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CULTURAL AND PALEONTOLOGICAL ASSESSMENT: ALTA VISTA SPECIFIC PLAN, CITY OF PLACENTIA, ORANGE COUNTY, CALIFORNIA

Prepared on Behalf of:

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Type of Study: Cultural and paleontological resources assessment

Cultural Resources within Area of Potential Impact: None

Paleontological Formations: Quaternary Very Old Alluvial Fan Deposits (Early Pleistocene)

USGS Quadrangles: Yorba Linda and Orange

Survey Area: 8.45 acres

APNs: 41-324-01 and 341-324-02

Date of Survey: September 19, 2017

Key Words: Paleontology, Archaeology, CEQA, Phase I Survey, Negative Survey

MANAGEMENT SUMMARY

SC Development proposes to construct a new mixed-use retail and residential development in the City of Placentia, Orange County, California. The Project involves construction of 10,500 square feet of retail space, 54 residential units, parking areas, new streets, and underground utility infrastructure. All Project components will be constructed within a 8.45-acre parcel located at the intersection of Rose Drive and Alta Vista Street (APNs 341-324-01 and 341-324-02). Material Culture Consulting, Inc. (Material Culture) was retained by E|P|D Solutions, Inc. to conduct a Phase I cultural and paleontological resource investigation of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA) and City of Placentia General Plan, and included cultural and paleontological records searches, a search of the Sacred Lands File by the Native American Heritage Commission (NAHC), outreach efforts with nine Native American tribal representatives, background research, and a pedestrian field survey, all of which resulted in negative findings. The paleontological sediment present within the Project Area is identified as older Quaternary alluvium, dating from the early- to mid-Pleistocene period, which is considered highly sensitive for containing significant fossil remains.

The pedestrian survey of the Project Area was conducted on September 19, 2017 by Judy Bernal, archaeologist and cross-trained paleontologist. During the course of fieldwork, survey conditions were very good and ground visibility was fair to good (70-80%) throughout most of the 8.45-acre Project Area, and excellent (100%) in areas which were recently graded. Examination of historic maps and aerials indicate that the Project Area has been vacant since the early 1900s (the earliest maps available). No cultural or paleontological resources were identified during the survey; however, the survey did confirm the presence of paleontologically sensitive sediment on the surface within the Project Area.

We do not recommend cultural monitoring during ground disturbance associated with the Project. However, considering the observed presence of paleontologically sediment throughout the Project Area, we recommend that a paleontological resource mitigation program be put in place to monitor substantial excavations extending five feet beneath surface, in order to salvage and curate any recovered fossils associated with the current study area. Due to the nature of the work proposed, we only recommend paleontological monitoring during mass grading/site prep and underground utility installation. We do not recommend paleontological monitoring during finish grading, drilling, grading in previously disturbed soils, or other similar activities. These construction activities compromise the fine details used to identify species of fossils, and obscure valuable contextual information - both of which are required for assigning significance to fossil finds.

A copy of this report will be permanently filed with the SCCIC at California State University, Fullerton. All notes, photographs, correspondence and other materials related to this Project are located at Material Culture Consulting, Inc., located in Claremont, California.

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INTRODUCTION

SC Development proposes to construct a new mixed-use retail and residential development in the City of Placentia, Orange County, California. Material Culture Consulting, Inc. (Material Culture) was retained by E|P|D Solutions, Inc. to conduct a Phase I cultural and paleontological investigation of the Project in accordance with the California Environmental Quality Act (CEQA). The City of Placentia is the Lead CEQA agency. This assessment was conducted pursuant to all applicable State regulations regarding cultural and paleontological resources, as well as paleontological guidelines established by the Society of Vertebrate Paleontology (SVP 2010). According to these regulations and guidelines, if development of a Project impacts significant cultural and/or paleontological resources, a plan must be developed to mitigate those impacts. This assessment documents the potential for encountering cultural and paleontological resources during development of this Project and provides recommendations on how to mitigate impacts to those resources.

PROJECT LOCATION AND DESCRIPTION

The proposed Project Area is located within an 8.45-acre parcel located at the intersection of Rose Drive and Alta Vista Street (APNs 341-324-01 and 341-324-02), in the City of Placentia, Orange County, California (Figures 1 and 2). Specifically, the proposed Project is located on the Orange and Yorba Linda USGS 7.5 minute quadrangles, Section 29 of Township 3 South, Range 9 West (Figure 2).

The Project involves construction of 10,500 square feet of retail space, 54 residential units, parking areas, new streets, and underground utility infrastructure. The Project Area will be graded to provide a level surface for the development. Conduits for underground utilities will be buried in trenches that run beneath the project to a depth of 8 to 12 feet. Actual depth of conduit would be dependent on conduit size and existence of underground utilities.

PROJECT PERSONNEL

Tria Belcourt, M.A., RPA, President of Material Culture Consulting Inc., served as the Project Manager and Principal Archaeologist for the study. Ms. Belcourt is an Orange County Qualified Archaeologist, and coordinated the records searches, created the maps for the report, and performed editorial review of this report. Belcourt is a Registered Professional Archaeologist (RPA) with a M.A. in Anthropology from the University of Florida, a B.A. in Anthropology from the University of California at Los Angeles, and is a cross-trained paleontologist with over twelve years of experience in California archaeology and seven years of experience in California paleontology (See Appendix A).

Jennifer Kelly, M.S., a Geologist, Qualified Professional Paleontologist, and Orange County Qualified Paleontologist, served as the Principal Paleontologist for the study. Ms. Kelly conducted the paleontological resource literature and map reviews, oversaw the field study, and prepared this report. Ms. Kelly has a M.Sc. in Geology from California State University, Long Beach. Ms. Kelly has over ten years of experience in environmental and paleontological compliance in California (See Appendix A).

Judy Bernal, Material Culture archaeologist and cross-trained paleontologist, conducted the pedestrian survey on September 19, 2017. Ms. Bernal has a B.A. in Anthropology from California State University, Long Beach and a minor in Geological Science, as well as two years of professional experience working in Southern California archaeology and paleontology (See Appendix A).



