



# **CULTURAL AND PALEONTOLOGICAL RESOURCES TECHNICAL REPORT FOR THE JEFFREY ROAD/ IRVINE CENTER DRIVE INTERSECTION IMPROVEMENT PROJECT, CITY OF IRVINE, ORANGE COUNTY, CALIFORNIA**

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## SUMMARY OF FINDINGS

The City of Irvine proposes improvements to the existing Jeffrey Road and Irvine Center Drive intersection. The Project site is situated approximately 0.5 mile southwest of Interstate 5 (I-5) and approximately one mile northeast of Interstate 405 (I-405) at the intersection of Jeffrey Road and Irvine Center Drive in the City of Irvine, Orange County, California. The proposed improvements would provide traffic capacity enhancement within the Jeffrey Road and Irvine Center Drive intersection. This would be accomplished through widening of the intersection to include additional turn and through lanes, in addition to new bicycle lanes to improve mobility and safety through the Project site. Additionally, the existing 66 kV Santiago-Estrella No. 1 Southern California Edison (SCE) transmission tower located on the northeast corner of the Irvine Center Drive and Jeffrey Road intersection will be removed and replaced with a 10 foot diameter monopole 47 feet to the northeast.

A search for paleontological records was completed by the Natural History Museum of Los Angeles County (LACM) and the Cooper Center in Fullerton. Online records from the University of California Museum of Paleontology database (UCMP 2018), the Paleobiology Database (PBDB 2018), and print resources were searched for fossil localities. The Project is mapped entirely as Holocene to late Pleistocene young alluvial fan deposits. No localities are known in the Project area or a one-mile radius.

A search for archaeological and historical records was completed at the South Central Coastal Information Center (SCCIC). No cultural resources have been recorded within the Project area. A total of 12 cultural resources have been recorded outside the Project area but within the one-mile buffer.

Cogstone conducted a pedestrian survey of the Project area on February 2, 2018. No paleontological or cultural resources were observed. A small grove of orange trees located on the southeast quadrant of the Project area appear to be original to the Irvine Company citrus operation. These should be preserved in place, if possible.

Although the SCE 66 kV Santiago-Estrella No. 1 transmission line was built in 1969 and will be historic in age in 2019, all towers and lines built after the period of significance (1907-1930) used multiple tower types that had become standardized with the “technology being considered ‘off the shelf’ and commonplace”. As a result, the 66 kV line is recommended not eligible for listing on the CRHR.

Planned cut depths are approximately four feet deep for the majority of the Project with excavation for the monopole reaching 50 feet below ground surface. Recovery of fossils at the

shallow depth of 4 feet is unlikely. It is anticipated that the foundations for the traffic signals and the monopole will be augured. While fossil fragments may rotate up on the mechanical auger, the specimens will lack context including depth/elevation, formation identification, and other elements that are critical to scientific significance. As a result, no further paleontological resources work is recommended at this time.

The potential for discovery of intact archaeological deposits, including unknown buried archaeological deposits, materials, or features, by the implementation of this Project is low. As a result, no further cultural resources work is recommended at this time. If the scope of work changes, however, further cultural assessments will be necessary.

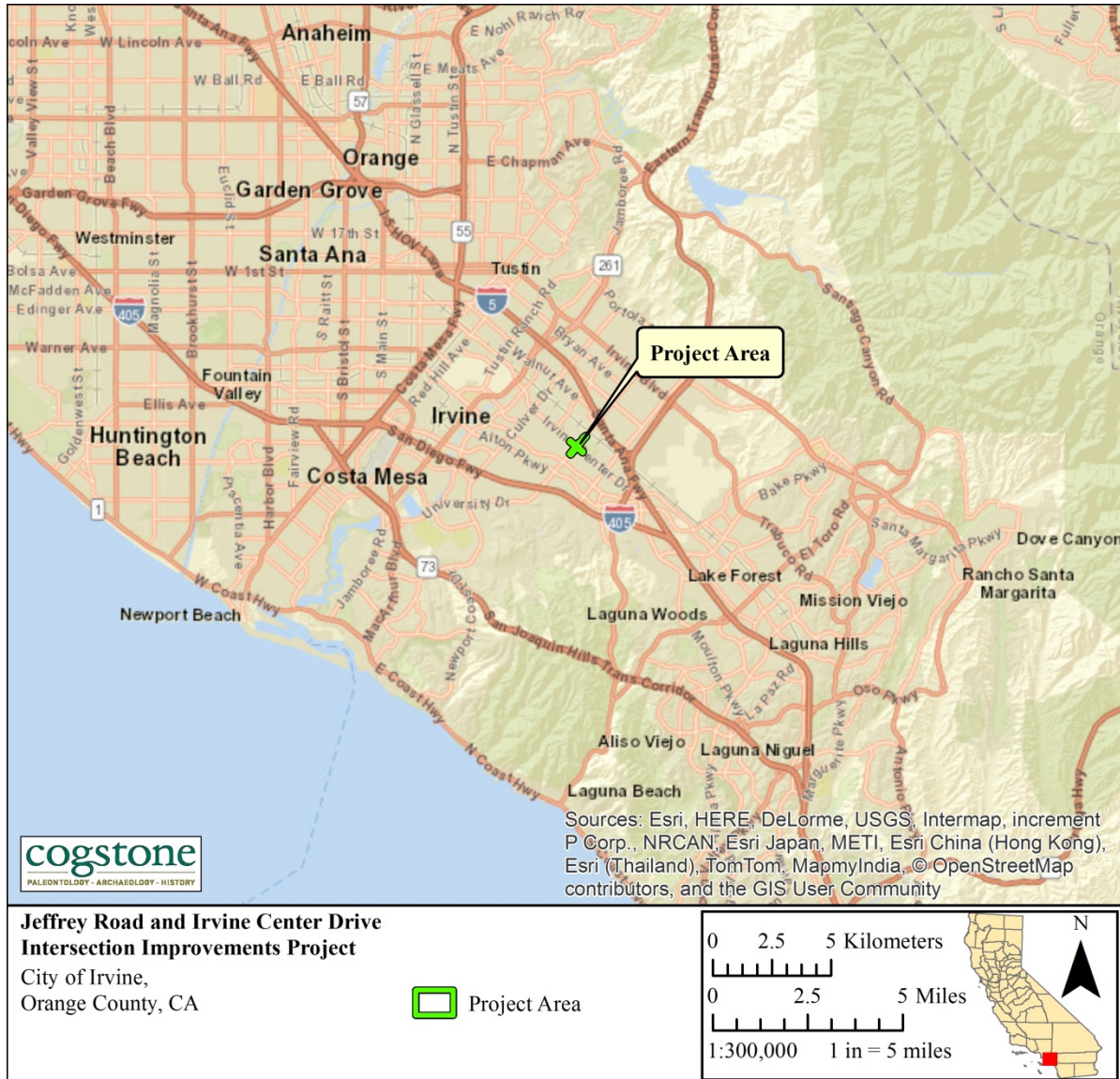
In the event that cultural or paleontological resources are encountered during earth disturbing activities, all work must halt within 50 feet of the find until it can be properly evaluated by a qualified archaeologist or paleontologist, as appropriate.

Further, if human remains are inadvertently uncovered during project related activities, State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance shall occur until the County Coroner has made a determination regarding the origin of the remains and the nature of their deposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

## INTRODUCTION

### PURPOSE OF STUDY

The purpose of this study is to determine the potential effects to paleontological and cultural resources resulting from improvements of the Jeffrey Road and Irvine City Drive Intersection Improvements Project in the City of Irvine, Orange County, California (Project; Figure 1).



**Figure 1. Project vicinity map**

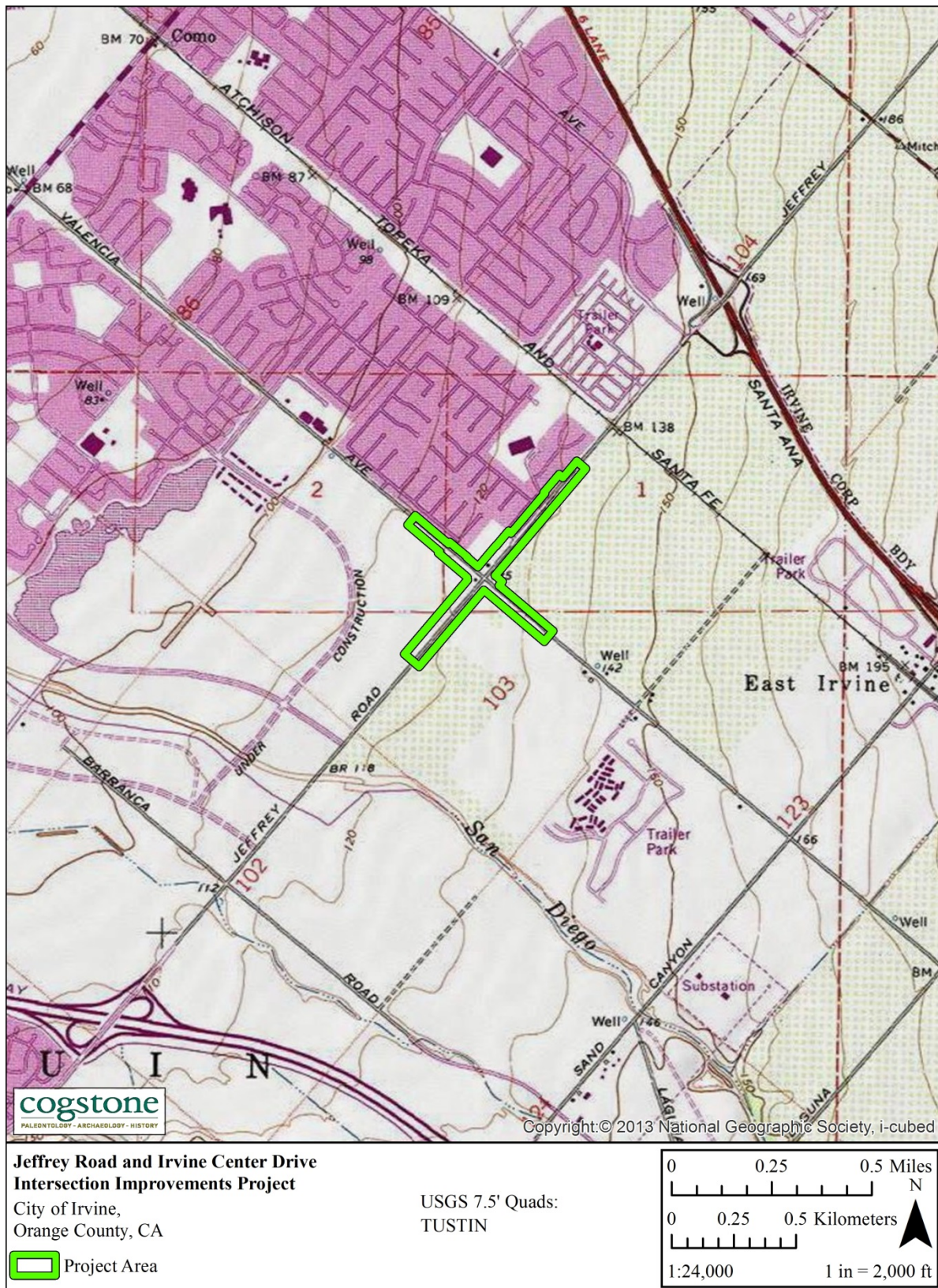
## **PROJECT LOCATION AND DESCRIPTION**

The City of Irvine proposes improvements to the existing Jeffrey Road and Irvine Center Drive intersection. The Project site is situated approximately 0.5 mile southwest of Interstate 5 (I-5) and approximately one mile northeast of Interstate 405 (I-405) at the intersection of Jeffrey Road and Irvine Center Drive. This 2.66 acre Project is located in sections 1 and 2 of Township 6 South, Range 9 West of the San Bernardino Base and Meridian. The Project is mapped within the United States Geographic Survey (USGS) Tustin 7.5-minute topographic map (Figures 2 and 3).

