine the potential impacts to archaeological and paleontological resources during construction activities for a proposed 7-Eleven gas station and convenience store. The proposed project entailed the construction of the convenience store, associated parking, gas station, and underground fuel storage tank. Planned vertical impacts included approximately three to four feet of fill removal over at least some of the site, a trench approximately eight feet deep for utilities, and approximately 12 feet for the new fuel storage tanks. Sub to Sagecrest Environmental. GIS Technician. 2019

**Fresno West Area Specific Plan, City of Fresno, Fresno County, CA.** The objective of this study was to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Fresno's West Area Specific Plan. The purpose of the West Area Specific Plan is to implement and refine the City's vision for the West Area in order to guide future growth and development in the most northwest area of the City. Cogstone's services included record searches, mapping, and extensive background research. Sub to De Novo Planning. GIS Technician. 2019

**Laguna Beach Fire Department Fire Breaks, City of Laguna Beach, Orange County, CA.** This project included the areas adjacent to homes and businesses requiring vegetation removal to create new fire breaks. Conducted a pedestrian survey of the natural landscape and slopes located along the eastern and western sides of the SR-133 highway, south of El Toro Road to Pacific Coast Highway. Archaeological Monitor. 2019

# APPENDIX B. PALEONTOLOGICAL RECORD SEARCH

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

December 1, 2020

Cogstone

Attn: Logan Freeberg

re: Paleontological resources for the Lincoln Colony Apartments Project (Cogstone #5164)

Dear Logan:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Lincoln Colony Apartments project area as outlined on the portion of the Anaheim USGS topographic quadrangle map that you sent to me via e-mail on November 19, 2020. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

| Locality Number | Location | Formation | Taxa | Depth |
|---|---|---|---|---|
| LACM VP 1652 | Rio Vista Avenue south of Lincoln Avenue | Alluvium (Pleistocene) | Sheep (*Ovis*) | Unknown (excavations for housing project) |
| LACM IP 4560 | east of Hwy. 39; north from Rosecrans Ave.; near L.A. - Orange Co. line | Unknown (Pliocene) | *Pecten caurinus* Gould | surface in stream bed |
| LACM VP 3524 | North of Malvern Avenue & approximately 1/2 mile west of Gilbert Street; Fullerton | Terrace deposits (silty sandstone) | Plants; Invertebrates; Fish (Chondrichthyes) | unknown |
| LACM VP 4185, 6689* | Near intersection of Coyote Creek with La Mirada Blvd bridge | Unknown formation (Pleistocene; sandy silt shot through with caliche) | Unspecified mammals | Surface, in bed of Coyote Creek |

*VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface*

**LACM VP 6689 was published by Miller; 1971; LACM Bulletin 10:47*

This records search covers only the records of the Natural History Museum of Los Angeles County ("NHMLA"). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

# APPENDIX C. NATIVE AMERICAN CONSULTATION

December 9, 2020

Andy Uk
City of Anaheim

Via Email to: auk@anaheim.net

**Re: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Lincoln Colony Apartment Project, Orange County**

Dear Mr. Uk:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

*Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.*

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:



**NAHC HEADQUARTERS**
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
*Cultural Resources Analyst*

Attachment

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
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If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
*Cultural Resources Analyst*

Attachment

# APPENDIX D. PALEONTOLOGICAL SENSITIVITY RANKING CRITERIA

| PFYC Description Summary (BLM 2016) | PFYC Rank |
|---|---|
| **Very Low**. The occurrence of significant fossils is non-existent or extremely rare. Includes igneous (excluding air-fall and reworked volcanic ash units), metamorphic, or Precambrian rocks. Assessment or mitigation of paleontological resources is usually unnecessary except in very rare or isolated circumstances that result in the unanticipated presence of fossils. | 1 |
| **Low**. Sedimentary geologic units that are unlikely to contain vertebrate or scientifically significant nonvertebrate fossils. Includes rock units less than 10,000 years old and sediments with significant physical and chemical changes (e.g., diagenetic alteration) which decrease the potential for fossil preservation. Assessment or mitigation of paleontological resources is not likely to be necessary. | 2 |
| **Moderate.** Units are known to contain vertebrate or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered and/or of low abundance. Common invertebrate or plant fossils may be found and opportunities may exist for casual collecting. Paleontological mitigation strategies will be based on the nature of the proposed activity.<br>Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources. | 3 |
| **High**. Geologic units containing a high occurrence of significant fossils. Fossils must be abundant per locality. Vertebrates or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability.<br>Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. Detailed field assessment is normally required and on-site monitoring or spot-checking may be necessary during land disturbing activities. In some cases avoidance of known paleontological resources may be necessary. | 4 |
| **Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate or scientifically significant invertebrate or plant fossils. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.<br>Paleontological mitigation may be necessary before or during surface disturbing activities. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered. | 5 |
| **Unknown.** An assignment of "Unknown" may indicate the unit or area is poorly studied and field studies are needed to verify the presence or absence of paleontological resources. The unit may exhibit features or preservational conditions that suggest significant fossils could be present, but little information about the actual unit or area is known.<br>Literature searches or consultation with professional colleagues may allow an unknown unit to be provisionally assigned to another Class, but the geological unit should be formally assigned to a Class after adequate survey and research is performed to make an informed determination. | U |
| **Water or Ice.** Typically used only for areas which have been covered thus preventing an examination of the underlying geology. | W, I |