Figure 1. Alta Vista Specific Plan Project Vicinity

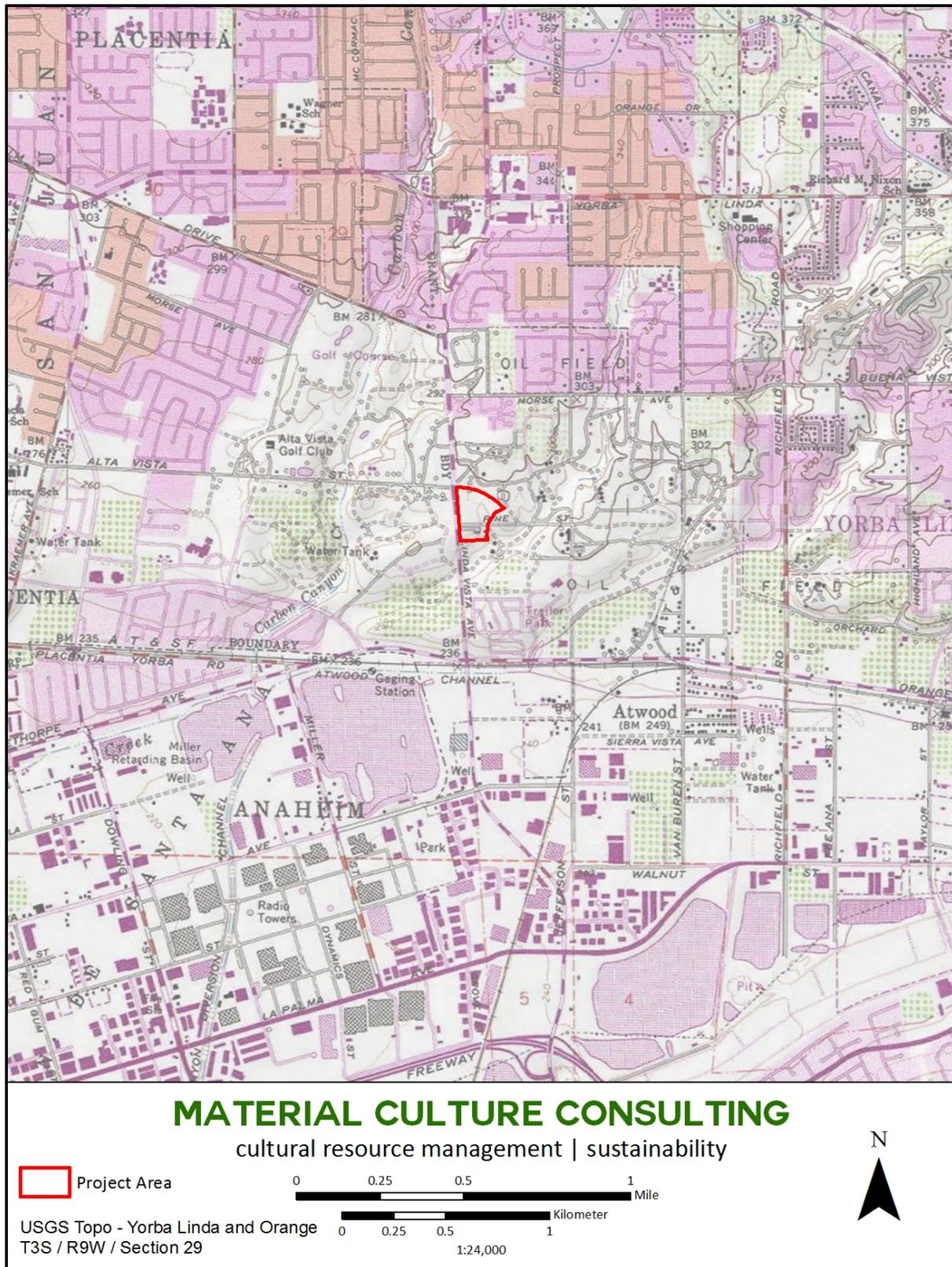


Figure 2. Alta Vista Specific Plan Project Location (depicted on Orange and Yorba Linda USGS 7.5 Minute Quadrangles)



Figure 3. Alta Vista Specific Plan Project Area (depicted on aerial photograph)

REGULATORY ENVIRONMENT

This Project is subject to state regulations, including CEQA and the California Public Resources Code, along with the General Plan of City of Placentia. These state and municipal regulations require the identification of archaeological and paleontological resources during the planning stage of new Projects; include application review for Projects that would potentially involve land disturbance; provide a Project-level standard condition of approval that addresses unanticipated archaeological and/or paleontological discoveries; and provide requirements to develop specific mitigation measures if resources are encountered during any development activity.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

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. CEQA includes historic and archaeological resources as integral features of the environment. If paleontological resources are identified as being within a proposed Project Area, the sponsoring agency must take those resources into consideration when evaluating Project impacts. The level of consideration may vary with the importance of the resource.

CEQA requires a lead agency to determine whether a Project may have a significant effect on historical resources. A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5(a)(2)), or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as the basic guidelines for the cultural resources study. PRC Section 5024.1 directs evaluation of historical resources to determine their eligibility for listing on the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change.

The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP, enumerated above, and require similar protection to what NHPA Section 106 mandates for historic properties. According to Public Resources Code (PRC) Section 5024.1(c)(1-4), a resource is considered historically significant if it meets at least one of the following criteria:

1. 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. Associated with the lives of persons important to local, California or national history;
3. 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. 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. Note that California Historical Landmarks with numbers 770 or higher are automatically included in the CRHR.

Under CEQA, if an archeological site is not a significant “historical resource” but meets the definition of a “unique archeological resource” as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined in PRC Section 21083.2(g) as follows:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a “unique archaeological resource” under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, “A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects” [PRC Section 21083.2(h)].

Impacts to historical resources that alter the characteristics that qualify the historical resource for listing on the CRHR are considered to be a significant effect (under CEQA). The impacts to a historical resource are considered significant, if the Project activities physically destroy or damage all or part of a resource, change the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance, or introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)).

CALIFORNIA HISTORICAL LANDMARKS AND POINTS OF HISTORICAL INTEREST

Historical landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. In order to be considered a California Historical Landmark, the landmark must meet at least one of the following criteria:

- 1) 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) Associated with the lives of persons important to local, California, or national history;
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values;
- 4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If a site is primarily of local or countywide interest, it may meet the criteria for the California Point of Historical Interest Program. Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- 1) The first, last, only, or most significant of its type in the local geographic region (city or county);
- 2) Associated with an individual or group having a profound influence on the history of the local area;
- 3) A prototype of, or an outstanding example of, a period, style, architectural movement or construction; or
- 4) One of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point of Interest. If a Point of Interest is subsequently granted status as a Landmark, the Point of Interest designation will be retired.

PALEONTOLOGY

The State of California Public Resources Code (Chapter 1.7), Sections 5097.5 and 30244, includes additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological “sites” or “features” from state lands as a misdemeanor, and prohibit the removal of any paleontological “site” or “feature” from State land without permission of the jurisdictional agency. These protections apply only to State of California land, and thus apply only to portions of the Project, if any, which occur on State land.

As defined by Murphey and Daitch (2007): “Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Paleontological resources include not only fossils themselves, but also the associated rocks or organic matter and the physical characteristics of the fossils’ associated sedimentary matrix.

The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered non-renewable resources because the organisms they represent no longer exist. Thus, once destroyed, a fossil can never be replaced. Fossils are important scientific and educational resources because they are used to:

- 1) Study the phylogenetic relationships amongst extinct organisms, as well as their relationships to modern groups;
- 2) Elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including the biases inherent in the fossil record;
- 3) Reconstruct ancient environments, climate change, and paleoecological relationships;
- 4) Provide a measure of relative geologic dating that forms the basis for biochronology and biostratigraphy, and which is an independent and corroborating line of evidence for isotopic dating;
- 5) Study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time;
- 6) Study patterns and processes of evolution, extinction, and speciation; and
- 7) Identify past and potential future human-caused effects to global environments and climates.”