The intersection experiences congestion, particularly during peak hours and traffic volumes are forecasted to increase as development in the Project area occurs into the future. The proposed improvements would provide traffic capacity enhancement within the Jeffrey Road and Irvine Center Drive intersection. This would be accomplished through widening of the intersection to include additional turn and through lanes, in addition to new bicycle lanes to improve mobility and safety through the Project site. Planned cut depths are approximately four feet deep for the majority of the Project and approximately 15 feet for traffic signals. This report assumes the traffic signal excavations will be performed with truck mounted augurs.

Additionally, the existing 66 kV Santiago-Estrella No. 1 Southern California Edison (SCE) transmission tower located on the northeast corner of the Irvine Center Drive and Jeffrey Road intersection will be removed and replaced with a monopole 47 feet to the northeast. The monopole will measure 10 feet in diameter, be at a similar height as the existing tower and require excavation to 50 feet below ground surface (Figure 4).





**Figure 2. Project location**





**Figure 3. Project aerial**

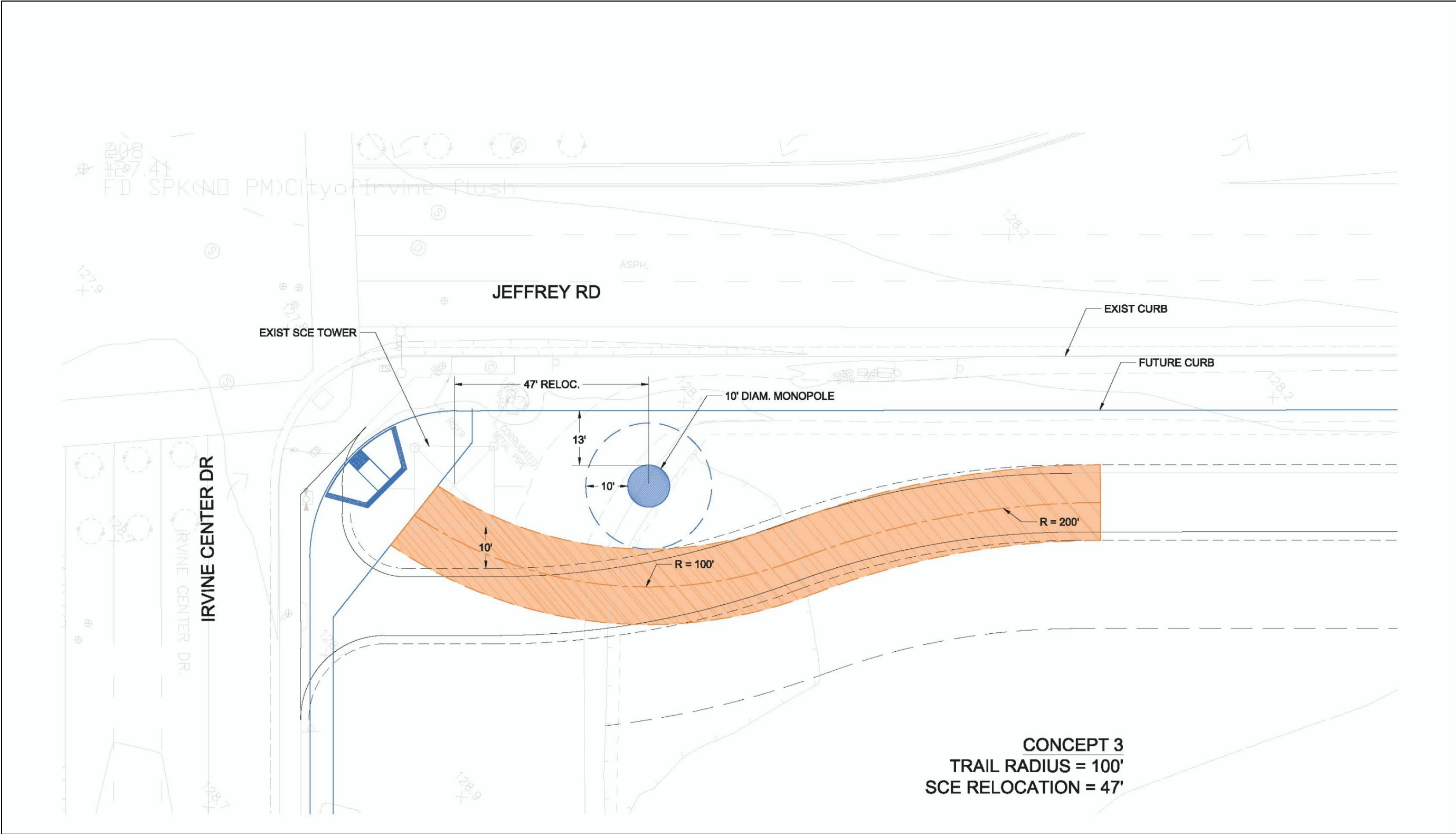


Figure 4. Proposed conceptual plan for removal and replacement of SCE 66 kV Santiago-Estrella No. 1 transmission tower with monopole



## **PROJECT PERSONNEL**

Cogstone Resource Management Inc. (Cogstone) conducted the cultural and paleontological resources studies. Qualifications of Cogstone personnel are provided (Appendix A).

- Molly Valasik served as the Task Manager and Principal Archaeologist for this Project. Ms. Valasik has a M.A. in Anthropology from Kent State University and nine years of experience in California archaeology.
- Kim Scott served as the Principal Paleontologist for the Project and wrote the geological and paleontological portions of this report. Scott has a M.S. in Biology with paleontology emphasis from California State University, San Bernardino, a B.S. in Geology with paleontology emphasis from the University of California, Los Angeles, and over 23 years of experience in California paleontology and geology.
- Megan Wilson prepared the maps, conducted the records search and survey, and drafted this report. Wilson has a M.A. in Anthropology from California State University, Fullerton and has over seven years of experience in southern California archaeology.
- Desireé Martinez provided QA/QC for the Project. Ms. Martinez has an M.A. in Anthropology from Harvard University, Cambridge and more than 21 years of experience in southern California archaeology.
- Sherri Gust wrote the environmental, prehistoric, and ethnographic sections. Gust is a Registered Professional Archaeologist and has an M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California at Davis and over 36 years of experience in California.

## **REGULATORY ENVIRONMENT**

This Project is subject to state and local regulations regarding cultural resources. The Project must meet the requirements of the California Environmental Quality Act (CEQA).

### **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" (Pub. 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 number 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 registers 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). 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.”

## **DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES**

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. Paleontological remains are recognized as nonrenewable resources significant to the history of life (Scott and Springer 2003, Scott et al. 2004).

## **BACKGROUND**

### **PALEONTOLOGICAL SETTING**

#### **GEOLOGIC SETTING**

The Project lies at the southern end of 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, 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 entirely as Holocene to late Pleistocene young alluvial fan deposits which are less than ~120,000 years old (Morton and Miller 2006). Alluvial fans are deposited downstream of canyons and off hillsides by streams, flash floods, and debris flows. During periods of non-deposition, soils could form in the environment. Nearer to the mountains, these sediments are coarse grained, but farther from the mountains the sediments are finer and are more likely to contain fossils.

Surficial Holocene sediments are less than 11,000 years old and are too young to contain fossils, however, older, potentially fossil bearing deposits are found between 8 and 10 feet below the original topographic grade within southern California's valley areas.

## CULTURAL SETTING

The latest cultural revisions for the Project area define traits for time phases of the Greven Knoll pattern of the Encinitas Tradition applicable to inland Orange County (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; Table 1). Each pattern has subdivisions as identified by specific changes in cultural assemblages through time. Phases are identified by their archaeological signatures in components within sites.

Greven Knoll sites tend to be in valleys such as the Project area. These inland peoples did not switch from manos/metates to pestles/mortars like coastal peoples (c. 5,000 years before present); this may reflect their closer relationship with desert groups who did not exploit acorns. The Greven Knoll toolkit is dominated by manos and metates throughout its extent. In Phase I other typical characteristics were pinto dart points for atlatls or spears, charmstones, cogged stones, absence of shell artifacts, and flexed position burials (Table 3). In Phase II, Elko dart points for atlatls or spears and core tools are observed along with increased indications of gathering (Table 1). In addition, the Greven Knoll populations are biologically Yuman (based on skeletal remains) while the later Angeles populations are biologically Shoshonean (Sutton and Gardner 2010, Sutton 2010).

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 from Catalina 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 (Topanga) traits, such as discoidals, cogged stones, plummet-like charm stones, and cairn burials (Sutton and Gardner 2010: Table 1) virtually disappear from the record. Mortuary practices changed to consist of mainly 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 primarily collecting to increased hunting and fishing (Sutton 2010).

**Table 1. Culture Change Chronology**

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
<b>Encinitas</b>	Greven Knoll I	8,500 to 4,000	Abundant manos and metates, Pinto dart points for atlatls or spears, charmstones, cogged stones and discoidals rare, no mortars or pestles, general absence of shell artifacts.	No shellfish, hunting important, flexed inhumations, cremations rare.
	Greven Knoll II	4,000 to 3,000	Abundant manos and metates, Elko dart points for atlatls or spears, core tools, late discoidals, few mortars and pestles, general absence of shell artifacts.	No shellfish, hunting and gathering important, flexed inhumations, cremations rare.
<b>Angeles</b>	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 <i>Olivella</i> shell beads from the southern Channel Islands; appearance of single-piece shell fishhooks and bone harpoon points; Coso obsidian becomes important; appearance of donut stones.	Appearance of a new biological population (Takic proto-Gab/Cupan language), 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 and cremated human remains; fishhooks become more common.	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 <i>Olivella</i> 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; possible expansion into eastern Santa Monica Mountains, replacing Topanga III groups.
	Angeles IV	1,250 to 800	Cottonwood points appear; some imported pottery appears; birdstone effigies at the beginning of the phase and “spike” effigies dropped by the end of the phase; possible appearance of ceramic pipes.	Change in settlement pattern to fewer but larger permanent villages; flexed primary inhumations continue, cremations uncommon; expansion into the San Gabriel Mountains displacing Greven Knoll III groups.
	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.	Strengthening of ties, especially trade, with southern Channel Islands; expansion into the northern Santa Ana Mountains and San Joaquin Hills; development of mainland dialects of Gabrielino.
	Angeles	450 to	Addition of Euro-American material	Change of settlement pattern,

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
	VI	150	culture (e.g., glass beads and metal tools), locally made pottery, metal needle-drilled <i>Olivella</i> beads.	movement close to missions and ranches; use of domesticated species obtained from Euro-Americans; flexed primary inhumations continue, cremations uncommon to the north (nearer the Chumash) but somewhat more common to the south (nearer the Luiseño); apparent adoption of Chingichngish religion.