Fossil resources vary widely in their relative abundance and distribution and not all are regarded as significant. Vertebrate fossils, whether preserved remains or track ways, are classed as significant by most state and federal agencies and professional groups (and are specifically protected under the California Public Resources Code). In some cases, fossils of plants or invertebrate animals are also considered significant and can provide important information about ancient local environments. According to BLM IM 2009-011 a “Significant Paleontological Resource” is defined as: Any paleontological resource that is considered to be of scientific interest, including most vertebrate fossil remains and traces, and certain rare or unusual invertebrate and plant fossils.

Assessment of significance is also subject to the California Environmental Quality Act (CEQA) criterion that the resource constitutes a “unique paleontological resource or site.” A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience or context, lack physical integrity due to decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks,

vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities (BLM, 2008).

The full significance of fossil specimens or fossil assemblages cannot be accurately predicted before they are collected, and in many cases, before they are prepared in the laboratory and compared with previously collected material. Pre-construction assessment of significance associated with an area or formation must be made based on previous finds, characteristics of the sediments, and other methods that can be used to determine paleoenvironmental conditions. A separate issue is the potential of a given geographic area or geologic unit to preserve fossils. Information that can contribute to assessment of this potential includes:

- 1) The existence of known fossil localities or documented absence of fossils nearby and in the same geologic unit (e.g. "Formation" or one of its subunits);
- 2) Observation of fossils within the Project vicinity;
- 3) The nature of sedimentary deposits in the area of interest, compared with those of similar deposits known elsewhere (size of particles, clasts and sedimentary structures conducive or non-conductive to fossil inclusion) that may favor or disfavor inclusion of fossils; and
- 4) Sedimentology details, and known geologic history, of the sedimentary unit of interest in terms of the environments in which the sediments were deposited, and assessment of the favorability of those environments for the probable preservation of fossils.

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).

CITY OF PLACENTIA GENERAL PLAN

The City of Placentia General Plan, Resource Management Element, lists one goal and one policy regarding cultural resources:

Goal RM-11: Preserve Placentia's historic, archaeologic and paleontologic resources.

Policy RM-11.3: Prior to development in previously undeveloped areas, require strict adherence to the CEQA guidelines for environmental documentation and mitigation measures where development will affect archaeological or paleontological resources.

The goal and policy require preservation of resources and adherence to CEQA. Therefore, no additional requirements are made specific to City of Placentia.

BACKGROUND

ENVIRONMENTAL SETTING

Placentia enjoys a Mediterranean-like climate, which is characterized by warm, dry summers and cool, moist winters, with rainfall predominantly falling between November and May. Climatic conditions in this region varied substantially during prehistoric times. Paleoclimatic data based on pollen from coastal sites indicate that there was a dramatic increase in both annual temperature and precipitation between 8000 and 7000 B.P., which would have led to a rich marsh habitat locally. Subsequently, by 7000 B.P., sea levels were 10 to 15 meters below current levels, and the shoreline was at least 500 meters off shore than today (Altschul et al. 2007).

PALEONTOLOGICAL SETTING

The Project Area is situated in the San Bernardino Basin, adjacent to the Transverse Ranges Geomorphic Province. This province is comprised of a series of mountain ranges that run transverse to most mountain ranges in southern California – roughly east/west trending. The mountains within the province, including the San Gabriel and San Bernardino mountains to the north and northeast, were uplifted by tectonic activity in the area, and provide a major sedimentary source for the alluvium of the adjacent basin areas (Critelli et al. 1995). The geologic units underlying this Project are mapped entirely as alluvial fan deposits dating from the Holocene to Late Pleistocene period (Morton, 1995). The surface of the Project is heavily disturbed by development to an unknown depth below surface.

PREHISTORIC CONTEXT

Most researchers agree that the earliest occupation for the Placentia area dates to the early Holocene (11,000 to 8,000 years ago). The following discussion of the cultural history of Orange County references the San Dieguito Complex, the Milling Stone Horizon, the Encinitas Tradition, the La Jolla Complex, the Pauma Complex, and the San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component in the area of Orange County was represented by the Cahuilla, Gabrielino, and Luiseño Indians. Absolute chronological information, where possible, will be incorporated into this discussion to examine the effectiveness of continuing to use these terms interchangeably.

The Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Fagan 2003). The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or two to six kilometers further west than its present location. Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation, utilizing a variety of resources including birds, mollusks, and both large and small mammals (Moratto 1984). The earliest sites known in the area are attributed to the San Dieguito culture, which consists of a hunting culture with flaked stone tool industry (Warren 1967). The material culture related to this time included scrapers, hammer stones, large flaked cores, drills, and choppers, which were used to process food and raw materials.

Around 8,000 years ago, subsistence patterns changed, resulting in a material complex consisting of an abundance of milling stones (for grinding food items) with a decrease in the number of chipped stone tools. The material culture from this time period includes large, bifacially worked dart points and grinding stones, handstones and metates. Archaeologists initially designated this period as the “Millingstone Horizon” (Wallace 1955). Later, the Millingstone Horizon was redefined as a cultural tradition named the Encinitas Tradition (Warren 1967) with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, while others continued to use Millingstone Horizon, and still others used Middle Holocene (the geologic time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2). Recently, this generalized terminology was criticized by Sutton and Gardner (2010) as suppressing the identification of cultural, spatial, and temporal variation, as well as the movement of peoples throughout space and time. It is these factors that are believed to be critical to an understanding of prehistoric cultural adaptation and change in this portion of southern California (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics include abundant metates and manos, crudely-made core and flake tools, bone tools, shell ornaments, very few projectile points, indicating a subsistence pattern focused on hunting and gathering a variety of floral resources. Faunal remains vary by location but include marine mammals, fish, and shellfish, as well as terrestrial animals, reptiles, and birds (Sutton and Gardner 2010:7). The Encinitas Tradition has been redefined to have four patterns (Sutton and Gardner 2010: 8-25). These include the Topanga Pattern in coastal Los Angeles and Orange counties, the La Jolla Pattern in coastal San Diego County, and the Sayles or Pauma cultures in inland San Diego County extending into western San Bernardino County, where the Project is located. At approximately 3,500 years ago, Pauma groups in the general Project vicinity adopted new cultural traits which transformed the archaeological site characteristics - including mortar and pestle technology. This indicated the development of food storage, largely acorns, which could be processed and saved for the leaner, cooler months of the year.

At approximately 1,500 years before present, bow and arrow technology started to emerge in the archaeological record, which also indicates new settlement patterns and subsistence systems. The local population retained the subsistence methods of the past, but incorporated new materials into their day to day existence, as evidenced by the archaeological record. The Palomar Tradition is attributed to this time, and is comprised of larger two patterns: the Peninsular Pattern in the inland areas of the northern Peninsular Ranges (e.g., San Jacinto and Santa Rosa mountains) and the northern Coachella Valley (Sutton 2010), and the San Luis Rey pattern of the Project Area. Archaeological sites from this time period are characterized by soapstone bowls, arrowhead projectile points, pottery vessels, rock paintings, and evidence of cremation sites. The shift in material culture assemblages is largely attributed to the emergence of Shoshonean (Takis-speaking) people who entered California from the east.