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 including manos, metates, bowls, mortars, pestles, points, and others plus highly fragmented cremated human bones and a variety of faunal remains. In addition to the cremains, the other material was also often burned. None of the burning was performed in the burial feature (Sutton 2010).

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 (Sutton 2010).

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. Many Gabrielino inhumations contained grave goods while cremations did not (Sutton 2010).

The Angeles VI phase reflects the ethnographic mainland Gabrielino of the post-contact (i.e., post-A.D. 1542) period. One of the first changes in Gabrielino culture 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 (Sutton 2010).

The ethnographic mainland Gabrielino 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. Ethnographically, the mainland Gabrielino practiced interment and some cremation (Sutton 2010).

Much of the southern California archaeological literature argues that the Gabrielino moved into southern California from the Great Basin around 4,000 Before Present (B. P.), “wedging” themselves between the Hokan-speaking Chumash, located to the north, and the Yuman-speaking Kumeyaay, located to the south (see Sutton 2009 for the latest discussion). This Shoshonean Wedge, or Shoshonean “intrusion” theory, is counter to the Gabrielino community’s knowledge about their history and origins.

## **ETHNOGRAPHY**

Oral tradition states that the Gabrielino have always lived in their traditional territory, with their emergence into this world occurring at Puvungna, located in Long Beach (Martinez and Teeter 2015:26). Another local tribal group, now known as the Juaneño (Acjachemen) also used the Project area (Figure 5). Material culture was very similar between these two groups but the Juaneño were known to produce Tizon brownware ceramics which might differentiate sites.

### **GABRIELINO/TONGVA**

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, to Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Figure 5; based on Bean and Shipek 1978: Figure 1). 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 Project area is not near any recorded major village (based on McCawley 1996: Map 8).

The Gabrielino are considered to have been one of the wealthiest tribes and to have greatly influenced tribes with which they traded (Kroeber 1925:621). 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 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 principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean using reed and dugout canoes. Shellfish were the most common resource including abalone, turban, mussels, clams, scallops, bubble shells, and others (Bean and Smith 1978:538-540).

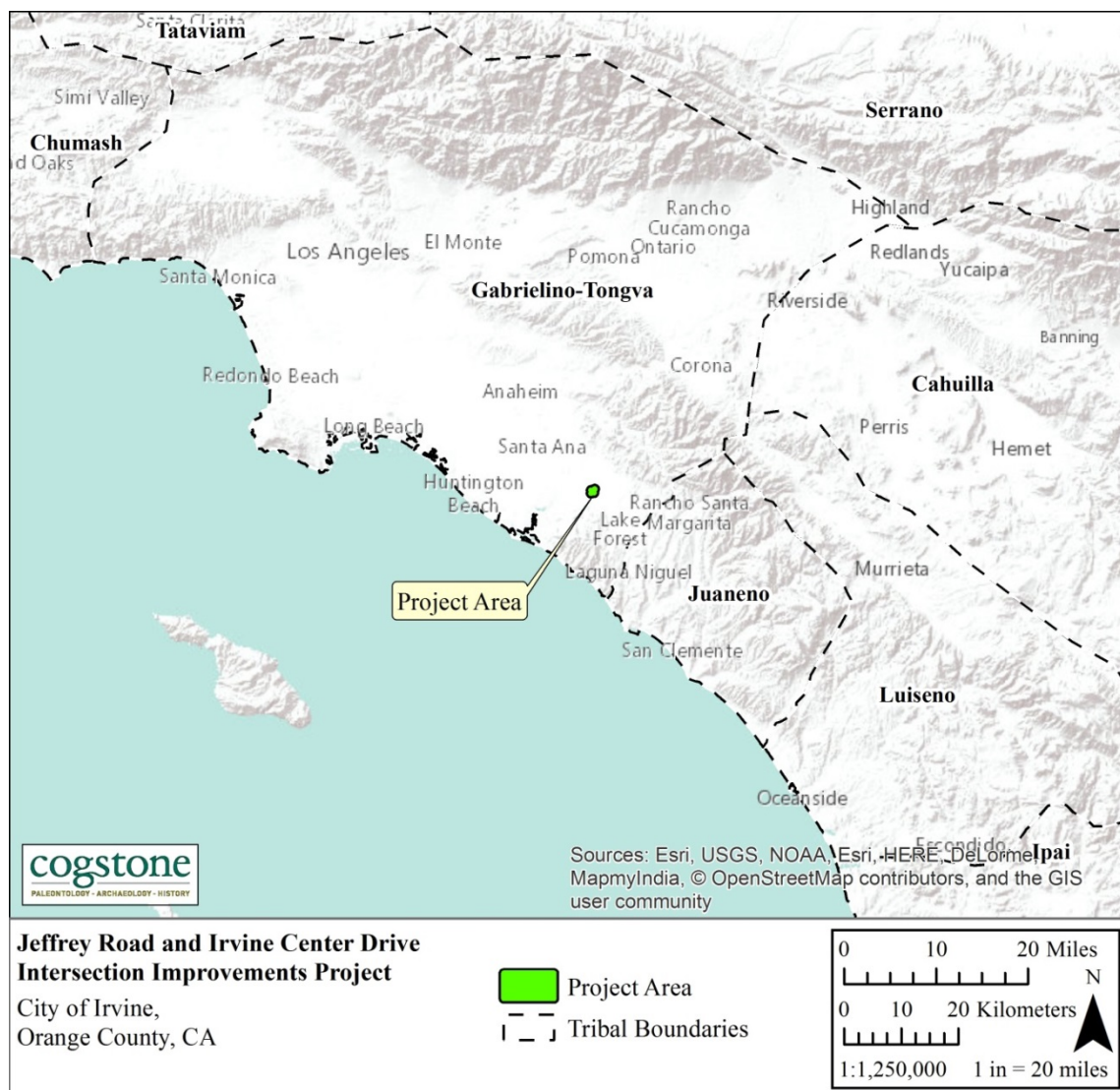
### **JUANEÑO ACJACHEMEN**

About 1,300 years ago, the Acjachemen (Juaneño) who were hunters and gatherers of the San Luis Rey Cultural Pattern moved into southern Orange County. The Acjachemen speak a language that is part of the Takic language family. Their traditional tribal territory was situated partly in northern San Diego County and partly in southern Orange County. The boundaries were Las Pulgas Creek (south), Aliso Creek (north), the Pacific Ocean (west) and, the Santa Ana Mountains (east). Villages were mostly along San Juan Creek, Trabuco Creek, and, San Mateo Creek (O'Neil and Evans 1980).

In prehistory, the Acjachemen had a patrilineal society and lived in groups with other relatives. These groups had established claims to places including the sites of their villages and resource areas. They usually arranged their Marriages from outside villages, which established a social network of related peoples in the region. There was a well-developed political system including a hereditary chief. Religion was an important aspect of their society. Religious ceremonies included rites of passage at puberty and mourning rituals (Kroeber 1976).

Houses were typically conical in shape and thatched with locally available plant materials. Rectangular brush-covered roofs (ramada) often shaded work areas. Each village had a ceremonial structure in the center enclosed by a circular fence where all religious activities were performed (Bean and Shipek 1978).

Women were the primary gatherers of plants foods, but also gathered shellfish and trapped small game animals. Men hunted large game, most small game, fished, and assisted with plant food gathering; especially including acorns. Adults were actively involved in making tools including nets, arrows, bows, traps, food preparation items, pottery, and, ornaments. Tribal elders had important political and religious responsibilities and were involved in education of younger members (Bean and Shipek 1978).

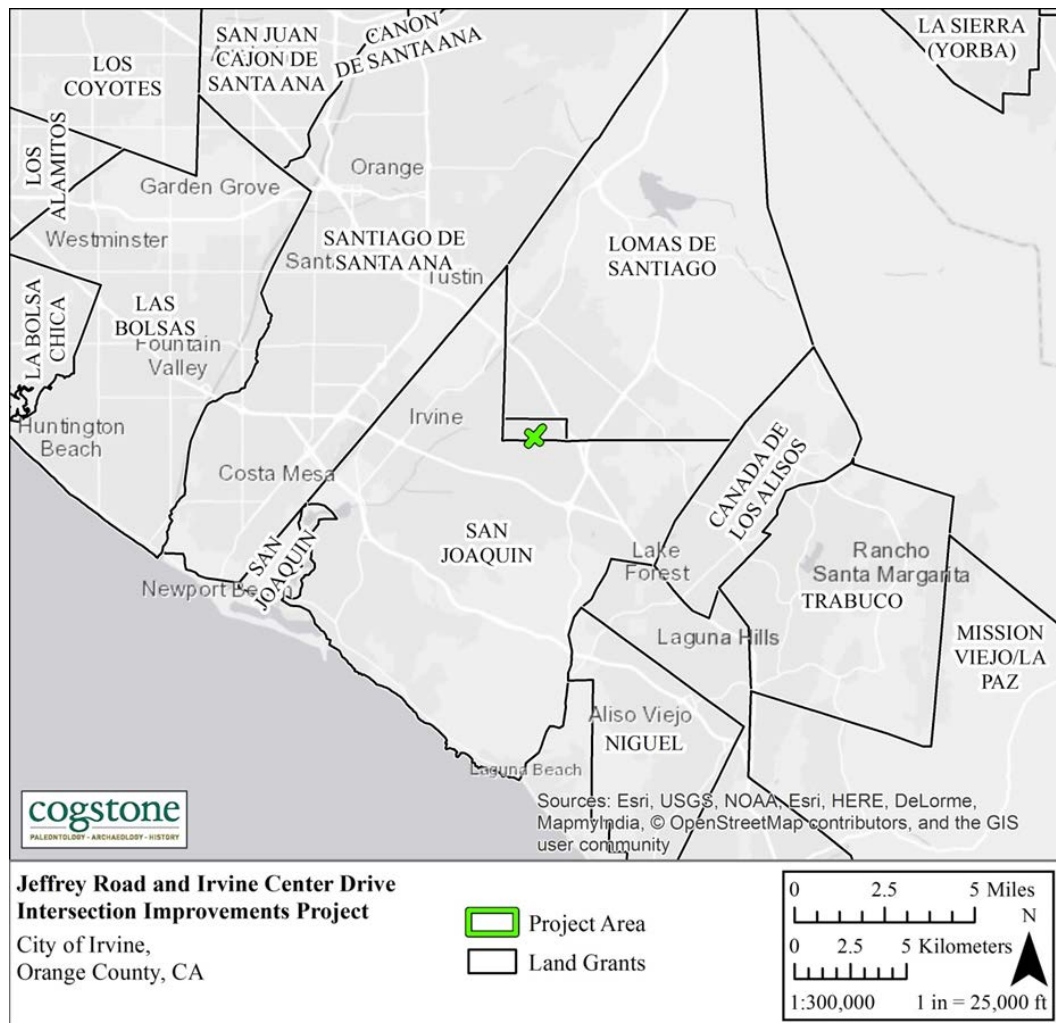


**Figure 5. Tribal boundaries map**

## 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). Between 1769 and 1822 the Spanish had colonized California and established missions, presidios and pueblos (Bean and Rawls 1993).