ETHNOGRAPHY

The territory of the Gabrielino at the time of Spanish contact covers much of current-day Los Angeles and Orange counties. The southern extent of this culture area is bounded by Aliso Creek, the eastern extent is located east of present-day San Bernardino along the Santa Ana River, the northern extent includes the San Fernando Valley, and the western extent includes portions of the Santa Monica Mountains. The Gabrielino also occupied several Channel Islands including Santa Barbara Island, Santa Catalina Island, San Nicholas Island, and San Clemente Island. Because of their access to certain resources, including a steatite source from Santa Catalina Island, this group was among the wealthiest and most populous aboriginal groups in all of southern California. Trade of materials and resources controlled by the Gabrielino extended as far north as the San Joaquin Valley, as far east as the Colorado River, and as far south as Baja California (Bean and Smith 1978; Kroeber 1925).

The Gabrielino lived in permanent villages and smaller, resource-gathering camps occupied at various times of the year depending upon the seasonality of the resource. Larger villages were comprised of several families or clans, while smaller, seasonal camps typically housed smaller family units. The coastal area between San Pedro and Topanga Canyon was the location of primary subsistence villages, while secondary sites were located near inland sage stands, oak groves, and pine forests. Permanent villages were located along rivers and streams, as well as in sheltered areas along the coast. As previously mentioned, the Channel Islands were also the locations of relatively large settlements (Bean and Smith 1978; Kroeber 1925).

The social structure of the Gabrielino is little known; however, there appears to have been at least three social classes: 1) the elite, which included the rich, chiefs, and their immediate family; 2) a middle class, which included people of relatively high economic status or long established lineages; and 3) a class of people that included most other individuals in the society. Villages were politically autonomous units comprised of several lineages. During times of the year when certain seasonal resources were available, the village would divide into lineage groups and move out to exploit them, returning to the village between forays (Bean and Smith 1978; Kroeber 1925).

Each lineage had its own leader, with the village chief coming from the dominant lineage. Several villages might be allied under a paramount chief. Chiefly positions were of an ascribed status, most often passed to the eldest son. Chiefly duties included providing village cohesion, leading warfare and peace negotiations with other groups, collecting tribute from the village(s) under his jurisdiction, and arbitrating disputes within the village(s). The status of the chief was legitimized by his safekeeping of the sacred bundle, a representation of the link between the material and spiritual realms and the embodiment of power (Bean and Smith 1978; Kroeber 1925). Shamans were leaders in the spirit realm. The duties of the shaman included conducting healing and curing ceremonies, guarding

of the sacred bundle, locating lost items, identifying and collecting poisons for arrows, and making rain (Bean and Smith 1978; Kroeber 1925). Marriages were made between individuals of equal social status and, in the case of powerful lineages, marriages were arranged to establish political ties between the lineages (Bean and Smith 1978; Kroeber 1925). Men conducted the majority of the heavy labor, hunting, fishing, and trading with other groups. Women's duties included gathering and preparing plant and animal resources, and making baskets, pots, and clothing (Bean and Smith 1978; Kroeber 1925).

Gabrielino houses were domed, circular structures made of thatched vegetation. Houses varied in size, and could house from one to several families. Sweathouses—semicircular, earthcovered buildings—were public structures used in male social ceremonies. Other structures included menstrual huts and a ceremonial structure called a *yuvar*, an open-air structure built near the chief's house (Bean and Smith 1978; Kroeber 1925). Clothing was minimal; men and children most often went naked, while women wore deerskin or bark aprons. In cold weather, deerskin, rabbit fur, or bird skin (with feathers intact) cloaks were worn. Island and coastal groups used sea otter fur for cloaks. In areas of rough terrain, yucca fiber sandals were worn. Women often used red ochre on their faces and skin for adornment or protection from the sun. Adornment items included feathers, fur, shells, and beads (Bean and Smith 1978; Kroeber 1925). Hunting implements included wooden clubs, sinew-backed bows, slings, and throwing clubs. Maritime implements included rafts, harpoons, spears, hook and line, and nets. A variety of other tools included deer scapulae saws, bone and shell needles, bone awls, scrapers, bone or shell flakers, wedges, stone knives and drills, metates, mullers, manos, shell spoons, bark platters, and wooden paddles and bowls. Baskets were made from rush (*Juncus* sp.), deer grass (*Muhlenbergia rigens*), and skunkbush (*Rhus trilobata*). Baskets were fashioned for hoppers, plates, trays, and winnowers for leaching, straining, and gathering. Baskets were also used for storing, preparing, and serving food, and for keeping personal and ceremonial items (Bean and Smith 1978; Kroeber 1925). The Gabrielino had exclusive access to soapstone, or steatite, procured from Santa Catalina Island quarries. This highly prized material was used for making pipes, animal carvings, ritual objects, ornaments, and cooking utensils. The Gabrielino profited well from trading steatite since it was valued so much by groups throughout southern California (Bean and Smith 1978; Kroeber 1925).

HISTORIC CONTEXT

While indigenous peoples adapted (and thrived) to environmental conditions in what is now "California," those same lands remained isolated from European and Asian cultures until the early-sixteenth century. In 1521, Spain sent explorer and conquistador Hernan Cortes and his army into what is now Mexico to conquer the indigenous Aztecs and capture the wealth of the land and its people. "New Spain," as the region soon became known, quickly became the hub of Spanish colonial efforts in the New World. Cortes, hopeful of finding comparable wealth in the northern Pacific, authorized the first explorations, and in 1535, founded the first nonnative settlement in Baja (or Lower) California. Inspired by Cortes' success in the New World and hoping to find a waterway from the Pacific to the Atlantic, the Spanish dispatched Juan Rodriguez Cabrillo in 1542 to explore the northwest coast of New Spain. It is believed that Cabrillo sailed as far north as the Oregon border, and that he became the first European to see what was then termed "Alta (or Upper) California" (Paddison 1999:xi).

In 1602, the Spanish Crown ordered Sebastian Vizcaino to make the first detailed survey of the Alta California coast. Vizcaino eventually anchored at Monterey Bay, and in subsequent reports to Spain, greatly exaggerated the quality of the natural harbor he found (Paddison 1999:xii). Despite Vizcaino's inflated recommendations, it took the Spanish almost 170 years to act. The so-called "Sacred Expedition" of 1769, led by Spaniard Gaspar de Portola and Franciscan Fray (or Father) Junipero Serra, was meant to begin the permanent settlement of Alta California, beginning in San Diego. The plan called for the Spanish to converge on San Diego by land and sea, and to use the newly established San Diego settlement as a base to begin further colonization and mission-building activities along the California coast.

Soon after American control was established (1848), gold was discovered in California. There was a tremendous influx of Americans and Europeans, and western Riverside County saw development of hard rock mining for gold. Several mineral rights were issued around this time, however none within the Project Area. Around the same time, San Bernardino County was settled by homesteaders and farmers, and quickly became a diversified agricultural area with citrus, grain, grapes, poultry, and swine being the leading commodities.

The existence of the Santa Ana River was known to Spanish explorers, with the locations of Mission San Gabriel and Mission San Juan Capistrano placed on either side of the Lower portion. First observed in 1542 by Cabrillo, de Portola was the first explorer to cross the River at a location in what is now Yorba Linda in 1769. The Spanish had experience with large watercourses in Mexico and quickly realized that the River was a danger during a flash flood. Overland exploration by Anza paralleled the River in early 1774, fording the River near Riverside, then after a time drove overland through Chino to Mission San Gabriel. River bottomlands were grazed by cattlemen and as the population grew, lands near the active channels were plowed for agriculture. Regardless of the potential, the River was a draw for agriculture. As American homesteaders entered the area, lands on the Chino, Jurupa and El Rincon ranches became desirable and the past river history was quickly forgotten. In 1862, the Inland Empire was devastated by what is now considered a 1,000-year flood, and all farms and ranches downstream of the San Bernardino Mountains were destroyed. Water gushed through the pass and into what is now Orange County, turning the land into an “inland sea” for a time. In that year, few farms had been established, but given what happened during the flood, it is likely that much of the established agricultural topsoil was washed away. The 1862 flooding was following by two years of drought, which essentially brought an end to the Spanish-Mexican cattle ranching methods. The River saw major floods in 1859, 1862, 1884, 1891, 1910, 1916, 1938, 1943 and 1969 (Taylor and Taylor 2007). This, plus the build up to World War II, drove the Army Corps of Engineers (USACE) into understanding the regional importance for local flood protection.

The USACE began planning to build the Prado Dam in the mid-1930s but development of the project became a priority after the March 1938 flooding. Construction of the Dam was complete in 1941. The Santa Ana River, Chino Creek, and Temescal Creek were channelized into individual canals that fed into the basin above the Dam. Once water behind the Dam was contained and stored for recharge instead of being piped away, vegetation grew. The area comprising the Prado Dam and upstream basins now provide recreational and park opportunities for the public, as well as watershed management, environmental stewardship and protection, and flood control.

METHODS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

A search for archaeological and historical records was conducted by Material Culture Consulting Archaeologist Judy Bernal at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Inventory System (CHRIS), located at California State University Fullerton, on September 19, 2017. The record search included a 1-mile radius around the Project Area, as well as the Project Area itself. In addition to the records at the SCCIC, a variety of sources were consulted by Tria Belcourt in October 2017 to obtain information regarding the cultural context of the Project Area (See Table 1).

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

A sacred lands record search was requested by Material Culture Consulting from the Native American Heritage Commission (NAHC) on September 14, 2017. The Commission responded on September 15, 2017, stating that there are no known/known sacred lands within a one-half mile of the Project Area. The NAHC requested that nine Native American tribes or individuals be contacted for further information regarding the general Project vicinity. Material Culture Consulting subsequently sent letters to the twelve Native American contacts on September 19, 2017, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email or phone call were made on October 2 and October 10, 2017.

PALEONTOLOGICAL RECORDS SEARCH

A search for paleontological records was completed by Dr. Samuel McLeod of the Los Angeles County Museum of Natural History on September 28, 2017. The record search included a 1-mile radius around the Project Area, as well as the Project Area itself. Based on the review of several geology maps from the region, the geologic units underlying this Project are mapped as older Quaternary alluvium deposits dating from the middle to early Pleistocene period (Morton, 1996). The early- to middle- Pleistocene represents a broad spectrum in time, ranging from 2.58 million years ago to 788 thousand years ago. This type of Pleistocene sediment has the potential to contain significant nonrenewable paleontological resources.

FIELD SURVEY

The survey stage is important in a Project's environmental assessment phase to verify the exact location of each identified cultural or paleontological resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. In addition, the field survey provides invaluable information on the type of sediment present within the Project Area, which informs the assessment of paleontological sensitivity. Judy Bernal, archaeologist and cross-trained paleontologist, conducted the survey of the proposed Project Area on September 19, 2017. The survey consisted of walking in parallel transects spaced at approximately 15 meter intervals over the Project parcel, while closely inspecting the ground surface.

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. Representative photographs were taken of the entire Project Area.

RESULTS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

The records search indicates no cultural resources investigations have been completed previously within a 1-mile radius of the Project Area, or within the Project Area itself. The results of the records searches further indicate there are no known archaeological or historical architectural resources within the Project Area or within a 1-mile radius of the Project Area. Review of additional sources also resulted in negative findings (See Table 1, below).

Table 1. Additional Sources Consulted for the Project

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Negative
Historical United States Geological Survey topographic maps (USGS 2012)	Negative
Historical United States Department of Agriculture aerial photos	Negative
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Negative
California Historical Landmarks (1995 & supplements to 2010)	Negative
California Points of Historical Interest (1992 to 2010)	Negative
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records	Negative

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

On September 25, 2017, Andrew Salas (Chairman of Gabrieleño Band of Mission Indians – Kizh Nation) replied to our request for information, requesting to discuss the Project Area. Attempts were made to contact Mr. Salas on October 2 and October 10, however, as of October 19, Mr. Salas has not returned our emails or calls. As of October 19, 2017, no additional groups or individuals have responded with information about the Project Area. Material Culture Consulting did not conduct consultation with the Native American representatives as per AB52. All written NAHC and Native American correspondence materials and our communication log are provided as Appendix B.

PALEONTOLOGICAL RECORDS SEARCH

The record search results from the Los Angeles County Museum of Natural History (McLeod 2017, Appendix C) do not indicate any fossils have been found directly within the Project Area, nor within 1 mile of the Project. The geologic units underlying this Project are mapped entirely as older Quaternary alluvial fan deposits dating from the early Pleistocene period (Morton and Miller, 2006). The closest fossil locality within similar sediments is LACM 4943, southwest of the proposed Project Area in the City of Orange between Newport Freeway (Highway 55) and the Santa Ana River near the intersection of Glassell Street and Fletcher Avenue. This locality produced specimens of fossil horse *Equus*, at a depth of 8-10 feet below surface.

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY

During the course of fieldwork, survey conditions were very good and ground visibility was fair to good (70-80%) throughout most of the 8.45-acre Project Area, and excellent (100%) in areas recently graded. Vegetation cover presented the greatest challenge to ground visibility across much of the Project (See Figures 4-7). The entire parcel is also heavily disturbed (Figures 4-7). No cultural or paleontological materials were identified or collected during the survey, and examination of surface soils confirmed the presence of caliche and highly sensitive older alluvium (Figures 4 through 6).