The Project area lies within the northeastern boundary of Rancho San Joaquin (Figure 6). The Rancho San Joaquin land grant was a combination of the Rancho Cienega de las Ranas and the Rancho La Bolsa de San Joaquín. Both land grants were issued to José Andres Sepúlveda in 1837 and 1842. In 1864 Sepúlveda sold Rancho San Joaquin to Benjamin and Thomas Flint, Llewellyn Bixby, and James Irvine (Liebeck 1988).



**Figure 6. Land grants map**

## **PROJECT AREA HISTORY**

The earliest USGS topographic map available, the 1896 Santa Ana 15-minute topographic map, shows the presence of the Atchison, Topeka, and Santa Fe Railway directly north of the Project area. An unnamed non-extant road is shown crossing the intersection at a northwest to southeast orientation. Jeffrey Road and Valencia Avenue (now Irvine Center Drive) are shown on the 1935 Tustin USGS 7.5-minute topographic map and three structures are depicted in the northwest quadrant of the intersection on the J.J. McFoddin property and one is depicted on the southwest quadrant of the intersection on the Irvine Company Property (Figure 7); all structures are present until the Tustin 7-minute 1945 map. The Blackburn's Map of Orange County (1935) indicates that the northeast, southeast, and southwest quadrants of the intersection were owned by the Irvine Company at that time, while the northwest quadrant was owned by A.J. McFoddin (Figure 7).

With the exception of the railroad, local roads, and previously mentioned structures, the topographic maps show that the Project area remains undeveloped until farmland is depicted on the 1965 Tustin USGS 7.5-minute topographic map and a housing development is depicted adjacent to the northwest side of Jeffrey Road on the 1972 Tustin USGS 7.5-minute topographic map.

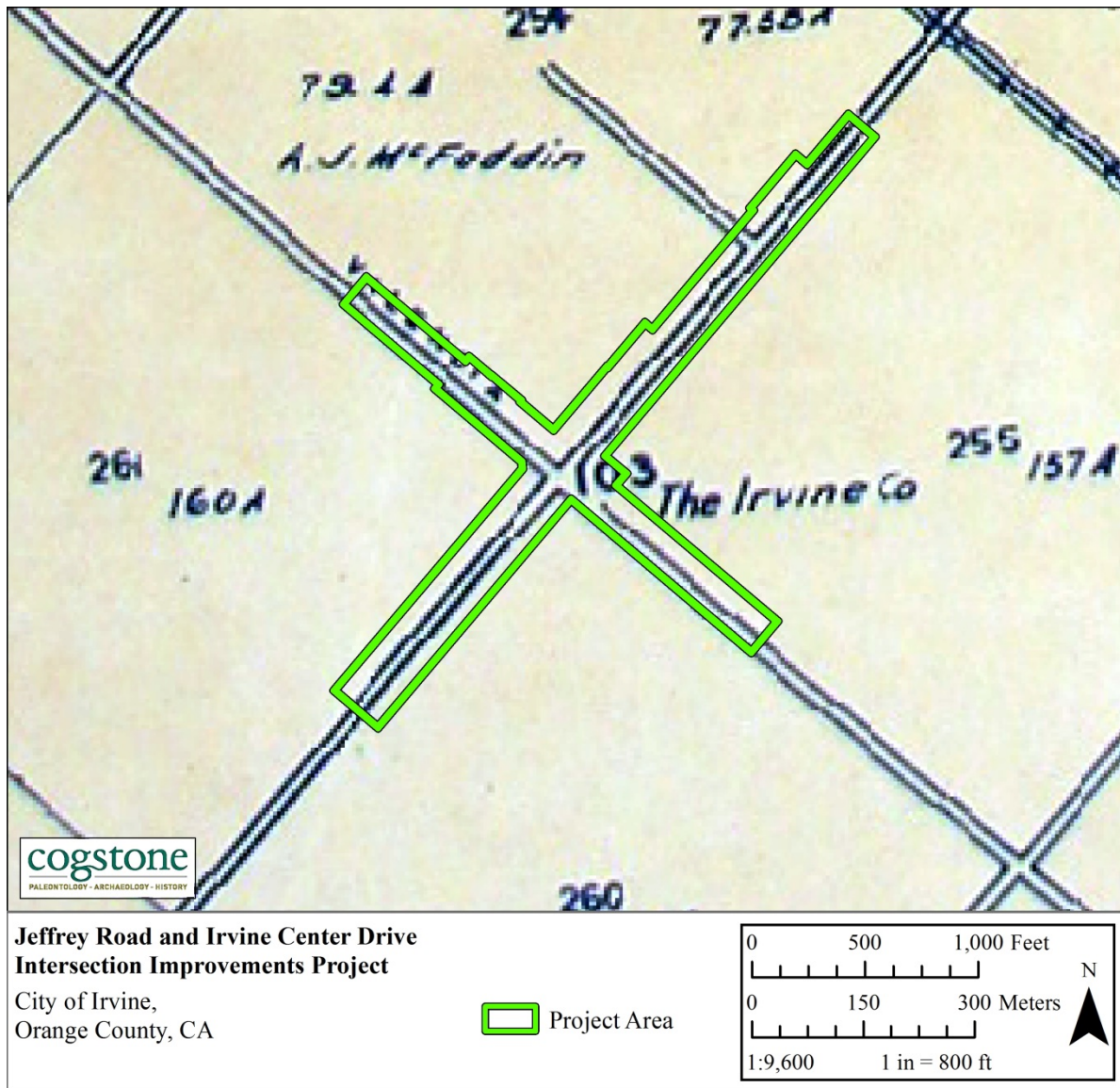
The earliest historic aerial for the Project area dates to 1946 and shows the Project area located within agricultural fields, and appear to be citrus orchards. Jeffrey Road is present as well as Irvine Center Drive which was then called Valencia Avenue. Irvine Centre Drive was lined with large trees, likely Eucalyptus which are presently located in the center median. As depicted in the historic topographic maps, a cluster of structures was located on the northwest and southwest quadrants of the intersection that are present as late as 1963; by 1972 the structures appear to have been razed. By 1980, the intersection takes on its modern configuration and the Irvine Community College is in its present location.

From the historic aerials (1946-2014), small patch of citrus tree remains, in place at the southeastern quadrant of the Jeffrey and Irvine Center Drive (formally Valencia Avenue) directly west of Irvine Valley College. These trees appear to be original to the Irvine Company citrus operation, withstanding the development surrounding them.

The SCE 66 kV Santiago-Estrella No. 1 transmission line lies within the Project area and runs parallel to Jeffrey Road. The line within the Project area consists of lattice-style towers. According to SCE Senior Archaeologist Audry Williams, the transmission line was built in 1969 (Personal communication, 2018). By 1904, the common voltage capacity of transmission lines was reported to be 66,000 volts (66 kV) by SCE and its predecessors. The use of double-circuit steel lattice tower within SCE's 66,000 volt (66kV) system was common place by 1912



replacing the 33kV wood pole lines. By 1930, SCE had fully developed the backbone of its 66 kV transmission system (Becker et al. 2017).



**Figure 7. Blackburn's 1935 Map of Orange County**

## **RECORDS SEARCH**

### **PALEONTOLOGICAL RECORDS SEARCH**

A record search of the Project and a one mile radius was requested from the Natural History Museum of Los Angeles County (LACM; McLeod, 2018; Appendix B). Additionally a records search was obtained from the Cooper Center in Fullerton (Cooper Center 2018). Online records from the University of California Museum of Paleontology database (UCMP 2018), the Paleobiology Database (PBDB 2018), and print resources were searched for fossil localities (Jefferson 1991a, 1991b, 2002; McLeod 2015).

No fossils are known in the Project area or a one-mile radius. Fossils have been recovered from terrestrial Pleistocene (11,700 to 2.5 million year old) unnamed Pleistocene alluvial sediments in the vicinity. McLeod (2018) notes two localities near the Project and the Cooper Center (2015) lists 12 localities from terrestrial Pleistocene deposits in the Tustin and El Toro 7.5' USGS topographic quadrangles near to the Project. Jefferson (1991 a, 1991b, 2002) notes three localities from these deposits, and a grey literature search revealed one Cogstone project (Cogstone 2018) near to the current Project (Appendix B). Neither the UCMP (2018) or the PBDB (2018) note any localities near to the Project.

Typically Ice Aged fossils begin appearing at a depth of 8 to 10 feet within southern California valleys. Most of the 18 fossil localities listed (Appendix B) are from highway or housing excavations. However, these excavations were at greater depths than proposed for this Project.

### **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 2008; Table 2) 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.

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 in diameter or less. Moreover, fossil preservation also greatly increases after natural burial in rivers, lakes, or oceans. 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 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.

Based on other recorded localities, Pleistocene fossils typically begin appearing about 8 to 10 feet deep in California valleys. Shallower sediments in the valleys usually do not contain the remains of extinct animals, although Holocene (less than 11,700 years old) remains may be present. Artificial fill is expected to be present at the surface and is assigned a very low sensitivity (PFYC 1). The Holocene to late Pleistocene young alluvial fan deposits are assigned a low sensitivity (PFYC 2) in the upper eight feet. Impacts more than eight feet below the original ground surface in native deposits are given a potentially moderate but patchy sensitivity (PFYC 3a).

**Table 2. Project Paleontology Sensitivity**

Rock Units	PFYC Sensitivity					
	very high (5)	high (4)	moderate but patchy (3a)	moderate but unknown (3b)	low (2)	very low (1)
Artificial fill, modern						X
Alluvial fan deposit, Holocene. Less than 8 feet deep.					X (surface deposits)	
Alluvial fan deposit, Pleistocene. More than 8 feet deep.			X (starting at 8 feet deep)			

## CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM

A search for archeological and historical records was completed by Megan Wilson, Cogstone staff archaeologist at the South Central Coastal Information Center (SCCIC) of the California

Historical Resources Inventory System (CHRIS) located at California State University, Fullerton on January 17, 2018. The record search covered a one-mile radius from the Project boundaries.

The record search indicated that 46 cultural resources investigations have been completed previously within a one-mile radius of the Project area (Table 3). Of these, nine included portions of the Project area, six were located within a 0.25-mile radius, four were located within a 0.5-mile radius, and 27 were located between a 0.5-1 mile radius of the Project area. No cultural resources have been recorded within the Project area. Outside of the Project area, a total of 12 cultural resources have been recorded within the one mile buffer (Table 4).