Figure 4. Overview from Southeast Corner towards North



Figure 5. Overview towards South from Gated Entrance



Figure 6. Western Project Area Overview



Figure 7. View towards West from Southeast Corner of Project Area.

CONCLUSIONS AND RECOMMENDATIONS

CULTURAL RESOURCES CONCLUSIONS

The Project Area is considered to have a low sensitivity for the presence of prehistoric or historical archaeological deposits or features. Although the Project region was likely inhabited from at least 8,000 years ago, no archaeological resources have been recorded within the Project Area. The intensive modification and disturbance within the Project Area has eradicated any near-surface record of prehistoric, ethnohistoric, or historic-era behavioral activities that may have otherwise been preserved as archaeological sites, deposits or features.

CULTURAL RESOURCES RECOMMENDATIONS

Based on the results of the cultural resources records search and survey, it is unlikely that crews will encounter significant cultural resources during the course of Project development. We do not recommend additional cultural resource investigations at this time, nor do we recommend cultural resources monitoring. However, we recommend setting a plan in place to expediently address inadvertent discoveries and human remains (as described below), should these be encountered during construction.

INADVERTENT DISCOVERIES

Despite actions taken to ensure that all cultural resources are located prior to construction, including record searches and field surveying, there still remains the possibility that undiscovered, buried archaeological resources might be encountered during construction. In the event that these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation or fossil recovery, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).

HUMAN REMAINS

Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to insure the integrity of the immediate area must be taken. The Orange County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will, in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

PALEONTOLOGICAL RESOURCES CONCLUSIONS

The results of the records search and field surveys conducted for this Project show that Quaternary alluvium sediments are present on the surface within the Project Area. Pleistocene alluvial units are considered to be of high paleontological sensitivity, and any fossils recovered from the Project Area would be scientifically significant. Excavation activity associated with development of the Project Area would impact the paleontologically sensitive Pleistocene units at depth. In similar, nearby formations, significant fossil remains have been found less than five feet below surface. Therefore, there is a high potential for encountering paleontological resources during the course of excavation for the Project.

PALEONTOLOGICAL RESOURCES RECOMMENDATIONS

No significant paleontological resources were identified within the Project Area during the locality search or field survey. However, the records search results indicate that significant fossils have been found in similar and adjacent geologic formations in the area, and may be found at an unknown depth within the Project boundaries. In order to mitigate potential adverse impacts to nonrenewable paleontological resources, as required by State and County regulations, we recommend the following procedures:

- A trained and qualified paleontological monitor should perform paleontological monitoring of any ground disturbing activities within undisturbed native sediments associated with the Project that have the potential to impact paleontological resources (i.e. grading, trenching).
- Due to the nature of the work proposed, we only recommend paleontological monitoring during mass grading/site prep and underground utility installation. We do not recommend paleontological monitoring during finish grading, drilling, grading in previously disturbed soils, or other similar activities. These construction activities compromise the fine details used to identify species of fossils, and obscure valuable contextual information - both of which are required for assigning significance to fossil finds.
- The Project paleontologist may re-evaluate the necessity for paleontological monitoring after 50% or greater of the excavations have been completed.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.
- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils will be prepared and submitted to the appropriate Lead Agency personnel.

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Appendix A:
Qualifications

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Tria Belcourt, M.A., RPA

Owner and Principal

Tria is a qualified environmental project manager and Registered Professional Archaeologist, with twelve years of professional experience in the consulting industry. She is a recognized NEPA and CEQA regulatory expert and is highly regarded as an excellent writer of legally defensible technical documents, plans and reports. She is listed on statewide and regional BLM CRUPs and has held multiple ARPA permits in various regions for work on federal lands such as National Parks, National Forests, and National Monuments. Regional experience includes California, Nevada, the Great Basin, and the Southeastern United States. Sector experience includes: in-depth expertise with California publicly regulated utilities, renewable energy generators, transportation (rail, road and air), and private development.

Education:

2014 Graduate Certificate in Environmental Management of Military Lands, Colorado State University

2010 Professional Certification in CEQA/NEPA, ICF International Corporation

2009 M.A. in Anthropology, University of Florida Gainesville, Florida Professional Certification in GIS

2006 B.A. in Anthropology, Magna Cum Laude, University of California, Los Angeles, California

Utility Sector Experience

Southern California Edison (SCE) Projects and Programs

Tehachapi Renewable Transmission Project, Segments 1-3 and Segments 6-11, Kern, Los Angeles and Orange County, CA; 2009 - Present. Tria provided service to this project over seven years in multiple roles – archaeological/paleontological field monitor, project coordinator, in-house consultant at SCE, and principal investigator. She provided regulatory oversight and project management regarding cultural and paleontological resource management for all segments of TRTP. Developed and implemented internal cultural and paleontological resource management programs based on the mitigation measures in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for TRTP, and for the existing Special Use Permits and

Record of Decision for TRTP, issued by the Angeles National Forest (ANF). Oversaw preparation of the Historic Properties Treatment Plans, fieldwork and technical report preparation for two large-scale Phase III Data Recovery excavations on Angeles National Forest, and provided final review of all paleontological monitoring reports. Coordinated with ANF archaeologists on discovery and management of previously unknown cultural resources identified during construction. Provided environmental analyses and clearance documentation on over 100 project modifications during construction without delay to project. Maintained the cultural resources geodatabase TRTP and coordinated regularly with the project GIS team.

Eldorado Ivanpah Transmission Project – In-house Consultant for Archaeology; San Bernardino County, California and Clark County, Nevada; 2010-2012. Belcourt provided regulatory oversight and project management regarding cultural and paleontological resource management. She developed environmental compliance training to inform and guide construction activities and major capital project teams. She also developed and implemented internal cultural resource management programs based on the mitigation measures in the FEIR/EIS. Tria coordinated with BLM archaeologists on discovery and management of previously unknown cultural resources discovered during construction. She provided environmental analyses and clearance

documentation on over 20 project modifications during construction without delay to project. Developed the cultural resources geodatabase for EITP and coordinated regularly with the project GIS team.

Coolwater Lugo Transmission Project — Environmental Project Manager; San Bernardino County, California; 2014 –

Present. Belcourt provided oversight of all project management on CWLTP: tracking and reporting efforts of subconsultants (Pacific Legacy, Paleo Solutions and Urbana Preservation and Planning), maintaining project schedule and timely submittal of project deliverables to agency reviewers. Serves as communication facilitator between SCE and BLM/CPUC agency reviewers.

On-Call and Emergency Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2013

– Present. Belcourt provides oversight of all task orders and project management of on-call task orders involving cultural resource desktop reviews, records searches and field reviews for deteriorated poles, system upgrades, initial studies to support capital projects, and monitoring support to replace facilities due to natural disasters. This high-volume program includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedules, and preparing technical reports and GIS datasets for submittal to prime contractor (SWCA).