**Table 3. Previous Cultural Resource Studies**

<b>Report No. (ORA)</b>	<b>Author(s)</b>	<b>Report Title</b>	<b>Date Published</b>	<b>Distance from PA</b>
8	Gothold, Jane and Maguire, John	Pacific Coast Archaeological Society Survey Along the North Side of the San Diego Freeway	1973	0-0.25
233	Cottrell, Marie G.	Archaeological Survey Report for Village 12 and Village 14 (ORA-508 and ORA-543)	1977	0-0.25
486	Mitchell, Laura Lee	Woodbridge Observer Survey Project Report on Following Heavy Grading in the City of Irvine by the Pacific Coast Archaeological Society	1976	0-0.25
586	Douglas, Ronald D.	Assessment of Cultural Scientific Resources, Village 12, See Hvtl Relocation, Irvine, California	1980	Within
621	Weisbord, Jill	Cultural Resource Survey of the Irvine Center Da, Village 13	1981	0.5-1
655	Cottrell, Marie G.	Appendix C	1980	0.5-1
761	Anonymous	Cultural Resource Assessment Village 12 Development Site Irvine, California	1981	Within
762	Ahlering, Michael L	A Discussion of Scientific Cultural Resources in Relation to the North Irvine Precise Land Use Plan	N/A	0.5-1
802	Padon, Beth	An Archaeological Assessment Village 12 City of Irvine	1985	0.5-1
808	Unknown	Final Environmental Impact Report Regional Domestic Water Storage and Transmission Facilities From Diemer/Sac and Wellfield Systems to Existing Distribution Network	1979	0.5-1
847	Paden, Beth	Archaeological Resource Inventory City of Irvine and its Sphere of Influence	1985	Within
1085	Jertberg, Patricia R.	Archaeological Monitoring for the State Farm Project Area	1991	0.25-0.5
1096	Breece, William H.	Archaeological Monitoring at the IUSD Project Site, Irvine	1990	0.5-1
1099	Cooley, Theodore G.	Archaeological Resources Assessment Archaeological Resource Conducted for Proposed Irvine Ranch Water District Pipeline Right of Ways	1979	0.5-1
1402	Brock, James P.	Cultural Resources Assessment for the Irvine Archaeological Advisory Desalter Project, Irvine, California	1994	Within

<b>Report No. (ORA)</b>	<b>Author(s)</b>	<b>Report Title</b>	<b>Date Published</b>	<b>Distance from PA</b>
1413	Whitney-Desautels, Nancy A. and David A.	Cultural Resources Assessment of the Irvine Ranch Water District Alternate Aqueous Waste Disposal Facility Sites, Orange County, California	1993	0.25-0.5
1419	Strudwick, Ivan H. and Bradley Sturm	Cultural Resource Assessment - Planning Area 12, City of Irvine, Orange County, California	1994	0.5-1
1422	Padon, Beth	An Archaeological Assessment of a Portion of Planning Area 12, City of Irvine, USGS Tustin Quadrangle, 30 Acres	1994	0-0.25
1466	Rosenthal, Jane	Archaeological and Paleontological Monitoring of Preliminary Grading and Trenching for the Oak Creek Golf Course	1996	Within
1624	Govena, Fran	Archaeological and Paleontological Monitoring Results for PM97-114 Western Digital Site, Irvine, Orange County, California	1997	0.5-1
1786	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 052-12 in the City of Irvine, California	1998	0.5-1
1944	Unknown	Draft Environmental Impact Report East Irvine Historical Site, Irvine, California	1984	0.5-1
2062	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility Cm 152-09, in the City of Irvine County of Orange, California	2000	0.5-1
2244	Brown, Joan C	Negative Archaeological Survey Report-dfd-ep-25 (rev.2/83)	2000	0.5-1
2267	Hunt, Kevin P.	An Archaeological and Paleontological Survey of the Irvine Spectrum GPA Project	2000	0.5-1
2336	Demcack, Carol	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 5, Irvine, Orange County, California	2000	0.5-1
2337	Demcack, Carol and Milos Velechovsky	Final Report on Archaeological and Paleontological Monitoring Program Conducted at Spectrum 6, City of Irvine, Orange County, California	2000	0.5-1
2473	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. SC 070-01 Orange County, California	2001	0.5-1
2497	Brown, Joan C	The Proposed Jeffrey Road/OCTA Metrolink Railway Grade Separation: 1/2 Mile South of Walnut Ave. Within the City of Irvine, County of Orange, California	2001	Within
2636	Brown, Joan C.	A Cultural Resources Literature Study and Field Reconnaissance for the Natural Treatment System Master Plan Facilities, Orange County, California	2003	0.5-1
3197	Bonner, Wayne H.	Cultural Resource Survey and Revised Records Search Results for Sprint Og60xc606a (Irvine Valley College Tower #m-1;t-2), Near Jeffrey Road and Irvine Center Drive, Irvine, Orange County, California	2003	0-0.25
3244	Kyle, Carolyn E.	Cultural Resource Assessment for AT&T Wireless Facility 950-013-522e Located in the City of Irvine Orange County, California	2004	0.5-1



<b>Report No. (ORA)</b>	<b>Author(s)</b>	<b>Report Title</b>	<b>Date Published</b>	<b>Distance from PA</b>
3277	Casne George A., John Romani, and Lois Webb	The Proposed Project Is the Widening and General Improvement of Interstate Route 5 Between Route 405 and Route 55 in Orange County, California	1985	0.5-1
3285	Fulton, Terri and Deborah McLean	Archaeological Mitigation Monitoring Report for the Irvine Desalter Pipelines Project	2006	Within
3285	Fulton, Terri and Deborah McLean	Archaeological Mitigation Monitoring Report for the Irvine Desalter Pipelines Project	2006	Within
3293	Mason, Roger D.	Historic Property Survey Report for the Sand Canyon Grade Separation Project in the City of Irvine, Orange County, California	2003	0.5-1
3373	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	2006	Within
3380	Padon, Beth	Cultural Resource Assessment for Traveland Discovery Project, Irvine, Orange County	2007	0.5-1
3392	Strudwick, Ivan H.	Cultural Resource Survey of the Proposed Irvine Desalter Project, City of Irvine, Orange County, California	2004	0.5-1
3675	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA2520A (SCE Tower-Aki Nursery), 6900 Alton Parkway, Irvine, Orange County, California	2007	0.5-1
3825	Drover, Christopher E	A Cultural Resources Inventory of Planning Area 98 and 9C, Irvine, California	2000	0.5-1
3874	Wlodarski, Robert J.	AT&T Wireless Telecommunications Site LA3219 (Smoke Tree & Irvine Center) NE Quad of Barranca Parkway and Jeffrey Road, Irvine, Ca. 92612	2010	0-0.25
4084	Fulton, Terri and Deborah McLean	Cultural Resource Assessment of 22 Natural Treatment System Facility Sites Within the San Diego Creek Watershed - Natural Treatment System Project, Irvine Ranch Water District, Orange County, California	2005	0.5-1
4362	Shinn, Juanita R.	Cultural Resources Literature Review of the Irvine Desalter Study Area	1990	0.25-0.5
4373	Brunzell, David	Cultural Resources Assessment South Orange County Community College District Master Plan Irvine Valley College and Saddleback College Campuses Mission Viejo and Irvine, Orange County, California	2011	0.25-0.5
4405	Bonner, Diane and Carrie Willis	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate Cherbourg, 4918 Irvine Center Drive, Irvine, Orange County, California	2014	0.5-1

**Table 4. Previously Recorded Cultural Resource Sites**

<b>Primary No. (P-30-)</b>	<b>Site Type</b>	<b>Site Description</b>	<b>Date Recorded</b>	<b>Distance from PA</b>
543	Prehistoric Archaeological Site	Temporary habitation site	1976	0.25-0.5
1304	Prehistoric Archaeological Site	Lithic scatter	1981	0.5-1
1657	Historic Archaeological Site	Historic water tank	2006	0.5-1
100021	Prehistoric Isolate	Mano	1991	0-0.25
161870	Historic Resource	Workers Cottage/East Irvine Post office	1990	0.5-1
161871	Historic Resource	Irvine Hotel	1990	0.5-1
161872	Historic Resource	Agricultural Storage Shed/Agricultural Office for Sea Tree Nurseries	1991	0.5-1
161873	Historic Resource	Workers Cottage/East Irvine Post office	1991	0.5-1
161874	Historic Resource	Workers cottage, single family residences, Craftsman style	1991	0.5-1
161875	Historic Resource	Irvine Garage/Orange Inn. Art Deco style commercial building	1991	0.5-1
176663	Historic Resource	Burlington Northern Santa Fe (formally Atchison, Topeka, and Santa Fe) Railway	2002, 2007	0-0.25
179855	Historic Resource	Burlington Northern & Santa Fe Railway (BNSF) tracks	2002	0.5-1

## OTHER SOURCES

In addition to the SCCIC records search, a variety of sources were consulted in March 2018 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 Historic Resources (CRHR), California Historical Resources Inventory (CHRI), 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**

<b>Source</b>	<b>Results</b>
National Register of Historic Places (NRHP; 1979-2002 & supplements)	Negative
Historic USGS Topographic Maps	The earliest topographic map for the Project area (PA) is the 1896 Santa Ana 15' map that shows an unnamed road crossing the PA near the intersection at a northwest to southeast orientation. The Southern California (SUR Line) is present to the northeast. The Jeffrey Road and Irvine Center Drive (then Valencia Road) intersection is depicted on the 1935 Tustin 7.5' topographic map. Three structures are depicted in the northwest quadrant and one is depicted on the southwest quadrant of the intersection from 1935-1945. From 1950-1967 the PA is depicted in agricultural fields and by 1975 the northwest quadrant is developed.
Historic US Department of Agriculture Aerial Photographs	The earliest historic aerial for the (PA) dates to 1946 and shows the PA located within agricultural fields. Jeffrey Road is present as well as Irvine Center Drive which was called Valencia Avenue at that time. Irvine Centre Drive was lined with large trees, likely the Eucalyptus that are present now in the center median. A cluster of structures was located on the northwest and southwest quadrants of the intersection that are present as late as 1963, by 1972 the structure appear to have been razed. By 1980, the intersection take on it modern configuration and the Irvine Community College is in its present location.
California Register of Historical Resources (CRHR; 1992-2014)	Negative
California Historical Resources Inventory (CHRI; 1976-2014)	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: 1867, Jose Sepulveda
Irvine Historical Society	Negative, no response

## NATIVE AMERICAN CONSULTATION

Cogstone requested a sacred lands record search from the Native American Heritage Commission (NAHC) on January 17, 2017. The NAHC responded on January 18, 2017 stating there were no known sacred sites or heritage resources in the Project area (Appendix C).

The City of Irvine conducted Native American consultations under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)), also known as AB 52, which requires consulting for projects within the City of Irvine's jurisdiction and within the traditional territory of the Tribal Organizations

who have previously requested AB52 consultations with the City. Three Tribal Organizations had requested AB52 consultation with the City and include the Gabrieleno Band of Mission Indians- Kizh Nation, the Juaneno Band of Mission Indians Acjachemen Nation (Belardes), and the Soboba Band of Mission Indians. The City of Irvine sent AB52 letters to all three Tribal Organizations on September 14, 2017 via certified mail.

In addition to AB52 consultation, the City of Irvine sent out Project notification letters to five additional Tribal Organization contacts via United States Postal Service and included the Gabrielino Tongva Indians of California Tribal Council, Gabrielino/Tongva Nation, Juaneno Band of Mission Indians-Acjachemen Nation (Romero), and the Gabrielino-Tongva Tribe. No responses were received by the City during the 30 day consultation period.

## **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. One purpose is to verify the exact location of all previously identified, accessible paleontological localities within a Project area and to check if more fossil materials are present. The survey is also to assess the potential for the Project area sediments to contain fossil resources and to confirm that field observations conform to the geological maps of the Project area. All undeveloped ground surface areas that may be impacted within the proposed Project area are examined. 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.

Megan Wilson, Cogstone archaeologist and cross-trained paleontologist, completed an intensive-level pedestrian survey of the Project area on February 2, 2018. The survey consisted of walking parallel transects, spaced at 10-meter intervals within the Project area, excluding the hardscaped roads (Jeffrey Road and Irvine Center Drive), while closely inspecting the unpaved ground surface. Existing disturbances (e.g., rodent burrows, ditches) were examined for artifacts and buried cultural deposits.

## RESULTS

Visibility throughout the Project area averaged fair, ranging from 0-100 percent visibility. The majority of the Project area included hardscaped roads, dirt covered access roads, and sidewalks-paved, unpaved, and landscaped (Figure 8). Active farms were located on the east side of the Project area where strawberries were being cultivated (Figure 9). Vegetation included strawberry fields, ornamental landscaping, invasive weeds, as well as eucalyptus (Figure 10) and orange trees. Other portions of the Project area were covered with sand and/or gravel. areas in which the ground was uncovered included vacant dirt lots, long open stretches of unpaved access road for the powerlines located above the Project area, and areas recently disced for agriculture.

The Project area was relatively flat and lacked any cutbanks or ditches where the subsurface sediments could be observed. Non-landscaped surficial sediments consisted of oxidized silts and sands (Figure 11). In some areas the sediments included angular pebbles, however these have been dumped onsite.

No paleontological or cultural resources were observed. A small grove of orange trees, located at the southeast quadrant of the Jeffrey Road and Irvine Center Drive intersection, directly west of Irvine Valley College was observed (Figure 12). Based on historic aerials and a conversation with the Irvine Valley College (IVC) Maintenance Manager, the orange trees predate the college and are likely original to the original Irvine Company citrus orchard. The grove is located within a parcel owned by the SCE and are maintained by the IVC Facilities and Maintenance crew (Ojeda 2018). The SCE 66 kV Santiago-Estrella No. 1 transmission tower was identified within the Project area (Figure 13).



**Figure 8. Northwest quadrant of Project area intersection, view southeast**



**Figure 9. East side of Project area on Jeffrey road, north of the intersection looking south**





**Figure 10. Eucalyptus trees in medium of Irvine Center Dr., west of Jeffrey Rd, view west**



**Figure 11. Local sediments are oxidized reddish brown at surface, near Irvine Valley College**





**Figure 12. Orange grove west of Irvine Valley College, view northwest**



**Figure 13. SCE 66 kV Santiago-Estrella No. 1 transmission tower, left, facing east**

## STUDY FINDINGS

Identification efforts by Cogstone for this cultural resources assessment included a review of existing literature, historic maps, historic aerials, a record search conducted at the SCCIC, LACM, and Cooper Center, and an intensive pedestrian survey. No paleontological or cultural resources were previously recorded and none were observed during the survey.

One orange grove was observed in the southeast quadrant of the Jeffrey Road and Irvine Center Drive intersection, directly west of Irvine Valley College. Based on historic aerials and a conversation with IVC Facilities and maintenance staff, the orange trees predate the college and are likely to be original to the Irvine Company citrus operations. The City of Irvine has been heavily developed and few traces of its agrarian past remain. It is recommended that some of these trees be preserved in place if possible.

The SCE 66 kV Santiago-Estrella No. 1 transmission line was built in 1969 and will be historic in age in 2019. SCE has developed a management plan to help identify, review and exempt historic-era transmission lines within its territory (Becker et al. 2017). As previously stated, the first 66 kV transmission lines were first developed in 1907 and were fully developed by 1930. Thus the period of significance for 66 kV lines is 1907-1930. All towers and lines built after the period of significance used multiple tower types that had become standardized with the “technology being considered ‘off the shelf’ and commonplace”. As a result, 66 kV lines built after 1930, like the SCE 66 kV Santiago-Estrella No. 1 transmission line, are recommended as not eligible for listing on the CRHR (Becker et al 2017:64).

Planned cut depths are approximately four feet deep for the majority of the Project area with excavation for the monopole reaching 50 feet below ground surface. Recovery of fossils at the shallow depth of 4 feet is unlikely. It is anticipated that the foundations for the traffic signals and the monopole will be augured. While fossil fragments may rotate up on the mechanical auger, the specimens will lack context including depth/elevation, formation identification, and other elements that are critical to scientific significance. As a result, no further paleontological resources work is recommended at this time.

The potential for discovery of intact archaeological deposits, including unknown buried archaeological deposits, materials, or features, by the implementation of this Project is low. As a result, no further cultural resources work is recommended at this time. If the scope of work changes, however, further cultural assessments will be necessary.

## **RECOMMENDATIONS**

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until a qualified archaeologist or paleontologist, as appropriate, can evaluate it. Further, if human remains are inadvertently uncovered during project related activities, State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance shall occur until the County Coroner has made a determination regarding the origin of the remains and the nature of their deposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials

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## **APPENDIX A: QUALIFICATIONS**



PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**MOLLY VALASIK**

Principal Investigator for Archaeology

## EDUCATION

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

## EXPERIENCE

Ms. Valasik is a Registered Professional Archaeologist with nine years of professional 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. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*.

## SELECTED PROJECTS

**SR-138 Palmdale Boulevard PA/ED (Sierra Highway), Caltrans District 7, Palmdale, Los Angeles County, CA.** For this local assistance project on behalf of the City of Palmdale, the project involved producing the ASR technical report for Section 106 of the NHPA compliance. The project involved widening State Route 138 and Sierra Highway. Managed record search, Sacred Lands File search, Native American consultations, and intensive-level pedestrian archaeological survey, as well as coordinated approval by District 7 of an APE map. Sub to Parsons. Task Manager/Principal Investigator. 2016

**Arlington Avenue Widening, Caltrans District 8, City of Riverside Public Works, Riverside County, CA.** For this local assistance project on behalf of the City of Riverside, the project involved producing ASR/HPSR technical reports for Section 106 of the NHPA compliance. The City proposed widening Arlington Avenue one linear mile in order to construct safety improvements. Managed record search, Sacred Lands File search, Native American consultations, and intensive-level pedestrian archaeological survey of the 5-acre site with negative results, as well as coordinated approval by District 8 of an APE map. Sub to Michael Baker. Project Manager and Report Author. 2015

**I-5 Jeffrey Bridge, Caltrans District 12, Irvine, Orange County, CA.** For the construction of a recreational trail and bridge, coordinated record search, Sacred Lands search, NAHC consultation; preparation of area of Potential Effects (APE) maps for archaeological resources with Caltrans; intensive pedestrian survey and mapping; preparation of ASR, HPSR, PIR technical reports on behalf of the City of Irvine in compliance with CEQA. Sub to Michael Baker. Task Manager/ Principal Archaeologist. 2015-2016

**Lyon Subdivision EIR, Coto de Caza, Orange County, CA.** Conducted a cultural resources technical study to support preparation of an EIR on behalf of the developer for the proposed subdivision of an existing large estate for development of 28 new residential lots on approximately 50-57 acres of land. The existing land is predominantly a citrus orchard. Services included records search, Sacred Lands search, Native American consultation, GIS mapping, and intensive-level pedestrian survey with negative results. The lead agency for the Project is the City of Coto de Caza. Sub to CAA Planning. Principal Investigator. 2015

**I-405 Freeway Trail Lighting Improvements Project, City of Irvine/ Caltrans District 12, Orange County, CA.** Literature and Sacred Lands searches, extended Native American consultation, hydrogeological study of San Diego Creek Watershed, survey, and technical reports (HPSR and ASR) for improvements to lighting along existing bikeway. NHPA Section 106 compliance. Sub to RBF. Archaeologist/Co-Author. 2014



PALEONTOLOGY - ARCHAEOLOGY - HISTORY

**KIM SCOTT**

Principal Investigator for Paleontology

## EDUCATION

2013 M.S., Biology with a paleontology emphasis, California State University, San Bernardino  
2000 B.S., Geology with paleontology emphasis, University of California, Los Angeles

## SUMMARY QUALIFICATIONS

Scott has more than 20 years of experience in California paleontology. She is a qualified geologist and field paleontologist with extensive survey, monitoring and fossil salvage experience. In addition, she has special skills in fossil preparation (cleaning and stabilization) and preparation of stratigraphic sections and other documentation for fossil localities. Scott serves as company safety officer and is the author of the company safety and paleontology manuals.

## SELECTED PROJECTS

**Coto de Caza EIR Subdivision, Coto de Caza, Orange County, CA.** The project proposes the subdivision of an existing large estate for development of 28 new residential lots on approximately 50-57 acres of land. Proposed residential lots will be a minimum of one acre in size. Prepared a Paleontological Assessment Report. Contracted to Bill Lyon. Co-Principal Paleontologist/Report Co-author. 2015.

**Little Corona, Newport Beach, Orange County, CA.** The project is part of the Newport Coast Watershed Management Plan and proposes the diversion of water from Buck Gully Creek into a subsurface infiltration gallery in which the Creek water will be percolated through the sand in order to improve beach conditions. Prepared the Archaeological and Paleontological Assessment Report. Contracted to Michael Baker RBF. Co-Principal Paleontologist/Report Co-author. 2015.

**Center Avenue, Huntington Beach, Orange County, CA.** The project consisted of constructing an underground parking structure. Sub to Avalon Bay. Supervised archaeological and paleontological field work and prepared the Archaeological and Paleontological Monitoring report. Field and Laboratory Director/ Report Co-author. 2014.

**Gene Autry Way, Caltrans District 12, Anaheim, Orange County, CA.** Project consisted of extending Gene Autry Way westward from 2,400 feet east of Interstate 5 to Haster Street (6 lanes wide), widening approximately 1,575 feet of Haster Street (520 feet south of Katella Avenue to 600 feet north of Orangewood Avenue) from 4 to 6 lanes plus a center turn lane, and completion of the Gene Autry Way overpass. Prepared a Paleontological Monitoring Report. Contracted to C. C. Myers. Field and Laboratory Director/Report Co-author. 2011-2012.

**State Route 57 Northbound Widening Project, Caltrans District 12/ Orange County Transportation Authority (OCTA), Fullerton, Orange County, CA.** Caltrans widening to State Route 57 between Lambert and Yorba Linda Avenue. Supervised paleontological monitoring and prepared the Paleontological Monitoring report. Under contract to CC Myers. Field and Laboratory Supervisor/Report Co-author. 2011-2012.

**Interstate 5 and Ortega Highway Interchange, San Juan Capistrano, Orange County, CA.** The project consisted of reconfiguring the interchange. Sub to ECORP Consulting. Co-authored Paleontological Literature Review. Field and Laboratory Director/ Report Co-author. 2006.

**Central Park West Project, Irvine, Orange County, CA.** The project consisted of building a housing development with underground parking. Supervised archaeological and paleontological field work and co-authored the Archaeological and Paleontological Assessment and monitoring reports. Sub to Lennar Communities. Field and Laboratory Director/ Report Co-author. 2005-2010.

## **EDUCATION**

2014 M.A. Anthropology, California State University, Fullerton *cum laude*  
2013 GIS Certificate, California State University, Fullerton  
2006 B.A., Anthropology, University of California, Los Angeles *cum laude*

## **SUMMARY QUALIFICATIONS**

Ms. Wilson is a Registered Professional Archaeologist (RPA) and cross-trained paleontologist. Ms. Wilson regularly conducts records searches, tribal consultations, completes DPR site records, and gathers historic building information from local municipalities, and assists in drafting archaeological assessment reports for state, federal, and private development projects. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. Further, she is certified in Geographic Information Systems (GIS) and specializes in ESRI's ArcGIS software. Ms. Wilson is responsible for supervising GIS data collection and management, geospatial analysis, and the production of GIS maps and databases for large and small-scale projects. Ms. Wilson has seven years of experience in southern California archaeology.

## **SELECTED PROJECTS**

**Park Place Extension and Grade Separation EIR EA, Caltrans District 7, El Segundo, Los Angeles County, CA.** Conducted a pedestrian survey to record and evaluate cultural resources within the archaeological and architectural APEs for a ~0.5-mile project along NBSF and UPRR rail lines and spur tracks on behalf of the City of El Segundo for HPSR/ASR/HRER and paleontological reports. Seven built-environment resources were identified, evaluated, and DPR 523 forms were prepared. Archaeologist. 2017

**Whittier Boulevard / I-605 Arterial Hot Spot Improvements, Environmental Clearance and Preliminary Engineering for Three Intersection Improvements, Whittier, Los Angeles County, CA.** Conducted an intensive-level cultural resources survey to support cultural and paleontological resources technical studies for improvements proposed for three intersections in a disturbed urban environment. Drafted APE maps, records search, Sacred Lands search, and NAHC consultation for intersections at Colima Road, Santa Fe Springs Road and Painter Avenue. Archaeologist. 2016

**Hidden Oaks Country Club Specific Plan and TT 18869, Chino Hills, San Bernardino County, CA.** Prepared report maps, conducted cultural and paleontological resources assessments and assisted the City with SB 18 compliance. Services included records search, drafting project maps, Sacred Lands search, NAHC consultation, field survey, and mitigation recommendations. Cogstone responded to the cultural section of the project EIR comment for this proposed 537-acre residential. Archaeologist. 2015-2016

**On-Call Cultural Resources Services, Sanitation Districts of Los Angeles County, CA.** Prepared APE maps, conducted record searches, NAHC consultation, field surveys, and prepared DPR forms to support upgrades and improvements to pipelines at Mesquite Landfill, Clearwater, and Santa Clarita facilities. Archaeologist. 2015-2016

**Accelerated Charter Elementary School, Los Angeles Unified School District, Los Angeles, Los Angeles County, CA.** The project involves documentation of five historic-age buildings prior to demolition, background research, mitigation monitoring plans, archaeological and paleontological monitoring and preparation of a monitoring compliance report. LAUSD is constructing a new facility on a 2.3-acre site in South Central Los Angeles consisting of classrooms, open areas and parking. Drafted project related maps, conducted background research and contributed to preparation of DPR forms. Archaeologist. 2015

**Sweany Pipeline, Phase II, Laguna Beach County Water District, Orange County, CA.** Completed a cultural resources assessment; conducted archaeological/paleontological records search, NAHC consultation, and drafted project maps for inclusion in a CEQA environmental document. Archaeologist. 2014



**DESIREÉ RENÉE MARTINEZ**  
QA/QC

## **EDUCATION**

1999 M.A., Anthropology (Archaeology), Harvard University, Cambridge  
1995 B.A., Anthropology, University of Pennsylvania, Philadelphia

## **SUMMARY QUALIFICATIONS**

Ms. Martinez is a qualified archaeologist with 21 years of experience in archaeological fieldwork, research, and curation. She has expertise in the planning, implementation, and completion of all phases of archaeological work and has participated in archaeological investigations as a crew member, tribal monitor, and principal researcher. She meets national standards in archaeology set by the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and the standards outlined in Attachment 1 to Caltrans Section 106 Programmatic Agreement with the FHWA. Her experience also includes compliance with CEQA, NEPA, NAGPRA, SB 18 and other cultural resource laws. In addition, Ms. Martinez has vast experience in lab analysis and museum collections management. Ms. Martinez also has extensive experience consulting with Native American leaders and community members in a variety of contexts.

## **SELECTED PROJECTS**

**SR 138 Crowder Canyon Realignment Data Recovery, Caltrans District 8, Hesperia, San Bernardino County, CA.** Project Manager. The project involves realignment of a ~2-mile segment of SR 138 including construction of three bridges, one lane in each direction, drainage construction and demolition of the existing segment. Cogstone participated in data recovery at two archaeological sites. All work was performed in compliance with the Caltrans SER and NEPA, CEQA, and Section 106 of NHPA. Tasks included Native American coordination, manual and mechanical excavation, backfilling, and controlled destruction. Sub to Applied Earthworks. 2016-2017

**Longboat Solar Photovoltaic, EDF Renewable Energy, Barstow and Lenwood, San Bernardino County, CA.** Project Manager/Principal Investigator. The project was construction of a new solar facility. Managed the cultural resources assessment including Phase I and Extended Phase I studies to support MND for this ~235-acre site. Managed archaeological monitoring, Native American coordination, Phase II testing, and was co-author of the treatment plan and compliance report. Sub to Environmental Intelligence. 2015-2017.

**Fisher House and Golf Course, Veterans Affairs Long Beach Healthcare System, Long Beach, Los Angeles County, CA.** Principal Investigator. The project was preconstruction testing and monitoring for two new constructions projects. In compliance with the Historic Property Treatment Plan preconstruction work included ground penetrating radar and magnetometry, truck mounted auger testing and mechanical excavation units. One historic refuse area was defined and recorded. Monitoring recovered additional cultural materials. Co-author of compliance reports. 2015-2017.

**High Desert Corridor/ SR-138 Widening Project, Caltrans District 7 On-Call (07A3145)/LA Metro, Los Angeles and San Bernardino Counties, CA.** Co-Principal Investigator. This project proposed by Caltrans and Metro involves construction of a new, approximately 63-mile long, east-west freeway/expressway and rail line between SR-14 in Los Angeles County and SR-18 in San Bernardino County. Phase II/III testing and data recovery at the three sites that will be directly impacted by the project. Analyzed lithic material. Compliance with Section 106 of the NHPA and CEQA are required. Sub to Parsons Transportation Group. 2015-2015.

**California State University Long Beach, Long Beach, Los Angeles County, CA.** Principal Investigator and Project Manager. Managed providing cultural and Native American monitors for a variety of infrastructure improvements on the campus. 2012-2015



## **APPENDIX B. PALEONTOLOGICAL RECORDS SEARCH**



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](mailto:smcleod@nhm.org)

1 February 2018

Cogstone Resource Management, Inc.  
1518 West Taft Avenue  
Orange, CA 92865-4157

Attn: Megan Wilson, Archaeologist & GIS Technician

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed  
ICD Jeffery Project, Cogstone Project # 4111, in the City of Irvine, Orange  
County, project area

Dear Megan:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed ICD Jeffery Project, Cogstone Project # 4111, in the City of Irvine, Orange County, project area as outlined on the portion of the Tustin USGS topographic quadrangle map that you sent to me via e-mail on 18 January 2018. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have localities nearby from sedimentary deposits similar to those that may occur subsurface in the proposed project area.

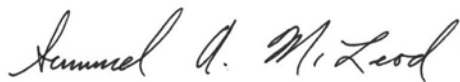
The entire proposed project area has surficial deposits composed of younger Quaternary Alluvium, primarily derived as alluvial fan deposits from the hills to the east. These deposits usually do not contain significant vertebrate fossils, at least in the uppermost layers, but they may be underlain by older Quaternary deposits. Our closest vertebrate fossil locality from these older Quaternary deposits is LACM 7867, east of the proposed project area near the intersection of C Street and 5<sup>th</sup> Street, that produced fossil specimens of pocket gopher, *Thomomys*, at a depth of 25 feet below the surface. Our next closet vertebrate fossil from these deposits is LACM 7713, just east of due south of the eastern-most portion of the proposed project area on the western side of the Laguna Freeway (Highway 133) at the southern end of the interchange with the San Diego

Freeway (I-405), that produced a fossil specimen of ground sloth, *Myiodontidae*, from unstated but shallow depth.

Grading or shallow excavations in the uppermost few feet of the younger Quaternary alluvial sediments in the proposed project site area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations at the proposed project site area, however, may well encounter significant vertebrate fossils in older Quaternary sediments. Any substantial excavations below the uppermost layers, therefore, should be closely monitored to quickly and professionally collect any specimens without impeding development. Sediment samples should also 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".

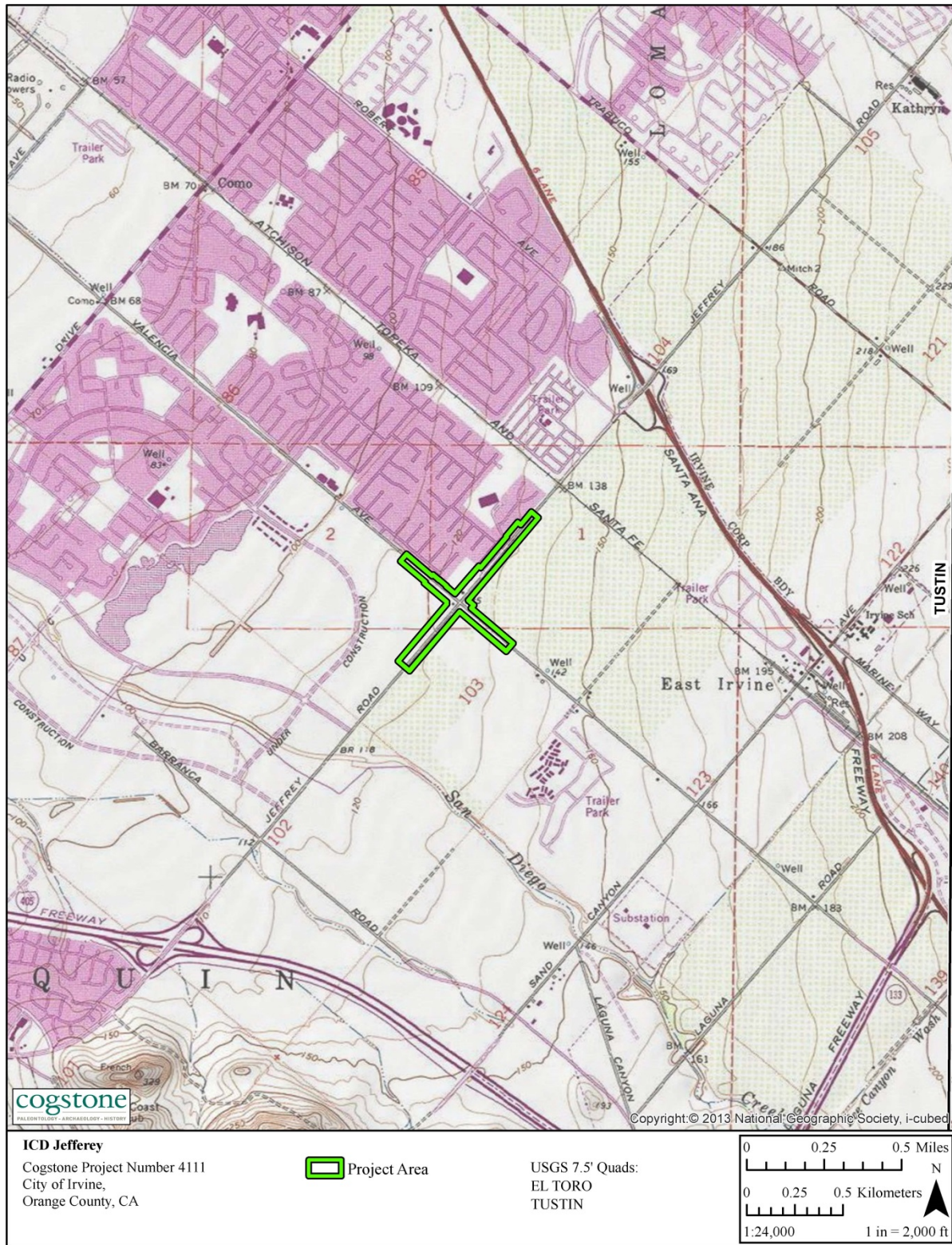
Samuel A. McLeod, Ph.D.  
Vertebrate Paleontology

enclosure: invoice

## **APPENDIX C. NATIVE AMERICAN CONSULTATION**

<b>COGSTONE SACRED LANDS SEARCH</b>		
DATE	January 17, 2017	
COGSTONE PROJECT NUMBER:	4111	
COGSTONE PROJECT NAME:	ICD Jeffery	
PROJECT DESCRIPTION:	<p>The Jeffrey Road/Irvine Center Drive Intersection Improvements Project is located in the City of Irvine, County of Orange. Locally, the project site is situated approximately 0.5 mile southwest of Interstate 5 (I-5) and approximately one mile northeast of Interstate 405 (I-405) at the intersection of Jeffrey Road/Irvine Center Drive. The City of Irvine proposes improvements to the existing intersection, since the intersection experiences congestion (particularly during peak hours) and traffic volumes are forecast to increase as development in the project area occurs into the future.</p>	
USGS 7.5' QUAD:	Tustin	
COUNTY:	Orange	
Township, Range, and Section	T: 6S, R: 9W, Sections 1 and 2	
ACRES:	2.66	
TYPE OF SEARCH:	Sacred Lands	
1:24000 map attached	✓	
Thank you.		
Please Email or Fax to:	<p>Megan Wilson  1518 W. Taft Ave.  Orange, CA 92865  (714) 974-8300 x105  (714) 974-8303 fax  mwilson@cogstone.com</p>	







STATE OF CALIFORNIA

Edmund G. Brown, Jr., Governor

**NATIVE AMERICAN HERITAGE COMMISSION**

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



January 18, 2018

Megan Wilson  
Cogstone

Sent by E-mail: mwilson@cogstone.com

RE: Proposed Jeffrey Road/ Irvine Center Drive Intersection Improvements (ICD Jeffrey)  
Project, City of Irvine; Tustin USGS Quadrangle, Orange County, California

Dear Ms. Wilson:

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](mailto:gayle.totton@nahc.ca.gov).

Sincerely,

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

**CONFIDENTIALITY NOTICE:** This communication with its contents may contain confidential and/or legally privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, please contact the sender and destroy all copies of the communication.



Transportation Department

[cityofirvine.org](http://cityofirvine.org)

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 949-724-6000

January 30, 2018

Tribal Organization

Re: Assembly Bill 52 (AB 52) Consultation for the Jeffrey Road and Irvine Center Drive Intersection Improvements Project, City of Irvine, Orange County, California.

Dear Representative:

The City of Irvine is conducting its AB 52 consultation process for the Jeffrey Road and Irvine Center Drive Intersection Improvements Project (Project) located in the City of Irvine, Orange County, California. Please consider this letter and preliminary Project information as the initiation of the California Environmental Quality Act (CEQA), specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this Project.

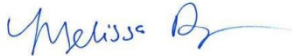
The Project site is situated approximately 0.5 mile southwest of Interstate 5 (I-5) and approximately one mile northeast of Interstate 405 (I-405) at the intersection of Jeffrey Road and Irvine Center Drive (Figures 2 and 3). The City proposes improvements to the existing intersection, since the intersection experiences congestion (particularly during peak hours) and traffic volumes are forecast to increase as development in the Project area occurs into the future.

Your comments and concerns will be important to the City of Irvine moving forward with their Project. If you have any questions or concerns with the Project, please contact Melissa Dugan at the City of Irvine at the address below, via email at [MDugan@cityofirvine.org](mailto:MDugan@cityofirvine.org), or by phone at 949-724-7384. The mailing address is:

Melissa Dugan, Supervising Transportation Planner  
1 Civic Center Plaza  
Irvine, CA 92606  
949-724-7384

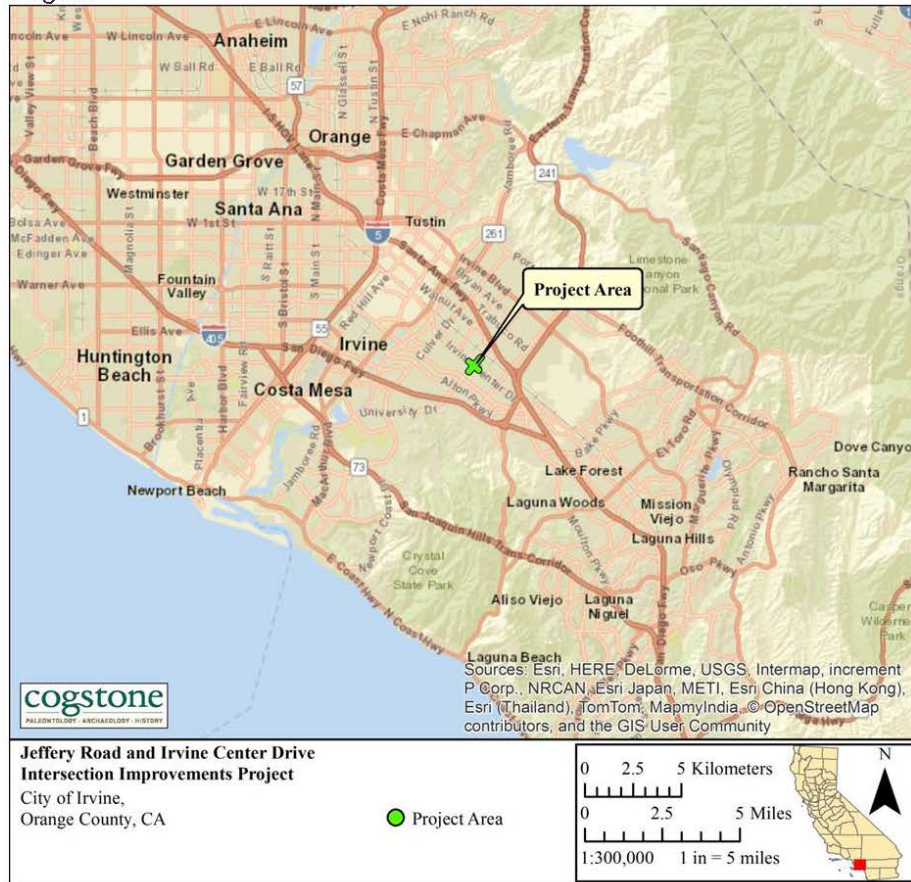
If you have any question regarding the content of this letter, you can contact me directly. Under AB 52, your organization has 30 days upon receipt of this letter to provide your request for consultation for the Project.

Representative  
January 30, 2018  
Page 2  
Sincerely,

  
Melissa Dugan  
City of Irvine

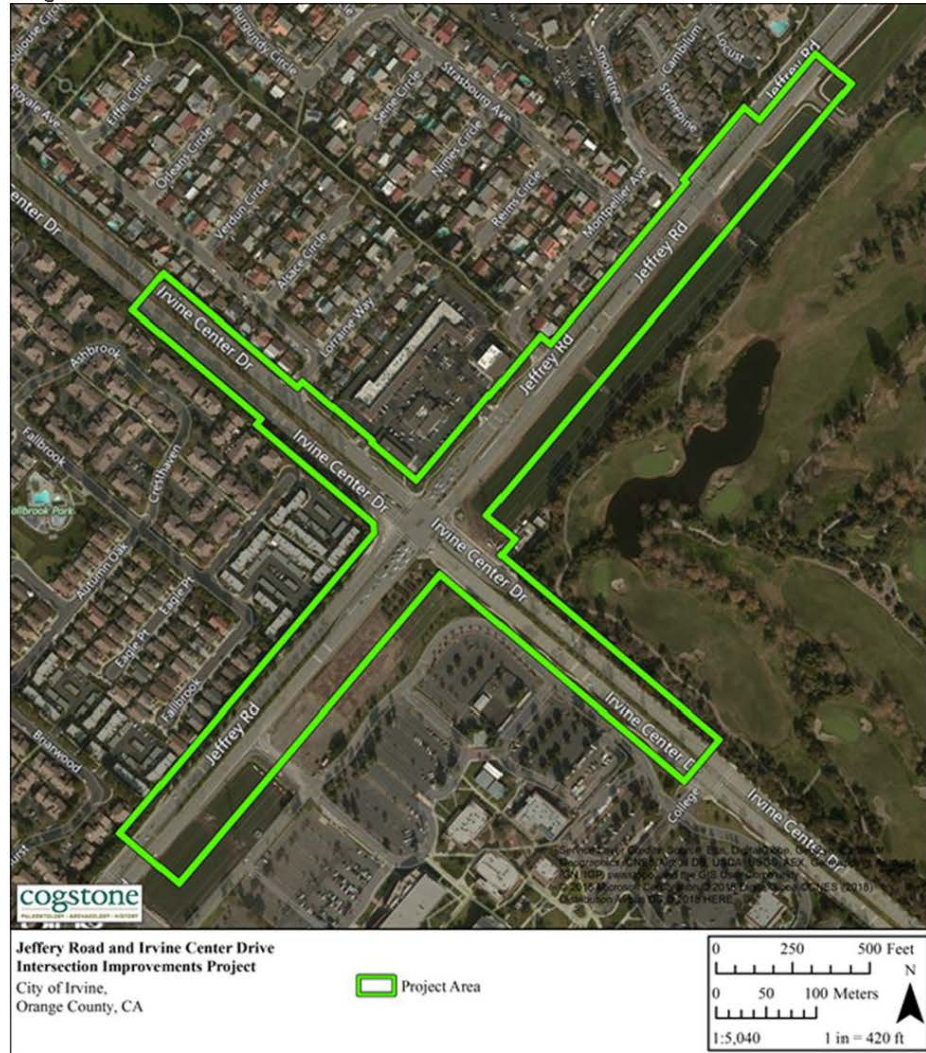
Attachments: Project vicinity map  
Project aerial

Representative  
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