Silver State South Substation, Southern California Edison, Clark County, NV; 2010-2012. Provided regulatory oversight and project management regarding cultural and paleontological resource management during project licensing and scoping. Identified potential impacts to cultural and paleontological resources, developing appropriate mitigation measures in preparation for and projecting alternative conclusions. Lead In-house Consultant Archaeologist at Southern California Edison. 2012-2013

Small Capital Projects – Archaeological Principal Investigator and Program Manager; throughout California, 2014 –

Present. Belcourt provides oversight of all task orders and project management of task orders involving cultural resources for this contract with ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractor. Task orders – Kelly Cutover (Extends throughout the city of Daggett and surrounding area), Colton Substation (located in Colton), Utah 12kV (Located at Joshua Tree National Park).

Pacific Gas and Electric Company Programs (PG&E)

NERC Alert Program – Archaeological Principal Investigator; throughout California; 2015 – Present. Belcourt provides oversight of all task orders and project management of on-call task orders involving cultural resource desktop reviews, records searches and field reviews for the PG&E NERC Alert program – PG&E's program for addressing GO 95 discrepancies. Tasks include tracking and reporting efforts, maintaining project schedule, and timely submittal of data to prime contractor (Arcadis).

In-Line Inspections and Piging Program – Archaeological Principal Investigator and Program Manager, throughout California, 2016-Present. Belcourt provides oversight of all task orders and project management of on-call task orders involving cultural resource desktop reviews, records searches and field reviews for the PG&E NERC Alert program: tracking and reporting efforts, maintaining project schedule, and timely submittal of data to prime contractor (Parsons).

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Jennifer Kelly, M.Sc.

Consultant III – Senior Paleontologist and Principal Investigator

Jennifer has experience in all aspects of paleontology. She has extensive experience with monitoring, salvage, fieldwork, project management, and report writing, as well as volunteer experience from the La Brea Tar Pits/Page Museum and the Cooper Center of Orange County (Paleontology department) and field experience as a Staff Geologist for Leighton Geotechnical. Her expertise is Geology, and she has her M.S. in Geological Sciences, emphasis in Geochemistry. Jennifer has taught lab courses in paleontology and general geology, and also assisted with field mapping classes. Jennifer is HAZWOPER 40-hour certified and a registered Orange County paleontologist. She has co-authored more than 60 paleontological compliance documents, including PRMPs, EIR, EIS, PEA, final monitoring reports, survey reports, and other compliance documents, in compliance with NEPA, CEQA, Caltrans and city and county laws, ordinances, regulations, and statutes.

Education:

- 2012 M.S. Geology, California State University, Long Beach
- 2005 B.S., Geology (preliminary work for entry to M.S. Geology Program), California State University, Long Beach
- 2004 B.A., Theater Arts, California State University, Long Beach

Professional Experience

Tehachapi Renewable Transmission Project (TRTP) — Southern California Edison (LSE), Kern County, Los Angeles County, San Bernardino County, California, Assistant PM/Research Specialist, Ms. Kelly has conducted and led surveys along this project's right of way. She additionally has been in charge of scheduling monitoring crews during grading in areas of paleontological sensitivity, managing and reviewing log sheets, and tracking data that is incorporated to final reports. Ms. Kelly played a valuable role with scheduling for the project's needs. She has monitored, surveyed, and reported on all paleontological facets of this project as the Lead Paleontological Monitor for segment 3B and 4-11. She has co-authored more than 10 of the compliance reports for this project. She has also performed monitoring on every segment of this Project.

OC Access Road Grading, Southern California Edison, Orange and Riverside County, California, Assistant PM/Research Specialist, Ms. Kelly assisted in documentation for the cultural resources portion, which include information regarding the location and condition of archaeological and paleontological sites recorded at or near the access roads, and recommends impact avoidance measures for future years in implementing the Protocol for 73 known archaeological sites. This required extensive coordination with Orange County Fire Authority grading department, SCE's O&M (operations and maintenance), and Orange County Parks. Trimble units were used for the documentation before and after grading of access roads. Communication played a key role when strategizing which locations were being graded where and when. The company came in under budget because of Jennifer's efficiency and ability to coordinate and schedule.

SDG&E Laguna Niguel Reliability Project, Laguna Niguel, Orange County, California, Assistant PM/Research Specialist Jennifer performed initial research for this Project, and co-authored the final report on the monitoring efforts for this project in the Capistrano Formation.

SDG&E Camp Pendleton Project, Counties of San Diego and Orange. On-Call Paleontological Services (2009-2012), Assistant PM/Research Specialist, Ms. Kelly was a key facet in report production and research which enabled her firm to perform all survey and monitoring work required on Camp Pendleton for CEQA/NEPA check list assessments requested from SDG&E. Ms. Kelly was cleared from the Department of Defense in order to conduct work on the base. Site assessments and monitoring include all work related to: future location of power poles and towers, water control features, trenching and subsurface excavations, access roads, grading impacts to develop substations and other facilities, work pads, staging yards, and gas pipelines.

Holy Sepulchre Cemetery Expansion Project, Diocese of Orange, Santa Ana, Orange County, California, Assistant PM/Research Specialist Jennifer assisted with scheduling monitoring for this project, and was the co-author for the final report, as well as performing all project-related research. The project consisted of grading and leveling several new areas for expansion of the Holy Sepulchre Cemetery, including portions that lie in paleontologically sensitive rock formations and had the potential to produce fossils.

UC Irvine Alumni Center Project, Irvine, Orange County, California, Assistant PM/Research Specialist She performed all monitoring scheduling and coordination duties, as well as research and writing for the final report and the initial monitoring guidelines. This project was a high-visibility construction project for a new alumni center on the grounds of UC Irvine, in a paleontologically sensitive area.

Peters Canyon County Park Restrooms Project, Orange County, California, Assistant PM/Research Specialist Ms. Kelly performed all paleontological monitoring scheduling and coordination duties, as well as research and writing for the final paleontological resources letter report. This project involved the leveling of a pad and significant trenching through paleontologically sensitive soils in order to install a new restroom at the northern end of this park.

El Casco System-Transmission Line — Southern California Edison, Riverside County, California, Paleontological Field Technician, Ms. Kelly performed monitoring, salvaged small and large fossils, Screen washed and sorted fossils. Ms. Kelly aided in the processing of microfossils collected from bulk sampling of fossil bearing sediment, and documenting stratigraphic locations of fossil bearing units. This project was in compliance with both CEQA and the CPUC.

Paleontological Mitigation Plans (PMP) for Caltrans Cherry/Citrus Ave I-10 interchange Project — PCR/Caltrans, San Bernardino, California, Assistant PM/Research Specialist Jennifer Kelly conducted all aspects of surveying, and literature searches for both projects.

UHS Temecula Medical Center— Turner Construction, Temecula , Riverside County, California, Assistant PM/Research Specialist. She was in charge of day to day scheduling and occasional monitoring as well as writing the final report.

Ocotillo Wind Express Project — ASPEN, Imperial County, California, Assistant PM/Research Specialist, Ms. Kelly was responsible for managing and collecting all field forms and data that was electronically mailed daily, and incorporating these forms in the final DEIR/EIS Report. She conducted all technical research and compiled both geological and compliance documentation into the final report that was then incorporated into the EIR/EIS.

Manzana Wind Express Project, Kern County, California, Assistant PM/Research Specialist Ms. Kelly assisted in writing the Paleontological Mitigation Monitoring Resource Plan, which allowed her to develop a key role in presenting environmental training programs to construction workers and other environmental compliance monitors. She co-authored the final paleontological monitoring report. The Manzana Wind Energy Project site was found to have the potential for scientifically significant paleontological resources that could be impacted by construction-related ground disturbance. Project construction consisted of the installation of 107 to 300 wind energy turbines, aligned along approximately 26 rows, on the 6,275-acre proposed site. She co-authored the final paleontological mitigation report in compliance with CEQA and Kern County guidelines.

Pacific Wind Express Project, Kern County, California, Assistant PM/Research Specialist Ms. Kelly assisted in writing the Paleontological Mitigation Monitoring Resource Plan, which allowed her to develop a key role in presenting environmental training programs to construction workers and other environmental compliance monitors. She co-authored the final paleontological mitigation report.

Cadiz Ground Water Project, ESA, San Bernardino County, California, Assistant PM/Research Specialist, Ms. Kelly conducted all research and data collection for the Cadiz Groundwater Conservation and Storage Project, located in eastern San Bernardino County, California in order for Paleo Solutions personnel to complete a DEIR section on paleontological resources. The project included the pipeline corridor but not the Well Field Area and Spreading Basins. Based on the results of the analysis, mitigation measures were developed and are designed to reduce potential adverse impacts to paleontological resources as a result of proposed Project construction to a less than significant level. Only one Project alternative was analyzed for impacts on paleontological resources). The paleontological analysis for the Cadiz Project is a requirement of the California Environmental Quality Act (CEQA).

Appendix B:
Native American Correspondence

NATIVE AMERICAN HERITAGE COMMISSION

Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710



September 15, 2017

Tria Belcourt
Material Culture Consulting

Sent by E-mail: tria@materialcultureconsulting.com

RE: Proposed Alta Vista Specific Plan Project, City of Placentia; Yorba Linda and Orange
USGS Quadrangles, Orange County, California

Dear Ms. Belcourt:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

**Native American Heritage Commission
Native American Contact List
Orange County
9/15/2017**

**Gabrieleno Band of Mission
Indians - Kizh Nation**

Andrew Salas, Chairperson
P.O. Box 393
Covina, CA, 91723
Phone: (626) 926 - 4131
gabrielenoindians@yahoo.com
Gabrieleno

**Juaneno Band of Mission
Indians Acjachemen Nation -
Belardes**

Joyce Perry, Tribal Manager
4955 Paseo Segovia
Irvine, CA, 92603
Phone: (949) 293 - 8522
kaamalam@gmail.com
Juaneno

**Gabrieleno/Tongva San Gabriel
Band of Mission Indians**

Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GT Tribal Council@aol.com
Gabrieleno

**Juaneno Band of Mission
Indians Acjachemen Nation -
Belardes**

Matias Belardes, Chairperson
32161 Avenida Los Amigos
San Juan Capistrano, CA, 92675
Phone: (949) 293 - 8522
Juaneno

Gabrielino /Tongva Nation

Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St.,
#231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com
Gabrielino

**Juaneno Band of Mission
Indians Acjachemen Nation -
Romero**

Teresa Romero, Chairperson
31411-A La Matanza Street
San Juan Capistrano, CA, 92675
Phone: (949) 488 - 3484
Fax: (949) 488-3294
tromero@juaneno.com
Juaneno

**Gabrielino Tongva Indians of
California Tribal Council**

Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com
Gabrielino

Gabrielino-Tongva Tribe

Charles Alvarez,
23454 Vanowen Street
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com
Gabrielino

**Juaneno Band of Mission
Indians**

Sonia Johnston, Chairperson
P.O. Box 25628
Santa Ana, CA, 92799
sonia.johnston@sbcglobal.net
Juaneno

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Alta Vista Specific Plan Project, Orange County.

Name/Affiliation	Date and Method of 1st Contact	Date of 1st Follow Up Attempt	Date of 2nd Follow-Up Attempt	Results
Andrew Salas, Chairperson Gabrieleno Band of Mission Indians- Kizh Nation	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	Received an email from Brandy Salas on behalf of Andrew Salas on September 25, requesting to discuss project. Attempts to contact the tribal office have not been successful.
Anthony Morales, Chairperson Gabrieleno/Tongva San Gabriel Band of Mission Indians	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response
Sandonne Goad, Chairperson Gabrielino/Tongva Tribe	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response
Robert Dorame, Chairperson Gabrielino Tongva Indians of California Tribal Council	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response
Charles Alvarez Gabrielino-Tongva Tribe	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response
Sonia Johnston, Chairperson Juaneno Band of Mission Indians	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response
Joyce Perry, Tribal Manager Juaneno Band of Mission Indians Acjachemen Nation- Belardes	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response
Matias Belardes, Chairperson Juaneno Band of Mission Indians Acjachemen Nation- Belardes	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response
Teresa Romero- Chairperson Juaneno Band of Mission Indians Acjachemen Nation- Romero	September 19, 2016- Mailed letter	October 2, 2017 called and left message	October 10, 2017 – called and left message	No response

Appendix C:
Paleontological Records Results from University of California Museum of Paleontology

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

tel 213.763.DINO
www.nhm.org



Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

28 September 2017

Material Culture Consulting
342 Cucamonga Avenue
Claremont, CA 91711

Attn: Tria Belcourt, President and Principal Archaeologist

re: Paleontological resources for the proposed Alta Vista SP Project, in the City of Placentia,
Orange County, project area

Dear Tria:

I have conducted a thorough check of our paleontology collection records for the locality and specimen data for the proposed Alta Vista SP Project, in the City of Placentia, Orange County, project area as outlined on the portions of the Yorba Linda and Orange USGS topographic quadrangle maps that you sent to me via e-mail on 14 September 2017. We have no fossil vertebrate localities that lie directly within the proposed project area boundaries, but we do have localities nearby in sedimentary deposits similar to those that occur in the proposed project area.

The entire proposed project area has surficial deposits composed of older Quaternary Alluvium, derived primarily as alluvial fan deposits from the Chino Hills immediately to the north. Our closest fossil vertebrate locality in similar sediments is LACM 4943, southwest of the proposed project area in the City of Orange between the Newport Freeway (Highway 55) and the Santa Ana River near the intersection of Glassell Street and Fletcher Avenue. Locality LACM 4943 produced specimens of fossil horse, *Equus*, at a depth of 8-10 feet below the surface.

Grading or very shallow excavations in the proposed project area may not encounter significant fossil vertebrate remains. Deeper excavations, however, may well uncover significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be

monitored closely to quickly and professionally recover any fossil remains discovered while not impeding construction activities. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

A handwritten signature in cursive script that reads "Samuel A. McLeod". The signature is written in black ink and is positioned above the typed name.

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice