# APPENDIX 10.5.1

SOUTH COAST WATER DISTRICT DOHENY DESALINATION PROJECT CULTURAL RESOURCES REPORT

*County of Orange*

# Doheny Desalination Project

## Cultural Resources Report

U.S.G.S. *Dana Point, CA* quadrangles

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# Doheny Desalination Project

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# EXECUTIVE SUMMARY

Rincon Consultants, Inc. (Rincon) was retained by GHD, Inc. to prepare a cultural resources report for the Doheny Desalination Project located in the City of Dana Point, Orange County, California. The project includes two alternative desalination facility sites (the North Site and South Site), proposed slant wells for raw water intake along Doheny State Beach, and six raw water conveyance pipeline alternatives (Alignments 1 through 6). In July 2017 an area was added spanning from the south most point of the original project area to the end of the Beach Road parking lot. This study has been prepared to provide the required analysis for the project in conformance with the California Environmental Quality Act (CEQA). This study has also been prepared in accordance with Section 106 of the National Historic Preservation Act (NHPA) in the event that a federal nexus is established. This cultural resources report includes a records search, Native American consultation, an intensive pedestrian survey of the area of potential effect (APE), and preparation of this report.

Based on the results of the records search, Native American scoping, and pedestrian surveys, Rincon identified five previously recorded cultural resources within or adjacent to the project APE (Table 3). One additional previously recorded resource was identified near the project APE. No previously unrecorded resources were identified within the APE during the pedestrian survey. No underwater cultural resources are known to be located within the project APE.

Thor's Hammer is located within the project APE but away from any proposed project elements. This resource has been recommended eligible for listing in the NRHP. The proposed project is not likely to affect this resource however, should the placement of the proposed intake valves be changed, Rincon recommends avoidance of Thor's Hammer.

No archaeological sites were identified within the Northern Raw Water Alignment or the South Site as a result of the records search or pedestrian survey. Resource CA-ORA-188 was recorded partially within the Southern Pipeline Alignment and the shared pipeline alignment; however, the resource was actually up on a bluff and destroyed by 1973. Thus, no further work is recommended for this resource. The Burlington Northern Santa Fe Railway (P-30-176663) is crossed by the Southern Raw Water Alignment. However, this resource has been recommended ineligible for listing in the NRHP and CRHR and has lost its historical integrity due to continued operation and maintenance. Rincon concurs with these previous recommendations. Thus, the proposed project will not significantly impact the resource under CEQA and will not have an adverse effect on the project under the NHPA. Site P-30-176663 requires no further management consideration under either regulation.

Resource CA-ORA-1337H is located adjacent to the South Site. The site is located outside of the boundaries of the proposed project and is thus not expected to be impacted by project development. Thus, no further work is recommended for this resource.

No historical built-environment resources are located directly adjacent to the South site. Thus, project development at either site would not impact historical built-environment resources under CEQA nor have an effect on historical built-environment resources under the NHPA.

# AVOIDANCE

Preservation in place (avoidance) is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site. If feasible, each of the archaeological sites identified within the APE during the current study should be avoided where possible.

# WORKER ENVIRONMENTAL AWARENESS TRAINING (ALL COMPONENTS)

Prior to ground disturbing activities and ongoing during construction, all contractors shall undergo a Worker Environmental Awareness Program (WEAP). The training, which may be presented in the form of a video, shall include:

a) A discussion of applicable environmental resource laws and penalties under the law;
b) Samples or visuals of artifacts that may be found in the Project vicinity;
c) Information that the Cultural Resource Specialist (CRS) and Construction Manager (CM) have the authority to halt construction to the degree necessary, as determined by the CRS, in the event of a discovery or unanticipated impact to a cultural resource;
d) Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources find, and shall contact their supervisor and the CRS or CM; redirection of work shall be determined by the construction supervisor and the CRS;
e) An informational brochure that identifies reporting procedures in the event of a discovery;
f) An acknowledgement form signed by each worker indicating that they have received the training; and
g) A sticker that shall be placed on hard hats indicating that environmental training has been completed.

The District (or its designee) shall maintain WEAP Certification of Completion forms of persons who have completed the training.

# CONSTRUCTION MONITORING

Prior to construction, the District (or its designee) shall retain a Cultural Resource Specialist (CRS) that meets the minimum qualifications of the U.S. Secretary of Interior Guidelines (NPS 1983). The CRS shall be present during initial deep excavations for pipeline trenches, vaults and desalination facility plant structures that penetrate below native ground surface. The District shall offer local Native American tribes the opportunity to be present during such initial deep excavations. The CRS and the Construction Manager (CM) shall have the authority to halt construction if previously unknown cultural resource sites or materials are encountered. Redirection of ground disturbance shall be accomplished under the direction of the construction manager.

If such resources are found or impacts can be anticipated, the halting or redirection of construction shall remain in effect until all of the following have occurred:

a) The CRS has notified the District (or its designee), and the CM has been notified within 24 hours of the find description and the work stoppage;
b) The CRS, the District (or its designee), and the CM have conferred and determined what, if any, data recovery or other mitigation is needed and the scope of that mitigation;
c) Any necessary data recovery and mitigation has been completed.

All archaeological materials collected as a result of the archaeological investigations (survey, testing, and data recovery) shall be curated in accordance with the State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Federal Code of Regulations, Part 79, Title 36.

## UNANTICIPATED DISCOVERY OF UNDERWATER CULTURAL RESOURCES

If previously unidentified underwater cultural resources are encountered during ground-disturbing activities associated with the construction of the proposed slant wells, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be significant under the CEQA, additional work such as data recovery excavation may be warranted to mitigate any adverse effects.

# 1.0 INTRODUCTION

Rincon Consultants, Inc. (Rincon) was retained by GHD, Inc. to prepare a cultural resources report for the Doheny Desalination Project (project) located in the City of Dana Point, Orange County, California. This study has been conducted in accordance with the California Environmental Quality Act (CEQA) and also in accordance with Section 106 of the National Historic Preservation Act (NHPA) in the event that a federal nexus for the project is established. Preparation of the cultural resources report included a records search, Native American consultation, an intensive pedestrian survey of the area of potential effect (APE), and preparation of this report. A Paleontological Resources technical memorandum was also prepared for the proposed project and can be found in Appendix A. The project site includes an area that extends onto Doheny State Beach, thus a Department of Parks and Recreation (DPR) 412-A Permit. Rincon received an approved permit from Doheny State Beach on October 27, 2016 (Tracking Number 16-31). The permit was valid through October 28, 2017.

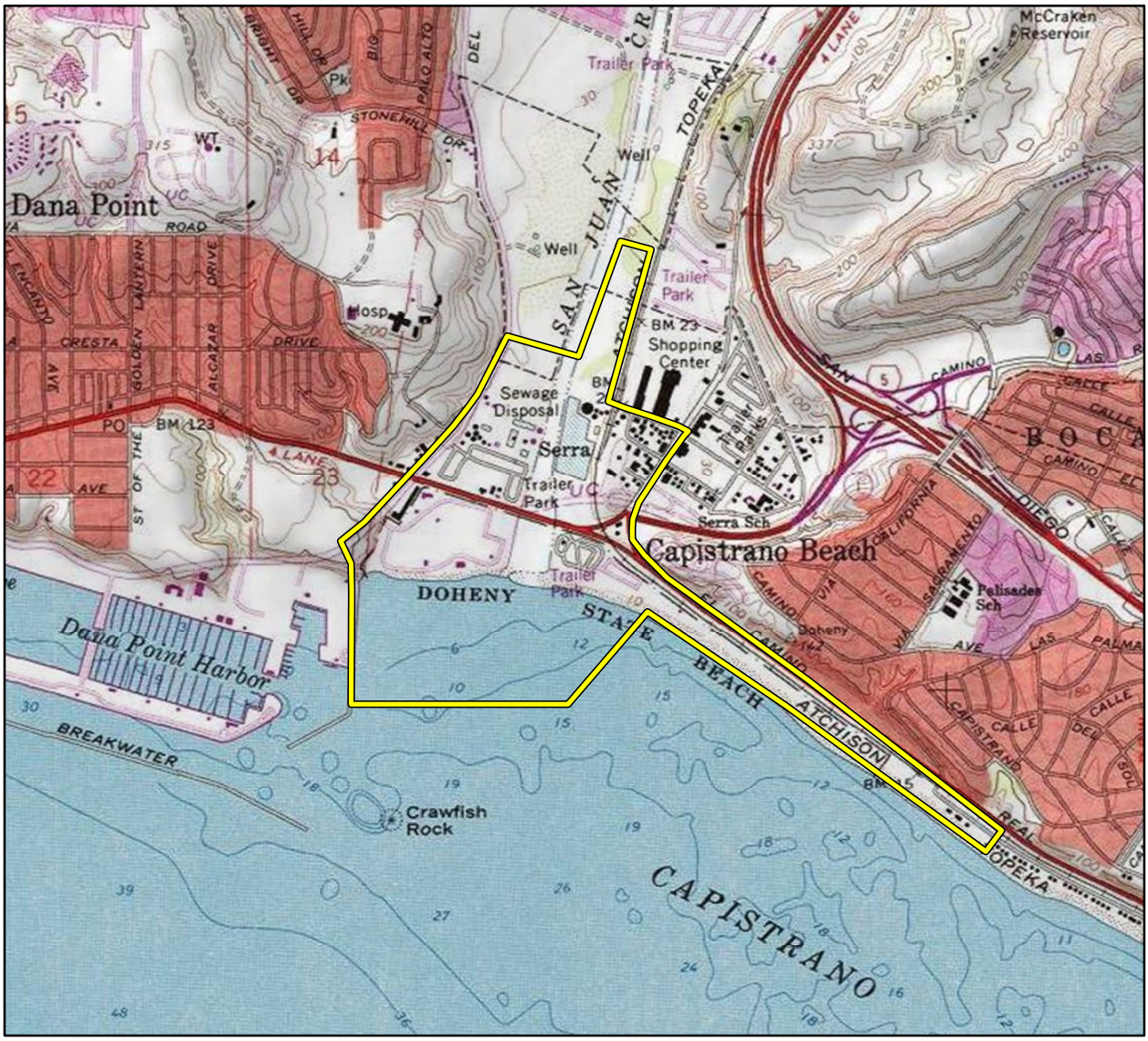
## 1.1 PROJECT DESCRITPON

The proposed project is currently being planned by the South Coast Water District (SCWD). The Doheny Desalination Project is planned to produce approximately 5 to 15 million gallons per day (mgd) of potable drinking water and will consist of a subsurface slant well intake system, raw sea water conveyance to the desalination facility site, the desalination facility, brine disposal through an existing wastewater outfall, and potable water delivery to existing distribution infrastructure. The desalination facility is proposed to be constructed at one of two sites, the North Site and the South Site, on a 30 acre parcel currently owned by the SCWD (Figure 1). The South Site is the currently preferred site by SCWD, but the analysis presented in this report includes both sites. The project will include a series of slant wells to withdraw sea water from below the ocean floor to limit the effects on marine life. The slant wells are proposed to be developed in clusters and will be constructed along Doheny State Beach. Each wellhead cluster will be encased in a fully buried cast-in-place concrete vault to provide access for maintenance activities. Six pipeline route alternatives (Alignments 1 through 6) have been identified for the project to deliver raw water from the slant wells to the desalination facility.

## 1.2 REGULATORY SETTING

### 1.2.1 State

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A *historical resource* is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be *historically significant* (State CEQA Guidelines, Section 15064.5[a][1-3]).

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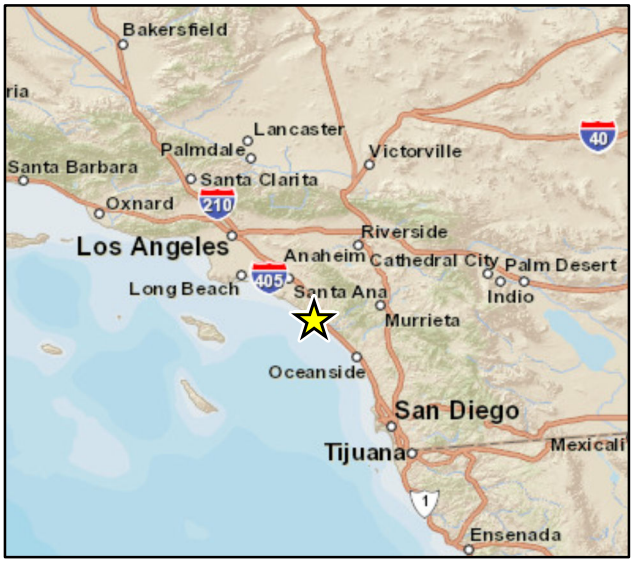
N

Project Site

0 1,000 2,000
Feet

1:24,000




Project Vicinity

Figure 1

***GHD, Inc.***

A resource shall be considered *historically significant* if it:

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

In addition, if it can be demonstrated that a project will cause damage to a *unique archaeological resource*, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and [c]).

PRC, Section 21083.2(g) defines a unique archaeological resource as 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:

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; or
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." Assembly Bill 52 establishes 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" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and meets either of the following criteria:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

### 1.2.2 Federal

Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), as well as the National Environmental Policy Act (NEPA). Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of NHPA. Other federal laws include the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act (AIRFA) of 1978, the Archaeological Resources Protection Act (ARPA) of 1979, and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1989, among others.

Section 106 of the NHPA (16 United States Code [USC] 470f) requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, the significance of any adversely affected cultural resource is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level. Significant cultural resources are those resources that are listed in or are eligible for listing in the NRHP per the criteria listed below (36 CFR 60.4).

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that:

(a) Are associated with events that have made a significant contribution to the broad patterns of our history; or
(b) Are associated with the lives of persons significant in our past; or
(c) Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(d) Have yielded, or may be likely to yield, information important in prehistory or history.

### 1.2.3 Local

The City of Dana Point General Plan (1997) contains the following goal and policies regarding cultural resources:

- Goal 8: Encourage the preservation of significant historical or culturally significant buildings, sites, or features within the community.
    - Policy 8.1: Require reasonable mitigation measures where development may affect historical, archaeological, or paleontological resources.
    - Policy 8.2: Retain and protect resources of significant historical, archaeological, or paleontological value for education, visitor-serving, and scientific purposes.
    - Policy 8.3: Development adjacent to a place, structure, or object found to be of historic significance should be designed so that the uses permitted and the architectural design will protect the visual setting of the historical site.
    - Policy 8.4: Develop and maintain a cultural resource inventory.

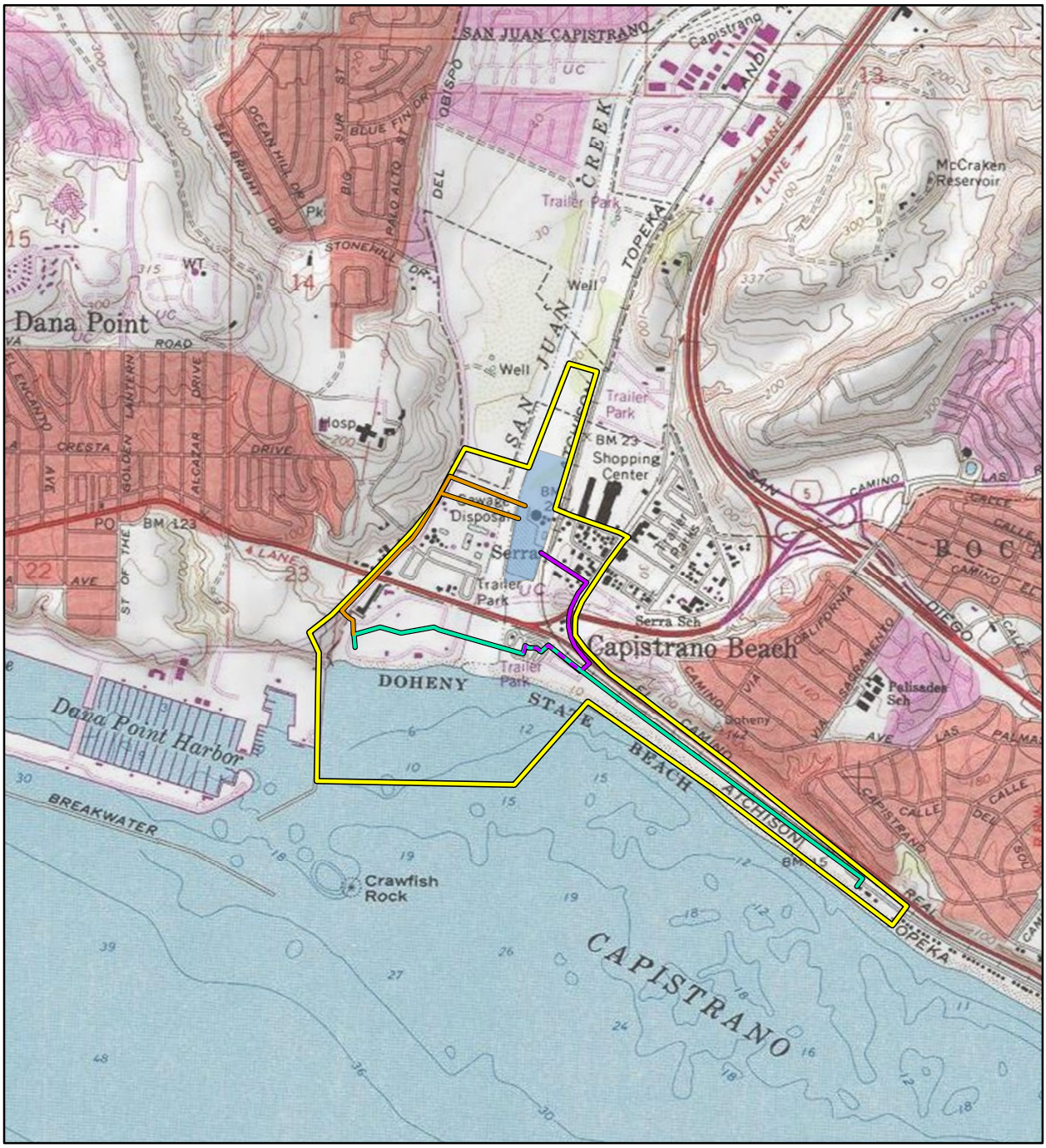
## 1.3 AREA OF POTENTIAL EFFECTS (APE)

The APE of an undertaking is defined in 36 CFR 800.16(d) as the "geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such property exists." Additionally, the APE must be considered as a three-dimensional space (depth, length, and width). The desalination plant is proposed to be constructed at one of two sites, the North Site or the South Site (Figure 2). The North and South sites are located generally between Santa Fe Avenue and San Juan Creek. The slant wells for raw water intake are proposed to be located along Doheny State Beach and Orange County Parks land.

The proposed project also includes six pipeline alignment alternatives to convey water from the slant well to the desalination facility (Figure 2). Alignment 1 would extend from Doheny State Beach to the north along the western side of San Juan Creek. Alignment 2 would include the Dana Point Harbor Drive alignment as shown on Figure 2, extending west through Doheny State Beach and to the north along Dana Point Harbor Drive, before turning east toward the proposed desalination facility at the South Orange County Wastewater facility. Alignments 3 and 4 would also include the Dana Point Harbor Drive Alignment. Alignments 3 and 4 would turn east toward the proposed desalination facility at the Del Obispo Park or at the Dana Point Community/Senior Center, respectively. Alignment 5 would extend north from Doheny State Beach toward the proposed desalination facility along a South Orange County Wastewater maintenance road. Alignment 6 would extend north from Doheny State Beach along Doheny Park Road and west along Victoria Boulevard to the proposed desalination facility.

The vertical APE (depth) is limited to the depth of disturbance needed for the construction of the proposed desalination facility, the chosen pipeline alignment, and the proposed intake wells. The maximum depth of disturbance estimated for the undertaking is 30 feet below the surface. The indirect APE for the proposed project covers the same area as the direct APE because of the minimal potential of the project to impact/affect adjacent resources.

The APE is located on the Dana Point, California United States Geological Survey 7.5-minute topographic quadrangles. The Public Land Survey System depicts the project site within the San Bernardino Meridian, Township 8S, Range 8W, Sections 14, 23, and 24.

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Area of Potential Effects

South Site

Northern Raw Water Alignments

Southern Raw Water Alignment (Preferred)

Shared Alignment Between South and North Alignment

N

0 1,000 2,000 Feet

0 250 500 Meters

1:24,000

# Area of Potential Effects

# 2.0 NATURAL SETTING

The Doheny Desalination Project is located within the City of Dana Point at an elevation of 0 to 10 meters (0-33 feet) above mean sea level (AMSL). The proposed APE is situated at the mouth of San Juan Creek into the Pacific Ocean. It is situated within a predominantly urban environment, surrounded on the north, east, and southeast by residential neighborhoods and commercial properties and on the south and southwest by the Pacific Ocean. The proposed APE is currently occupied by the Del Obispo Community Park and Community Center, several commercial properties, and Dana Point State Beach.

# 3.0 CULTURAL SETTING

## 3.1 PREHISTORIC OVERVIEW

During the 20th century, many archaeologists developed chronological sequences to explain prehistoric cultural changes within all or portions of southern California (c.f., Jones and Klar 2007; Moratto 1984). Wallace (1955, 1978) devised a prehistoric chronology for the southern California coastal region based on early studies and focused on data synthesis that included four horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Though initially lacking the chronological precision of absolute dates (Moratto 1984:159), Wallace's (1955) synthesis has been modified and improved using thousands of radiocarbon dates obtained by southern California researchers over recent decades (Byrd and Raab 2007:217; Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994). The prehistoric chronological sequence for southern California presented below is a composite based on Wallace (1955) and Warren (1968) as well as later studies, including Jones and Klar (2007).

### 3.1.1 Early Man Horizon (ca. 10,000 – 6,000 B.C.)

Numerous pre-8000 B.C. sites have been identified along the mainland coast and Channel Islands of southern California (c.f., Erlandson 1991; Johnson et al. 2002; Jones and Klar 2007; Moratto 1984; Rick et al. 2001:609). The Arlington Springs site on Santa Rosa Island produced human femurs dated to approximately 13,000 years ago (Arnold et al. 2004; Johnson *et al.* 2002). On nearby San Miguel Island, human occupation at Daisy Cave (CA-SMI-261) has been dated to nearly 13,000 years ago and included basketry greater than 12,000 years old, the earliest on the Pacific Coast (Arnold et al. 2004).

Although few Clovis or Folsom style fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons. Recent data indicate that the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas (e.g., Jones et al. 2002) and on inland Pleistocene lakeshores (Moratto 1984). A warm and dry 3,000-year period called the Altithermal began around 6000 B.C. The conditions of the Altithermal are likely responsible for the change in human subsistence patterns at this time, including a greater emphasis on plant foods and small game.

### 3.1.2 Milling Stone Horizon (6000–3000 B.C.)

Wallace (1955:219) defined the Milling Stone Horizon as "marked by extensive use of milling stones and mullers, a general lack of well-made projectile points, and burials with rock cairns." The dominance of such artifact types indicate a subsistence strategy oriented around collecting plant foods and small animals. A broad spectrum of food resources were consumed including small and large terrestrial mammals, sea mammals, birds, shellfish, fishes, and other littoral and estuarine species, yucca, agave, and seeds and other plant products (Kowta 1969; Reinman 1964). Variability in artifact collections over time and from the coast to inland sites indicates that Milling Stone Horizon subsistence strategies adapted to environmental conditions (Byrd and Raab 2007:220). The Topanga Canyon site in the Santa Monica Mountains is considered one of the definitive Milling Stone Horizon sites.

Lithic artifacts associated with Milling Stone Horizon sites are dominated by locally available tool stone and in addition to ground stone tools such as manos and metates, chopping, scraping, and cutting tools are very common. Kowta (1969) attributes the presence of numerous scraper-plane tools in Milling Stone Horizon collections to the processing of agave or yucca for food or fiber. The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods (Wallace 1955, 1978; Warren 1968).

Mortuary practices observed at Milling Stone Horizon sites include extended and loosely flexed burials. Flexed burials oriented north were common in Orange and San Diego counties, with reburials common in Los Angeles County (Wallace 1955, 1978; Warren 1968).

### 3.1.3 Intermediate Horizon (3000 B.C. – A.D. 500)

Wallace's Intermediate Horizon dates from approximately 3000 B.C.-A.D. 500 and is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources, including a broad variety of fish, land mammal, and sea mammal remains along the coast. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (e.g., Glassow et al. 1988; True 1993). Mortuary practices during the Intermediate typically included fully flexed burials oriented toward the north or west (Warren 1968:2-3).

### 3.1.4 Late Prehistoric Horizon (A.D. 500–Historic Contact)

During Wallace's (1955, 1978) Late Prehistoric Horizon the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure (Wallace 1955:223).

Warren (1968) attributes this dramatic change in material culture, burial practices, and subsistence focus to the westward migration of desert people he called the Takic, or Numic, Tradition in Los Angeles, Orange, and western Riverside counties. This Takic Tradition was formerly referred to as the "Shoshonean wedge" (Warren 1968), but this nomenclature is no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups (Heizer 1978:5; Shipley 1978:88, 90). Modern Gabrielino/Tongva in Orange County are generally considered by archaeologists to be descendants of these prehistoric Uto-Aztecan, Takic-speaking populations that settled along the California coast during the Late Prehistoric Horizon.

## 3.2 ETHNOGRAPHY

The project area is in an area historically occupied by the Juaneño, people who were associated with Mission San Juan Capistrano during the Spanish Period in California (Bean and Shipek 1978; Kroeber 1925). While Kroeber distinguished the Juaneño from their southern neighbors, the Luiseño, based on the fact that the Luiseño were administered by Mission San Luis Rey, the two groups are hypothesized to be one ethnic group (Bean and Shipek 1978). Today many of the Juaneño and Luiseño prefer to identify themselves as descendants of the Acjachemen Nation. In the following section, the term Luiseño will be used as a convenience to refer to both groups to maintain nomenclature with previous cultural resources reports.

The Luiseño occupied territory along the coast between Aliso Creek and Agua Hedionada Creek that extended inland to Santiago Peak in the north and the east side of Palomar Mountain in the south, including Lake Elsinore and the Valley of San Jose (Bean and Shipek 1978). The Luiseño language belongs to the Cupan group of the Takic subfamily of languages (previously known as Southern California Shoshonean), along with their northern and eastern neighbors, the Gabrielino and Cahuilla (Bean and Shipek 1978).

Luiseño social structure was more rigid than other Takic-speaking groups, possibly in part because of a higher population density. They were strongly patrilineal and resided in permanent villages of between a few dozen to several hundred people, each of which was politically independent and claimed its own territory, including seasonal camps. Ties between villages were maintained through various economic, religious, and social networks (Bean and Shipek 1978).

Plant foods were by far the largest part of the traditional inland diet, with acorns representing the most important staple item (Bean and Shipek 1978). In part because of this, villages were located near reliable water sources, as large quantities of water were necessary to process acorn products. The Luiseño ate a wide variety of other plant foods, including grasses, seeds, cactus fruits, yucca, bulbs, roots, tubers, mushrooms, and other items. The Luiseño also hunted and trapped game animals such as deer, rabbit, and birds. The sea was a very important source of protein, possibly providing up to 60 percent of protein for coastal villages (White 1962). The Luiseño caught sea mammals and fish, and gathered shellfish such as abalone, mussels, clams, and scallops.

## 3.3 HISTORY

The post-contact history of California is generally divided into three time spans: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Each of these periods is briefly described below.

### 3.3.1 Spanish Period (1769–1822)

Spanish exploration of California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). In 1769, Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement in what was then known as Alta (upper) California at Mission San Diego de Alcalá. This was the first of 21 missions erected by the Spanish between 1769 and 1823. It was during this time that initial Spanish settlement of the project vicinity began. Mission San Juan Capistrano was first founded in 1775, was the seventh mission to be established in California, and is located approximately 4 kilometers (2.5 miles) northeast of the APE (Mission San Juan Capistrano 2015).

Mission San Juan Capistrano grew for 30 years and reached a population of 1,000 by 1806. By 1812, the mission began to decline following an earthquake that caused the collapse of the Great Stone Church. Additional factors influencing the decline of the mission included European diseases and a decline in birth rate (Mission San Juan Capistrano 2015).

### 3.3.2 Mexican Period (1822–1848)

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810-1821) against the Spanish crown reached California in 1822. This period saw the privatization of mission lands in California with the passage of the Secularization Act of 1833. This Act federalized mission lands and enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2007). Rancho Boca de la Playa was granted to Emigdio Vejar by Mexican Governor Pio Pico in 1846 following the Mexica-American War and includes a portion of the current APE (Orange County 1980).

The Mexican Period for the Orange County region ended in early January 1847. Mexican forces fought and lost to combined U.S. Army and Navy forces in the Battle of the San Gabriel River on January 8 and in the Battle of La Mesa on January 9 (Nevin 1978). On January 10, leaders of the pueblo of Los Angeles surrendered peacefully after Mexican General Jose Maria Flores withdrew his forces. Shortly thereafter, newly appointed Mexican Military Commander of California Andrés Pico surrendered all of Alta California to U.S. Army Lieutenant Colonel John C. Fremont in the Treaty of Cahuenga (Nevin 1978).

### 3.3.3 American Period (1848–Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for conquered territory including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of the Los Angeles region increased dramatically in the early American Period.

The discovery of gold in northern California in 1848 led to the California Gold Rush, though the first significant amount of California gold was previously discovered in Placerita Canyon in Los Angeles County in 1842 (Guinn 1977; Workman 1935:26). By 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to immigrate to the state, particularly after the completion of the First Transcontinental Railroad in 1869. The U.S. Congress in 1854 agreed to let San Pedro in Los Angeles County become an official port of entry. By the 1880s, the railroads had established networks from the port and throughout Los Angeles and Orange counties, resulting in fast and affordable shipment of goods, as well as a means to transport new residents to the booming region (Dumke 1944). New residents included many health-seekers drawn to the area by the fabled climate in the 1870s–1880s.

Many ranchos in Orange County were sold or otherwise acquired by Americans in the mid-1800s, and most were subdivided into agricultural parcels or towns. Emigdio Vejar sold Rancho Boca de la Playa to Juan Avila. In 1878, the rancho was acquired by Marcus Forster (Orange County 1980; Olvera 2014).

As populations increased, Orange County was created from the southern portion of Los Angeles County. Agriculture remained the primary economic activity until the 1950s, when the county's agricultural land was replaced with tract housing developments. In the mid-20th century, aerospace and manufacturing began expanding, and the opening of Disneyland created an international tourism industry (Orange County Historical Society 2015).

#### 3.3.3.1 Dana Point

Dana Point began as a resort community called "San Juan by-the-Sea," which was developed in the area of present-day Doheny Village after Marcus Forster sold land to the Atchison, Topeka and Santa Fe Railroad in 1886 (ARG 2016; Olvera 2014). However, the speculative town struggled through an economic slump and essentially dwindled away. Agriculture replaced real estate development and the community was re-named Serra. In the early 1920s the San Juan Point Corporation subdivided 900 acres into a new community called Dana Point, but financial

difficulties led to foreclosure. The tract was acquired in 1926 by a group of investors including Harry Chandler, publisher of the Los Angeles Times, and Sidney Woodruff, developer of the Hollywoodland tract. Woodruff planned Dana Point to be a Mediterranean-themed community oriented around tourism, recreation, and leisure. Simultaneously, the community of Capistrano Beach was being planned slightly to the south. A new coastal highway (the antecedent of Pacific Coast Highway) supported the two communities' development. However, both were slow to develop, and in 1929 the Capistrano Beach tract was sold to the Petroleum Securities Company, a corporation owned by the Doheny family. Various improvements were made to the town site, but development was meager. The Great Depression halted growth through most of the 1930s and 1940s (ARG 2016).

Dana Point, like many other communities in the region, experienced extensive growth following World War II. The Capistrano Bay area was affected by the construction of Interstate 5 during the late 1950s. Lots that had been created in Dana Point and Capistrano Beach in the 1920s but had remained unimproved for decades began to be developed with housing, businesses and public and private institutions. A fully operational harbor was constructed during the late 1960s. When the city of Dana Point was formally incorporated in 1989 it included in its area portions of three communities: Dana Point, Capistrano Beach, and Monarch Beach, giving its built environment an eclectic character (ARG 2016).

## 3.4 UNDERWATER CULTURAL RESOURCES

California's paleoenvironmental history includes sea level rise over the last 20,000 years, resulting in the inundation of formerly terrestrial archaeological sites that would have been present along estuary boundaries and marine terraces (Moratto 1984; Masters and Aiello 2007). Very little systematic survey for submerged archaeological resources has occurred along California's coastline and, as such, the number and location of submerged sites is unknown. Most underwater archaeological resources that have been recorded along the coast were identified inadvertently by divers and primarily include isolated groundstone artifacts such as mortars, pestles, and net weights (Moratto 1984). No submerged archaeological resources are known to exist within the project APE. Submerged historical resources, primarily shipwrecks, are also known to exist along California's coast. The nearest known shipwreck to the project APE is that of the *New Saturnia*, which foundered in 1955 approximately 2.5 miles (4 km) west of the project APE (California State Lands Commission 2016).

# 4.0 BACKGROUND RESEARCH

## 4.1 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

On September 22, 2016, Rincon cultural resources personnel conducted a search of cultural resource records housed at the California Historical Resources Information System (CHRIS), South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. The search was conducted to identify all previously conducted cultural resources work as well as identify any previously recorded cultural resources within a one-half mile

radius of the project APE. The CHRIS search included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. The records search also included a review of all available historic USGS 7.5- and 15-minute quadrangle maps.

### 4.1.1 Previously Conducted Cultural Resource Studies

The SCCIC records search identified 61 previous studies within a 0.5- mile radius of the APE (Table 1), 21 of which included a portion of the APE.

**Table 1. Previously Conducted Studies Within 0.5- Mile of the APE**

| SCCIC Report No. | Author | Year | Study | Proximity to APE |
|---|---|---|---|---|
| OR-00061 | Desautels, R. J. | 1976 | Archaeological Survey Report on Parcel 35 – Tract # 932 – Located in Dana Point, California | **Within** |
| OR-00076 | Desautels, R. J. | 1976 | Archaeological Survey Report on Parcel 2 of a Portion of the Rancho Pg's" 118 & 119 of Patents Records of Los Angeles County, in the Unincorporated Territory of the County of Orange, California | **Within** |
| OR-00102 | Desautels, R. J. | 1976 | Archaeological Survey Report on Lots 21, 22, 23, and 24 in Block 3 – Tract # 735 Located in the Capistrano Beach Area of the County of Orange | Outside |
| OR-00122 | Desautels, R. J. | 1976 | Archaeological Survey Report on Two Parcels of Land Located in the Dana Point Area of the County of Orange | Outside |
| OR-00150 | Desautels, R. J. | 1977 | Archaeological Survey Report on Golden Lantern Villas Located in the Dana Point Area of the County of Orange | Outside |
| OR-00166 | Desautels, R. J. | 1977 | Archaeological Survey Report on Lot 14- Block 7- Tract 862, Dana Point, Orange County, California | Outside |
| OR-00248 | Breece, William H. | 1978 | Archaeological Survey of San Juan-GPA 78-1, City of San Juan Capistrano, Orange County, California | Outside |
| OR-00499 | Desautels, R. J. | 1980 | Archaeological Survey Report on a 10+ Acre Parcel of Land Located in the Dana Point Area of the County of Orange | Adjacent |
| OR-00512 | Romero, J. B. | 1935 | Orange County, California, Indian Campsites | **Within** |

| SCCIC Report No. | Author | Year | Study | Proximity to APE |
|---|---|---|---|---|
| OR-00535 | Van Horn, D. M. | 1980 | Archaeological Survey Report: A ca. 500 Acre Tract of Land in the Vicinity of McCracken Reservoir and Forster Canyon in the City of San Juan Capistrano | Outside |
| OR-00536 | Drover, C. M. | N/D | City of San Juan Capistrano, General Plan Program, Historic/Archaeological Element | **Within** |
| OR-00625 | Whitney-Desautels, N. A. | 1981 | Archaeological/Paleontological Report on 0.85 Acres Located in Capistrano Beach, County of Orange | Outside |
| OR-00626 | Whitney-Desautels, N. A. | 1981 | Historical/Paleontological Survey Report on a 10-acre Parcel Located in the Dana Point Area, County of Orange | Adjacent |
| OR-00636 | Desautels, R. J. | 19 | Cultural Resources Report on the Proposed Extension of Stonehill Drive, San Juan Capistrano, County of Orange | Outside |
| OR-00833 | Whitney-Desautels, N. A. | 1986 | Archaeological Assessment of the Price Club Development Near San Juan Capistrano, Orange County, California | Adjacent |
| OR-00873 | Drover, C. E. and P. de Barros | 1987 | An Archaeological Reconnaissance and Assessment of a 12.78 Acre Parcel Situated at 30942 Silverado Canyon Road, Orange County, California | **Within** |
| OR-00947 | Cooper, J. | 1989 | Cultural and Paleontological Surveys of the Seastar Property (Tract 13191), Dana Point, Orange County, California | Outside |
| OR-00958 | McKenna, J. and R. Hathaway | 1989 | Historical, Archaeological, and Paleontological Investigations of the Forster Canyon Planned Development, San Juan Capistrano | Outside |
| OR-00973 | Cooper, J. and V. Mason | 1989 | Cultural Resources and Paleontological Surveys of Hampton Hills, Tract 13785 Dana Point, Orange County, California | Outside |
| OR-00995 | Becker, K. M. | 1989 | Cultural Resources Reconnaissance of the Rosan Ranch Property, San Juan Capistrano | Outside |
| OR-01011 | Sorensen, Jerrell H. | 1990 | Archival Research for Interstate 5, from the Confluence with I-405 to Route 1, Capistrano | Outside |
| OR-01062 | Jertberg, P. R. and J. Rosenthal | 1990 | Archaeological Monitoring Report for the Peters Canyon Wash Mitigation Project | Outside |
| OR-01090 | Bissell, R. M. | 1991 | Cultural Resources Reconnaissance of the Rosan Ranch Proeprty and Test Excavation of a Portion of Archaeological Site CA-ORA-1107, San Juan Capistrano, Orange County, California | Outside |

| SCCIC Report No. | Author | Year | Study | Proximity to APE |
|---|---|---|---|---|
| OR-01172 | Demcak, C. R. | 1991 | Cultural Resources Assessment for the Serra Reclaimed Water Project Facilities, South Orange County, California | **Within** |
| OR-01178 | Demcak, C. R. | 1991 | Boundaries of the Ari Survey in 1975 | **Within** |
| OR-01204 | Demcak, C. R. and S. R. Van Wormer | 1987 | Archaeological Investigations at CA-ORA-27a, CA-ORA-882, CA-ORA-1042, and CA-ORA-870: Chiquita Canyon Water Reclamation Plant Project, South Orange County, California Appendix A: Historic Resources Survey for the Chiquita Land Outfall Pipeline | **Within** |
| OR-01260 | Shinn, J. R. | 1993 | Cultural Resource Assessment for the Capistrano Beach Water Facility, Capistrano Beach, California | Outside |
| OR-01261 | Shinn, J. R. | 1993 | Archaeological Literature and Records Review for the Capistrano Beach Water Facility, Capistrano Beach California | Outside |
| OR-01264 | Sundberg, F. A., and N. Whitney-Desautels | 1991 | Archaeological Reassessment of the Dana Bluff Development (Tract 11711), Dana Point, California | Adjacent |
| OR-01298 | Shinn, J. R. | 1993 | Addendum Report of Cultural Resource Assessment for the Capistrano Beach Water Facility, Capistrano Beach, California | Outside |
| OR-01336 | Cottrell, M. G., D. S. Dibble, C. Cameron, and S. Van Wormer | 1986 | Cultural Resources Assessment and Excavation for the Proposed Stonehill Drive Extension Located in Southwestern Orange County, California | Outside |
| OR-01434 | Maxon, P. O. | 1995 | Archaeological Survey and Impact Assessment of the Proposed Upgrade to the Capistrano Beach Water District Waste Water Treatment Facility | **Within** |
| OR-01506 | LSA Associates, Inc. | 1996 | Cultural Resources Assessment for the Home Depot – San Juan Capistrano Site | Outside |
| OR-01604 | Huey, G. | 1991 | Archaeological Survey Report for Interstate 5 (I-5) Improvements from State Route 1 in the City of San Juan Capistrano to Approximately 1,000 Feet North of El Toro Road in the Community of Lake Forest, Orange County, California | Outside |
| OR-01616 | Conkling, S. W., and D. K. B. McLean | 1997 | An Evaluation of the Dolph House, 34000 Capistrano by the Sea, Dana Point, Orange County, California | Outside |

| SCCIC Report No. | Author | Year | Study | Proximity to APE |
|---|---|---|---|---|
| OR-01684 | Maxon, P. O. | 1995 | Archaeological Survey and Impact Assessment of the Capistrano Beach Water District Stonehill Road Right of Way Acquisition | Outside |
| OR-01695 | Maxon, P. O. | 1998 | Cultural Resources Reconnaissance and Impact Assessment of the Proposed Capistrano Beach Water District Grading and Flood Control Project | **Within** |
| OR-01739 | Brechbiel, B. A. | 1997 | Cultural Resources Survey Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 077-035 in the City of Dana Point, California | **Within** |
| OR-01850 | Padon, B. | 1998 | Archaeological and Paleontological Archival Review for the Capistrano by the Sea Project | Outside |
| OR-01869 | Bonner, W. H. and D. Hocking | 1994 | Grading Monitoring Report Archaeology and History MCI Trenching Project, San Juan Capistrano, Orange County, California | Outside |
| OR-02054 | Bonifacio, M. | 2000 | Cultural Resources Monitoring of the Rosan Ranch Property, San Juan Capistrano, Orange County, California | Outside |
| OR-02055 | Unknown | 1987 | Stonehill Drive Extension Historical Property Survey Report and Request for Determination of Eligibility | Outside |
| OR-02214 | Duke, C. | 2000 | Cultural Resource Assessment for Pacific Bell Wireless Facility CM 372-02, County of Orange, CA | Outside |
| OR-02317 | Cottrell, M. G. | 1976 | Letter Report | Outside |
| OR-02527 | Desautels, R. J. | 1973 | Dana Bluffs, Ltd. Tentative Tract 7901 | **Within** |
| OR-02529 | Duke, C. | 2002 | Cultural Resource Assessment – Capistrano Beach Drainage System Phase 2, Coast Highway and Palisades Drive, City of Dana Point, Orange County, California | Outside |
| OR-02872 | Sinopoli, C. | 2002 | Historical Resources Compliance Report for the Relinquishment of a Segment of State Route 1 (PCH) to the City of Dana Point from the Northern City Limits to San Juan Creek, in the City of Dana Point, Orange County, California | **Within** |
| OR-02873 | Mason, R. D. | 2003 | Cultural Resources Records Search and Reconnaissance Survey Report for the Dana Point Harbor Revitalization Project, City of Dana Point, Orange County | Outside |

| SCCIC Report No. | Author | Year | Study | Proximity to APE |
|---|---|---|---|---|
| OR-02924 | Duke, C. | 2000 | Review of Pacific Bell Wireless Facility CM 372-02, County of Orange, California | Outside |
| OR-03367 | Cottrell, M. G. | 1977 | Kato Property, San Juan Capistrano | Outside |
| OR-03373 | Arrington, C. and N. Sikes | 2006 | Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II | Outside |
| OR-03390 | Price, B. A., and D. H. Price | 2007 | Cultural Resources Inventory for the Proposed Non-Domestic/Recycled Water Master Plan Update, City of San Juan Capistrano, Orange County, California | **Within** |
| OR-03765 | Lichtenstein, R. J., B. A. Price, and D. H. Price | 2009 | Cultural Resources inventory and Site Assessment for the Proposed San Juan Capistrano Non-Domestic/ Recycled Water Master Plan Update, Orange County, California | **Within** |
| OR-03826 | Demcak, C. | 2009 | Report of Cultural Resources Assessment for Two Proposed MNWD Pipelines, Component A (Mission Viejo) and Component B (Dana Point), South Orange County, California | **Within** |
| OR-03832 | Solis, L. and N. Orsi | 2009 | Archaeological Monitoring of the Doheny State Beach | **Within** |
| OR-03969 | Tibbet, C., C. Sinopoli, and G. G. Moser | 2010 | Historic Property Survey Report for Proposed Widening of Interstate 5 (I-5) between Avenida Pico and San Juan Creek Road | Outside |
| OR-04193 | O'Neil, S. | 2012 | Phase I Cultural Resources Inventory for the Doheny Hotel Project, The City of Dana Point, Orange County, California | **Within** |
| OR-04223 | Flynn, C. | 2011 | Notification of Finding of No Adverse Effect with Standard Conditions for the Bridge Deck Maintenance and Sealing at 30 Locations Throughout Orange County, California | Outside |
| OR-04309 | Unknown | 2014 | Draft Initial Study 34202 Del Obispo Street City of Dana Point | **Within** |
| OR-04331 | Hasleton, F. | 2014 | Draft Environmental Impact Report Volume I, 34202 Del Obispo Street Project City of Dana Point | **Within** |
| OR-04413 | Strudwick, I. | 2013 | Cultural Resources Records Search and Survey of the Surfside Inn Pedestrian Overcrossing Project, City of Dana Point, Orange County, California | **Within** |

*Source: South Central Coastal Information Center, September 2016.*

### 4.1.2 Previously Recorded Cultural Resources

The SCCIC records search identified 31 previously recorded cultural resources within a 0.5-mile radius of the APE (Table 2). Eleven of the resources are within or adjacent to the APE and are discussed in further detail below.

**Table 2. Previously Recorded Cultural Resources Within 0.5 Mile of the APE**

| Primary Number | Trinomial | Description | NRHP/CRHR Eligibility Status | Recorded By and Year | Relationship to APE |
|---|---|---|---|---|---|
| 30-000021 | CA-ORA-21 | Burial ground | Unevaluated; Presumed eligible | Romero 1949 | Outside |
| 30-000188 | CA-ORA-188 | Shell midden with numerous artifacts | Unevaluated; Presumed previously eligible but 2/3 destroyed by 1966, presumed completely destroyed ca. 1972 | Bakker, Hafner, and McKinney 1966; Desautels 1972 | **Mapped within Southern Raw Water Alignment** |
| 30-000484 | CA-ORA-484 | Shell midden | Unevaluated | T. Cooley and M. Cottrell 1975 | Outside |
| 30-000837 | CA-ORA-837 | Lithic scatter | Unevaluated | L. Mitchell 1979; P. Fulton 2010 | Outside |
| 30-000838 | CA-ORA-838 | Lithic scatter | Unevaluated | L. Mitchell 1979; R. Lichtenstein 2007; P. Fulton 2010 | Outside |
| 30-001107 | CA-ORA-1107/H | Shell midden | Unevaluated | S. Dibble 1986; K. Becker 1991; RMW Paleo Associates 1999; A. Delu 2000 | Outside |
| 30-001337 | CA-ORA-1337H | Serra Railroad Depot | Unevaluated | S. Van Wormer 1985; J. R. Shinn 1993; P. Maxon 1998 | **Adjacent to South Site** |
| 30-156534 | N/A | Brown House; Single family residence | Eligible for local listing | J. Wright and M. Stoddard 1996 | Outside |
| 30-156535 | N/A | Casa Dana/Hagan House; Single family residence | Eligible for local listing | J. Wright and M. Stoddard 1996 | Outside |
| 30-176486 | N/A | Vejar-Pryor Adobe | Unevaluated | S. Van Wormer 1985 | Outside |
| 30-176663 | N/A | Burlington Northern Santa Fe Railway (formerly Atchison, Topeka, and Santa Fe Railway) | Ineligible | D. Ballester and B. T. Tang 2002; S. McCormick 2007; M. K. Meiser 2012 | **Within Southern Raw Water Alignment** |
| 30-177047 | N/A | 26375 Via Canon; single-family residence | Ineligible | C. Tibbet 2009 | Outside |
| 30-177499 | N/A | 34000 Capistrano by the Sea; single-family residence | Potentially eligible | J. Wright and M. Stoddard 1997 | Outside |

| Primary Number | Trinomial | Description | NRHP/CRHR Eligibility Status | Recorded By and Year | Relationship to APE |
|---|---|---|---|---|---|
| 30-177553 | N/A | Garage building | Ineligible | J. Wright and M. Stoddard 1997 | Outside |
| 30-177554 | N/A | Single family residence | Ineligible | J. Wright and M. Stoddard 1997 | Outside |
| 30-177555 | N/A | 26545 Via Sacramento; single-family residence | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |
| 30-177570 | N/A | Lee House; Single family residence | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |
| 30-177586 | N/A | Post office | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |
| 30-177587 | N/A | Commercial office building | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |
| 30-177588 | N/A | Commercial office building | Ineligible | J. Wright and M. Stoddard 1997 | Outside |
| 30-177589 | N/A | Commercial storefront building | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |
| 30-177590 | N/A | Commercial storefront building | Ineligible | J. Wright and M. Stoddard 1997 | **Adjacent to** Outside |
| 30-177591 | N/A | Commercial storefront building | Ineligible | J. Wright and M. Stoddard 1997 | Outside |
| 30-177593 | N/A | Commercial storefront building | Ineligible | J. Wright and M. Stoddard 1997; ARG 2016 | Outside |
| 30-177594 | N/A | 34248 Via Santa Rosa; single-family residence | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |
| 30-177596 | N/A | 34311 Pacific Coast Highway; motel complex | Eligible for local listing | J. Wright and M. Stoddard 1997 | **Demolished but recorded adjacent to Northern Raw Water Alignment** |
| 30-177597 | N/A | 34352 Pacific Coast Highway; single-family residence | Eligible for local listing | J. Wright and M. Stoddard | Outside |
| 30-177598 | N/A | 34365 Via San Juan; single-family residence | Ineligible | J. Wright and M. Stoddard 1997 | Outside |
| 30-177599 | N/A | 34506 Via Verde; single-family residence | Ineligible | J. Wright and M. Stoddard 1996 | Outside |
| 30-177600 | N/A | 34532 Camino Capistrano; single-family residence | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |

| Primary Number | Trinomial | Description | NRHP/CRHR Eligibility Status | Recorded By and Year | Relationship to APE |
|---|---|---|---|---|---|
| 30-177603 | N/A | 34812 Pacific Coast Highway; motel complex | Eligible for local listing | J. Wright and M. Stoddard 1997 | Outside |
| N/A | N/A | Adobe wall and arched entry portal to Doheny State Beach | Eligible for NRHP | A. Bevil 2003; 2008 | Outside |
| N/A | N/A | Thor's Hammer | Eligible for NRHP | A. Bevil 2008 | Outside but near the Shared Alignment |

*Source: South Central Coastal Information Center, September 2016.*

#### 4.1.2.1 P-30-000188/CA-ORA-188

Site P-30-000188/CA-ORA-188 is a prehistoric archaeological site described in the site record as a large, deep shell midden on the south side of San Juan Creek on a bluff above Doheny Beach State Park. The site is described being composed of small fragments of oyster, mussel, pectin, abalone, and chiton, as well as ground stone and both utilitarian and ceremonial chipped stone artifacts. When the site was originally recorded in 1966 it was described as partially removed to be used as fill at the construction of a wax museum in San Juan Capistrano. Study OR-2527 (Desautels 1973) describes the site as being 90 percent destroyed by 1966 when it was "used as a borrow pit by the California Division of Highways and others." Desautels (1973) further states that in 1972 the remaining portion of the site was subject to archaeological test excavations that exhausted its data potential and that "the remaining archaeological deposit was not worthy of preservation." Based on this information and findings, Rincon presumes that by 1973 the site no longer retained significant data potential and is therefore not eligible for the CRHR. In addition, although the site is mapped within the proposed Southern Raw Water Alignment, its written description places it upslope on the bluffs and any overlap with the proposed project appears to be a map scale error (i.e., if the map was smaller scale the refined boundary would place the site at a higher elevation and north and east of the alignment).

#### 4.1.2.2 P-30-001337/CA-ORA-1337H

Site P-30-001337/CA-ORA-1337H is the remains of the historic-era Serra railroad depot of the Burlington Northern Santa Fe Railway (formerly Atchison, Topeka, and Santa Fe Railroad). The site consists of a sign reading "Serra," concrete foundation and piers adjacent to the railroad tracks. No indication of buried cultural deposits is noted in the site record and it has not been formally evaluated for listing in the CRHR. When the site record was updated in 1998, the "Serra" sign was no longer present. The resource is located along the eastern edge of the South Site.

#### 4.1.2.3 P-30-176663

Resource P-30-176663 was recorded by Daniel Ballester and Bai Tom Tang in 2002 and updated by Steven McCormick in 2007 and M. K. Meiser in 2012. The resource consists of an approximately 15-mile segment of the Burlington Northern Santa Fe (formerly Atchison, Topeka, and Santa Fe) Railway. Since its original construction in the 1880s, much of the line has been replaced and the existing tracks are, for the most part, modern. Thus, the line was recommended ineligible for listing in the CRHR due to a lack of historical integrity by Ballester and Tang in 2002, by McCormick in 2007, and by Meiser in 2012. The railroad line crosses the Southern Raw Water Alignment.

#### 4.1.2.4 P-30-177596

Resource P-30-177596 consists of the Dana Villa Inn and was recorded by Judy Wright and Mary Stoddard in 1997. Now demolished, the motel complex included a restaurant, row of units, and one additional structure. The Dana Villa Inn is described as the first motel on the southern coast of California. The recorders, J. Wright and M. Stoddard, recommended the resource as ineligible for listing on the NRHP, but stated that it should be considered eligible for local listing. Since the preparation of the original resource record, the Dana Villa Inn has been demolished.

## 4.2 NATIVE AMERICAN HERITAGE COMMISSION

Kimley-Horn and Associates, Inc. (Kimley-Horn) contacted the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File (SLF) in February of 2016 as part of the project Notice of Preparation (Appendix A). The NAHC responded on March 3, 2016 stating that a search of the SLF was completed for the APE "with negative results." The NAHC also included a contact list of 4 tribal groups or individuals who may have knowledge of cultural resources within the APE. On March 11, 2016, Kimley-Horn prepared and mailed letters to each of these contacts requesting any information they may have regarding Native American cultural resources within the APE.

As of the date of this report, Kimley-Horn has not received any responses to the letters mailed to the contacts provided by the NAHC.

## 4.3 LOCAL HISTORICAL GROUP CONSULTATION

Rincon prepared and mailed letters to the Dana Point Historical Society and the Orange County Historical Society on September 26, 2016 to request any information they may have regarding historical properties within the project APE (Appendix B). As of the date of this report Rincon has yet to receive any responses.

# 5.0 FIELDWORK

## 5.1 SURVEY METHODS

Rincon archaeologist Hannah Haas conducted an intensive pedestrian survey of the APE, including the South site, the proposed pipeline alignments, and the length of Doheny State Beach where slant wells may be located on November 11, 2016. Rincon archaeologists Kevin Hunt and Kyra Frago conducted a pedestrian survey of the first extended site area on July 10, 2017. This area extends from the southernmost point of the original site to the end of the Beach Road parking lot. Rincon archaeologist Mark Strother conducted a pedestrian survey of the revised Southern Raw Water Alignment on December 5, 2017. Survey of the pipeline alignments consisted of a windshield survey of the portions of pipelines that follow existing roads, and of pedestrian survey of portions through Doheny State Beach. The North and South sites were surveyed using transects spaced 15 meters apart when possible, though much of each site was not accessible due to fencing and/or restricted ground visibility due to the area's use a storage yard; orientation of transects varied based on surface visibility. The archaeologists examined exposed ground surface for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock [FAR]), ecofacts (marine shell and bone), 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., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances, such as animal burrows and drainages, were visually inspected as these areas can expose subsurface deposits.

# 6.0 FINDINGS

The pedestrian survey of the project APE did not result in the identification of any newly recorded resources. Much of the South Site was inaccessible due to fencing and the use of the area as a storage yard for multiple businesses. Visibility in the undeveloped and open areas of the South Site was fair (65-75%) due to the presence of vegetation and gravel. A large spoils pile is located in the northeastern portion of the South Site, indicating previous ground disturbance. Photographs 1 and 2 display the current APE.

One prehistoric archaeological site was previously recorded within the project APE, CA-ORA-188 (Photograph 2), but the resource was not relocated during the current survey. The Southern Raw Water Alignment and the shared pipeline alignment crosses the recorded location of CA-ORA-188; however, the mapped boundary of the site likely exceeds the actual size because the written description of the site place it on the bluff rather than at the lower elevations of the streets and railroad. The site was completely destroyed during the development of the Dana Bluffs project ca. 1973

Photograph 1. View of paved and fenced portion of South Site, facing south.


Photograph 2. View of recorded location of CA-ORA-188, facing north.

Resource P-30-177596 consists of the location of the Dana Villa Inn (Photograph 3). However, the inn was recommended ineligible for listing in the NRHP and has been demolished.

Photograph 3. View of recorded location of P-40-177596.

The Burlington Northern Santa Fe Railroad (P-40-176663) is located adjacent to the South Site and is crossed by the Southern Raw Water Alignment. The railroad however, has been recommended ineligible for listing in the NRHP because its current construction does not reflect its historical origins.


Photograph 4. View of historical structures along Doheny Park Road, facing west. Resources (from left to right): P-30-177591, -177590, and -177593

In addition to the cultural resources within or adjacent to the project APE, two resources (P-30-177597, and Thor's Hammer [Photograph 5]) are located within the vicinity of the project. Resource P-30-177597 is a historical motel complex previously recommended ineligible for listing in the NRHP, but potentially eligible for local listing. Thor's Hammer (primary number pending) has been recommended eligible for listing in the NRHP. Both resources appeared to be in a similar condition to when they were originally recorded.

Photograph 5. View of Thor's Hammer, facing south.

# 7.0 RECOMMENDATIONS

Based on the results of the records search, Native American scoping, and pedestrian surveys, Rincon identified five previously recorded cultural resources within or adjacent to the project APE (Table 3). One additional previously recorded resource was identified near the project APE. No previously unrecorded resources were identified within the APE during the pedestrian survey. No underwater cultural resources are known to be located within the project APE.

Table 3 lists each resource identified within or near the APE and Rincon's management recommendations for the future treatment of each resource. These recommendations are discussed in detail below.

**Table 3. Cultural Resources Within or Near the APE**

| Primary Number | Trinomial | Description | Relationship to Project Elements | Recommendation |
|---|---|---|---|---|
| 30-000188 | CA-ORA-188 | Shell midden with artifacts, since destroyed | Within Southern Raw Water Alignment | No further work |
| 30-001337 | CA-ORA-1337H | Serra Railroad Depot | Adjacent to South Site | No further work |
| 30-176663 | N/A | Burlington Northern Santa Fe Railway | Within the Southern Raw Water Alignment | No further work |
| 30-177596 | N/A | 34311 Pacific Coast Highway; motel complex | Demolished but recorded adjacent to the shared alignment | No further work |
| 30-177597 | N/A | 34352 Pacific Coast Highway; single-family residence | Outside but near the shared alignment | No further work |
| N/A | N/A | Thor's Hammer | Outside but near the shared pipeline alignment | Avoidance |

Thor's Hammer is located within the project APE but away from any proposed project elements. The resource has been recommended eligible for listing in the NRHP. The proposed project is not likely to affect the resource however, should the placement of the proposed intake valves be changed, Rincon recommends avoidance of the resource.

No archaeological sites were identified within the Northern Raw Water Alignment or the South Site as a result of the records search or pedestrian survey.

Resource CA-ORA-188 was recorded partially within the Southern Pipeline Alignment and the shared pipeline alignment; however, the resource was actually up on a bluff and destroyed by 1973. Thus, no further work is recommended for this resource.

The Burlington Northern Santa Fe Railway (P-30-176663) is crossed by the Southern Raw Water Alignment. However, this resource has been recommended ineligible for listing in the NRHP and CRHR and has lost its historical integrity due to continued operation and maintenance. Rincon concurs with these previous recommendations. Thus, the proposed project will not significantly impact the resource under CEQA and will not have an adverse effect on the project under the NHPA. Site P-30-176663 requires no further management consideration under either regulation.

Resource CA-ORA-1337H is located adjacent to the South Site. The site is located outside of the boundaries of the proposed project and is thus not expected to be impacted by project development. Thus, no further work is recommended for this resource.

No historical built-environment resources are located directly adjacent to the South site. Thus, project development at this site would not impact historical built-environment resources under CEQA nor have an effect on historical built-environment resources under the NHPA.

## 7.1 AVOIDANCE

Preservation in place (avoidance) is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site. If feasible, each of the archaeological sites identified within the APE during the current study.

## 7.2 WORKER ENVIRONMENTAL AWARENESS TRAINING (ALL COMPONENTS)

Prior to ground disturbing activities and ongoing during construction, all contractors shall undergo a Worker Environmental Awareness Program (WEAP). The training, which may be presented in the form of a video, shall include:

h) A discussion of applicable environmental resource laws and penalties under the law;
i) Samples or visuals of artifacts that may be found in the Project vicinity;
j) Information that the Cultural Resource Specialist (CRS) and Construction Manager (CM) have the authority to halt construction to the degree necessary, as determined by the CRS, in the event of a discovery or unanticipated impact to a cultural resource;
k) Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources find, and shall contact their supervisor and the CRS or CM; redirection of work shall be determined by the construction supervisor and the CRS;
l) An informational brochure that identifies reporting procedures in the event of a discovery;
m) An acknowledgement form signed by each worker indicating that they have received the training; and
n) A sticker that shall be placed on hard hats indicating that environmental training has been completed.

The District (or its designee) shall maintain WEAP Certification of Completion forms of persons who have completed the training.

## 7.3 CONSTRUCTION MONITORING

Prior to construction, the District (or its designee) shall retain a Cultural Resource Specialist (CRS) that meets the minimum qualifications of the U.S. Secretary of Interior Guidelines (NPS 1983). The CRS shall be present during initial deep excavations for pipeline trenches, vaults and desalination facility plant structures that penetrate below native ground surface. The District shall offer local Native American tribes the opportunity to be present during such initial deep excavations. The CRS and the Construction Manager (CM) shall have the authority to halt construction if previously unknown cultural resource sites or materials are encountered. Redirection of ground disturbance shall be accomplished under the direction of the CM.

If such resources are found or impacts can be anticipated, the halting or redirection of construction shall remain in effect until all of the following have occurred:

d) The CRS has notified the District (or its designee), and the CM has been notified within 24 hours of the find description and the work stoppage;
e) The CRS, the District (or its designee), and the CM have conferred and determined what, if any, data recovery or other mitigation is needed and the scope of that mitigation;
f) Any necessary data recovery and mitigation has been completed.

All archaeological materials collected as a result of the archaeological investigations (survey, testing, and data recovery) shall be curated in accordance with the State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Federal Code of Regulations, Part 79, Title 36.

## 7.4 UNANTICIPATED DISCOVERY OF UNDERWATER CULTURAL RESOURCES

If previously unidentified underwater cultural resources are encountered during ground-disturbing activities associated with construction of the slant wells, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) must be contacted immediately to evaluate the find. If the discovery proves to be significant under the CEQA, additional work such as data recovery excavation may be warranted to mitigate any adverse effects.

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# Appendix A

*Paleontological Resources Technical Memorandum*

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December 13, 2017

Rincon Project No. 16-02665

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Via email: paul.hermann@ghd.com

**Subject:** Paleontological Resources Assessment for the Doheny Desalination Project, City of Dana Point, Orange County, California

Dear Mr. Hermann:

Rincon Consultants, Inc. (Rincon) has conducted a paleontological resources assessment of the proposed Doheny Desalination project. The goal of the assessment is to identify the geologic units that may be impacted by development from the proposed project, determine the paleontological sensitivity of geologic units within the proposed project area, assess potential for impacts to paleontological resources from development of the proposed project, and recommend mitigation measures to avoid or mitigate impacts to scientifically significant paleontological resources as necessary.

This paleontological resources assessment consisted of a fossil locality record search at the San Diego Natural History Museum (SDNHM), review of existing geologic maps, and a review of primary literature and online fossil collections databases (specifically University of California Museum of Paleontology [UCMP] and the Neogene Mammal Mapping Portal [NEOMAP]) regarding fossiliferous geologic units within the proposed project vicinity and region. Figures are included in Attachment A and record search results from the SDNHM are included in Attachment B.

## Project Background

The proposed project is a desalination plant in Dana Point, Orange County. The proposed project consists of a new plant, slant wells for raw water intake, and pipelines to carry water from slant wells to the facility installation. The proposed project area is depicted on the United States Geological Survey (USGS) *Dana Point*, 7.5-minute topographic quadrangle (Figure 1).

This paleontological assessment has been prepared to support environmental review under the California Environmental Quality Act (CEQA) and potentially under the National Environmental Policy Act (NEPA) if a Federal nexus for the proposed project is established.

## Regulatory Setting

### *Federal Laws and Regulations*

A variety of federal statutes specifically address paleontological resources. They generally become applicable if the project involves: 1) a federal agency license, permit, approval, or funding, and/or 2)

crosses federal lands. Since federal funding for this proposed project may become established, the following laws and regulations apply.

Archaeological and Paleontological Salvage (23 USC 305)

Statute 23 USC 305 amends the Antiquities Act of 1906. Specifically, it states:

> *Funds authorized to be appropriated to carry out this title to the extent approved as necessary, by the highway department of any State, may be used for archaeological and paleontological salvage in that state in compliance with the Act entitled "An Act for the preservation of American Antiquities," approved June 8, 1906 (PL 59-209; 16 USC 431-433), and State laws where applicable.*

This statute allows funding for mitigation of paleontological resources recovered pursuant to federal aid highway projects, provided that "excavated objects and information are to be used for public purposes without private gain to any individual or organization" (Federal Register [FR] 46(19):9570).

National Environmental Policy Act (NEPA) of 1969

NEPA (United States Code, section 4321 et seq.; 40 Code of Federal Regulations, §1502.25), as amended, directs Federal agencies to "Preserve important historic, cultural, and natural aspects of our national heritage (§101(b) (4))."

Paleontological Resources Preservation Act of 2009

The Paleontological Resources Preservation Act (PRPA) is part of the Omnibus Public Land Management Act of 2009 (Public Law 111-011 Subtitle D). This act directs the Secretary of the Interior or the Secretary of Agriculture to manage and protect paleontological resources on federal land, and develop plans for inventorying, monitoring, and deriving the scientific and educational use of such resources. It prohibits the removal of paleontological resources from federal land without a permit issued under this Act, establishes penalties for violation of this act and establishes a program to increase public awareness about such resources. As of May 18, 2015, the U.S. Department of Agriculture has implemented a new rule that "provides for the preservation, management, and protection of paleontological resources on National Forest System Lands (NFS), and insures that these resources are available for current and future generations to enjoy as part of America's national heritage. The rule addresses the management, collection, and curation of paleontological resources from NFS lands including management using scientific principles and expertise, collecting of resources with and without a permit, curation in an approved repository, maintaining confidentiality of specific locality data, and authorizing penalties for illegal collecting, sale, damaging, or otherwise altering or defacing paleontological resources".

### *State Laws and Regulations*

The following are California state regulations with respect to paleontological resources.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) (Chapter 1, §21002) 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 by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.*

The CEQA Guidelines (Article 1, §15002(a)(3)) state that CEQA is intended to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible. If paleontological resources are identified during the Preliminary Environmental Analysis Report, or other initial project scoping studies (e.g., Preliminary Environmental Study), as being within the proposed project area, the sponsoring agency (Caltrans or local) must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

Public Resources Code Section 5097.5

Section 5097.5 of the California Public Resources Code (PRC) states:

> *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, 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 PRC 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. Consequently, local agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

## Geologic Setting

The proposed project area is on the United States Geological Survey (USGS) *Dana Point*, 7.5-minute quadrangle (Tan et al. 1999) and Oceanside 30' x 60' quadrangle (Kennedy et al. 2007). It is located in the middle of the Peninsular Ranges Geomorphic Province, one of 11 major provinces in the state

(California Geological Survey [CGS] 2002). The Peninsular Ranges province is characterized by its northwest trending valleys and faults that branch from the San Andreas Fault (CGS 2002).

The Peninsular Ranges comprise rocks that range in age from the Paleozoic to the Quaternary, with the majority of rocks being a Jurassic to Cretaceous batholith that intrudes a Triassic to Jurassic metasedimentary sequence (Kennedy et al. 2007). This batholith was emplaced across the North American and Pacific plate boundary in the Mesozoic and is composed of an older, western portion of tonalite, gabbro, and granodiorite and a younger, eastern portion of less mafic granitics (Todd et al. 2003).

The proposed project area includes six (6) geologic units mapped at the surface (Figures 1 and 2). From youngest to oldest, these are: Quaternary wash deposits (late Holocene: Qw); Quaternary marine beach deposits (late Holocene: Qmb); Quaternary younger alluvium (late Pleistocene to Holocene: Qya); Quaternary older alluvium (middle to late Pleistocene: Qoa); Quaternary older paralic (terrace) deposits (middle to late Pleistocene: $Qop_{1-2}$); and the Capistrano Formation (late Miocene to early Pliocene: Tcs) (Kennedy et al. 2007; Tan et al. 1999).

Most of the proposed project area overlies Holocene-aged alluvial, beach, and wash deposits (Qya, Qmb, Qw). Small areas of Pleistocene-aged older alluvium (Qoa) and terrace deposits ($Qop_{1-2}$) are mapped along the western edges of the project area and a very small area of Capistrano Formation is mapped within the eastern portion of the project area (Figure 1). In addition, a sizable portion of the project area is mapped within offshore waters.

### Paleontological Sensitivity

Generally, only a paleontologist with specific expertise in a given type of fossil is qualified to determine the exact scientific significance of any given paleontological resources. However, a qualified paleontologist can evaluate the potential significance of fossil specimens and the paleontological sensitivity of given geologic units. The Society for Vertebrate Paleontology (SVP) broadly defines significant paleontological resources as follows (SVP 2010, page 11):

> *"Fossils and fossiliferous deposits consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."*

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes, or which could improve our understanding of paleochronology, paleoecology, paleophylogeography or depositional histories. New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiocarbon dating is possible. As such,

common fossils (especially vertebrates) may be scientifically important, and therefore considered highly significant.

The SVP (2010) describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and those which add to an existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally (Reynolds 1990). While these standards were specifically written to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines. Rincon has evaluated the paleontological sensitivity of the proposed project site according to the following SVP (2010) categories:

I. *High Potential (sensitivity) - Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.*

II. *Low Potential (sensitivity) – Sedimentary rock units that are potentially fossiliferous, but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic, phylogenetic species and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations. However, as excavation for construction gets underway it is possible that significant and unanticipated paleontological resources might be encountered and require a change of classification from Low to High Potential and, thus, require monitoring and mitigation if the resources are found to be significant.*

III. *Undetermined Potential (sensitivity) - Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.*

IV. *No Potential – Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.*

## Paleontological Sensitivities of Mapped Units

Those project areas containing units with high paleontological sensitivity are shown in red on Figure 2. The following discusses the relative sensitivity of the geologic units underlying the project area, from youngest to oldest.

*Quaternary wash (Qw)*

Late Holocene wash deposits (Qw) occur within the drainage channel in the middle of the proposed project area. These sediments consist of unconsolidated boulder to sandy alluvium and are too young (<5,000 years old) to contain significant paleontological resources (Kennedy et al. 2007). Quaternary wash deposits have low to no potential to yield significant fossil resources.

*Quaternary marine beach deposits (Qmb)*

Late Holocene marine beach deposits (Qmb) crop out along the shoreline within the project area. These sediments consist of unconsolidated medium- and fine-grained sand and clay and are too young (<5,000 years old) to contain significant paleontological resources (Kennedy et al. 2007). Quaternary marine beach deposits have low to no potential to yield significant fossil resources.

*Quaternary younger alluvium (Qya)*

Late Pleistocene to Holocene younger alluvium (Qya) occurs east and west of the wash channel (Figure 1) and consists of poorly consolidated, poorly sorted, permeable floodplain deposits of sand, silt, and clay. At the surface, these sediments are probably too young (<5,000 years old) to contain significant paleontological resources though at shallow depth they may become Pleistocene in age and so may contain fossils (Kennedy et al. 2007). Data regarding the depth at which the transition to the Pleistocene occurs is lacking, so we conservatively estimate that at depths exceeding 5 feet below the surface, Quaternary younger alluvium may transition from Holocene to Pleistocene. As such, these sediments have low to no potential to yield significant fossil resources at the surface, but a high potential below 5 feet.

*Quaternary older alluvium (Qoa)*

Middle to late Pleistocene older alluvium (Qoa) crops out discontinuously along the western boundary of the project area (Figure 1). These sediments consist of moderately to well consolidated, poorly sorted, permeable, slightly dissected gravel, sand, silt, and clay alluvium (Kennedy et al. 2007). Pleistocene older alluvium has a record of abundant and diverse vertebrate fauna throughout California (Agenbroad 2003; Bell et al. 2004; Jefferson 1985, 1991; Maguire and Holroyd 2016; Merriam 1911; Reynolds et al. 1991; Savage et al. 1954; Scott and Cox 2008; Springer et al. 2009; Tomiya et al. 2011; Wilkerson et al. 2011; Winters 1954) and is generally considered to have high paleontological sensitivity wherever it occurs (Figure 2).

*Quaternary older paralic (terrace) deposits ($Qop_{1-2}$)*

Middle to late Pleistocene older paralic (terrace) deposits ($Qop_{1-2}$) crop out in a small area along the western boundary of the project area, just east of Lantern Bay Park (Figure 1). These sediments consist of poorly sorted, moderately permeable, reddish-brown, interfingered strandline, beach, estuarine, and colluvial siltstone, sandstone, and conglomerate deposits (Kennedy et al. 2007). Pleistocene older paralic (terrace) deposits have a record of abundant and diverse vertebrate fauna throughout California (Agenbroad 2003; Bell et al. 2004; Jefferson 1985, 1991; Maguire and Holroyd 2016; Merriam 1911; Reynolds et al. 1991; Savage et al. 1954; Scott and Cox 2008; Springer et al. 2009; Tomiya et al. 2011;

Wilkerson et al. 2011; Winters 1954) and are generally considered to have high paleontological sensitivity wherever they occur (Figure 2).

*Capistrano Formation (Tcs)*
The late Miocene to early Pliocene Capistrano Formation underlies the project area just north of the Pacific Coast Highway (Figure 2). The Capistrano Formation comprises marine sandstone and siltstone that has been divided into two facies; a massive, friable siltstone and a poorly bedded, weakly cemented turbidite sandstone (Kennedy et al 2007; Woodford 1925). The Capistrano is known to produce a diverse assortment of fossil plants (e.g., algae impressions), trace fossils, invertebrates, and marine vertebrates (e.g., fish, sea birds, whales, sea cows, seals, and walruses) (Santos et al. 2016; Attachment B). The Capistrano Formation is considered to have high paleontological sensitivity.

## Records Search Results

A thorough search of the SDNHM paleontological collection records for the project site and vicinity did not reveal any previously discovered fossils within the project boundaries. However, seven fossil localities are in the vicinity and in the same sedimentary deposits as those found underlying the project site. These localities have yielded diverse late Pleistocene vertebrate taxa including fish, reptiles, birds, rodents, mammoths, bison, horses, camels, whales, sea cows, seals, and walruses (Attachment B).

An online search of the UCMP collections recorded 1,106 fossil localities in Orange County. Of these localities, 122 are from Pleistocene sediments and 23 are from the Capistrano Formation. Most of these contain only microfossils and marine invertebrates, though 7 (4 from the Pleistocene and 3 from the Capistrano) contain terrestrial and marine vertebrates including fish, birds, rodents, horses, and whales.

The NEOMAP online database records 54 fossil localities in Orange County. Of these, 3 are from Pleistocene sediments and all contain vertebrates including rodents, antelopes, bovids, horses, cats, dogs, tapirs, mammoths, camels, deer, and pig relatives.

## Impacts Analysis and Recommended Mitigation

The proposed project area contains three mapped units with high paleontological sensitivity and three units with low to no sensitivity. The high sensitivity units include: Quaternary older alluvium (Qoa; Pleistocene); Quaternary older paralic (terrace) deposits ($Qop_{1-2}$; Pleistocene); and Capistrano Formation (Tcs; Miocene to Pliocene).

Young (Holocene) alluvium outcrops extensively within the proposed project area, but has low to no sensitivity because of its relatively young age. However, these sediments become older with depth and could have high sensitivity in the subsurface where Pleistocene aged material is likely present. Quaternary older alluvium and terrace deposits have records of abundant and diverse vertebrate fauna throughout California (Agenbroad 2003; Bell et al. 2004; Jefferson 1985, 1991; Maguire and Holroyd 2016; Merriam 1911; Reynolds et al. 1991; Savage et al. 1954; Scott and Cox 2008; Springer et al. 2009; Tomiya et al. 2011; Wilkerson et al. 2011; Winters 1954) and are generally considered to have high paleontological sensitivity wherever they occur. The Capistrano Formation is also well known locally to contain diverse vertebrate fossils. This unit has high sensitivity wherever it occurs within the project area, which is along the Pacific Coast Highway, north of Beach Road (Figures 1 and 2).

In addition, unnamed Miocene marine sediments are mapped offshore in the shallow sub-surface. These sediments comprise a mix of coarse- to fine-grained sand, silt, and clay (Kennedy et al. 2007). These sediments are not known to contain fossils, but that may have as much to do with their offshore, inaccessible location as actual fossil content. Miocene marine sediments are known to contain significant fossils throughout the state and are sometimes located within the littoral zone, making them difficult to access (Boessenecker et al. 2014; Pyenson and Brudvik 2007). These sediments should thus be considered to have an undetermined paleontological sensitivity, and should be inspected to assess their paleontological resource potential if construction activities bring them to the surface.

Overall, ground disturbance associated with the construction of the proposed project has a high potential to directly disturb three geologic units with high paleontological sensitivity (Qoa, $Qop_{1-2}$, and Tcs) over limited portions of the project site, and one unit with high sensitivity at shallow depths (Qya) across most of the project site. Thus, significant effects to paleontological resources are primarily associated with ground-disturbance in Quaternary younger alluvium. Miocene marine sediments located offshore should also be inspected if encountered during construction.

Impacts to paleontological resources resulting from ground disturbing construction activity could include the destruction of fossils, and would be considered a significant impact without mitigation. The following measures are recommended to reduce potential impacts to paleontological resources to less than significant:

- Retain a Qualified Paleontologist. Prior to initial ground disturbance, the applicant shall retain a project paleontologist, defined as a paleontologist who meets the SVP standards for Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources. A qualified paleontologist (Principal Paleontologist) is defined by the SVP standards as an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year.
- Paleontological Mitigation and Monitoring Program. Prior to construction activity a qualified paleontologist should prepare a Paleontological Mitigation and Monitoring Program to be implemented during ground disturbance activity for the proposed project. This program should outline the procedures for construction staff Worker Environmental Awareness Program (WEAP) training, paleontological monitoring extent and duration, salvage and preparation of fossils, the final mitigation and monitoring report, and paleontological staff qualifications. The program will be prepared in accordance with the standards set forth by current Society of Paleontology guidelines and with proper implementation, will reduce or eliminate potential impacts to paleontological resources.
- Paleontological Worker Environmental Awareness Program (WEAP). Prior to the start of construction, the project paleontologist or his or her designee, shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be presented at a preconstruction meeting at which a qualified paleontologist shall attend. In the event of a fossil discovery by construction personnel, all work in the immediate vicinity of the find shall cease and a qualified paleontologist shall be contacted to evaluate the find before restarting work in the area. If it is determined that the fossil(s) is (are) scientifically significant,

the qualified paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources.

- Paleontological Monitoring. Ground disturbing construction activities (including grading, trenching, foundation work and other excavations) in areas mapped as high paleontological sensitivity (Figure 2) should be monitored on a full-time basis by a qualified paleontological monitor during initial ground disturbance. Areas mapped as low to high paleontological sensitivity should be monitored when ground disturbing activities exceed five feet in depth, because underlying sensitive sediments could be impacted. Areas considered to have an undetermined paleontological sensitivity should be inspected and further assessed if construction activities bring potentially sensitive geologic deposits to the surface. The Paleontological Mitigation and Monitoring Program shall be supervised by the project paleontologist. Monitoring should be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources. The duration and timing of the monitoring will be determined by the project paleontologist. If the project paleontologist determines that full-time monitoring is no longer warranted, he or she may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Monitoring would be reinstated if any new or unforeseen deeper ground disturbances are required and reduction or suspension would need to be reconsidered by the Supervising Paleontologist. Ground disturbing activity that does not exceed 5 feet in depth would not require paleontological monitoring.
- Salvage of Fossils. If fossils are discovered, the project paleontologist or paleontological monitor should recover them. Typically fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the paleontologist should have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.
- Preparation and Curation of Recovered Fossils. Once salvaged, significant fossils should be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the San Diego County Natural History Museum), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the project paleontologist. Field collection and preparation of fossil specimens will be performed by the project paleontologist with further preparation as needed by an accredited museum repository institution at the time of curation.
- Final Paleontological Mitigation Report. Upon completion of ground disturbing activity (and curation of fossils if necessary) the qualified paleontologist should prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The report should include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated.

If you have any questions regarding this Paleontological Resources Assessment, please contact us. We can provide a proposal and cost estimate to prepare the Paleontological Mitigation Plan at your request.

Sincerely,
RINCON CONSULTANTS, INC.

Kyle Brudvik, M.A.
Associate Paleontologist

David Daitch, Ph.D.
Senior Paleontologist/Program Manager

Duane Vander Pluym, D.Env.
Sr. Principal

## Attachments

Attachment A: Figures
Attachment B: SDNHM Records Search Results

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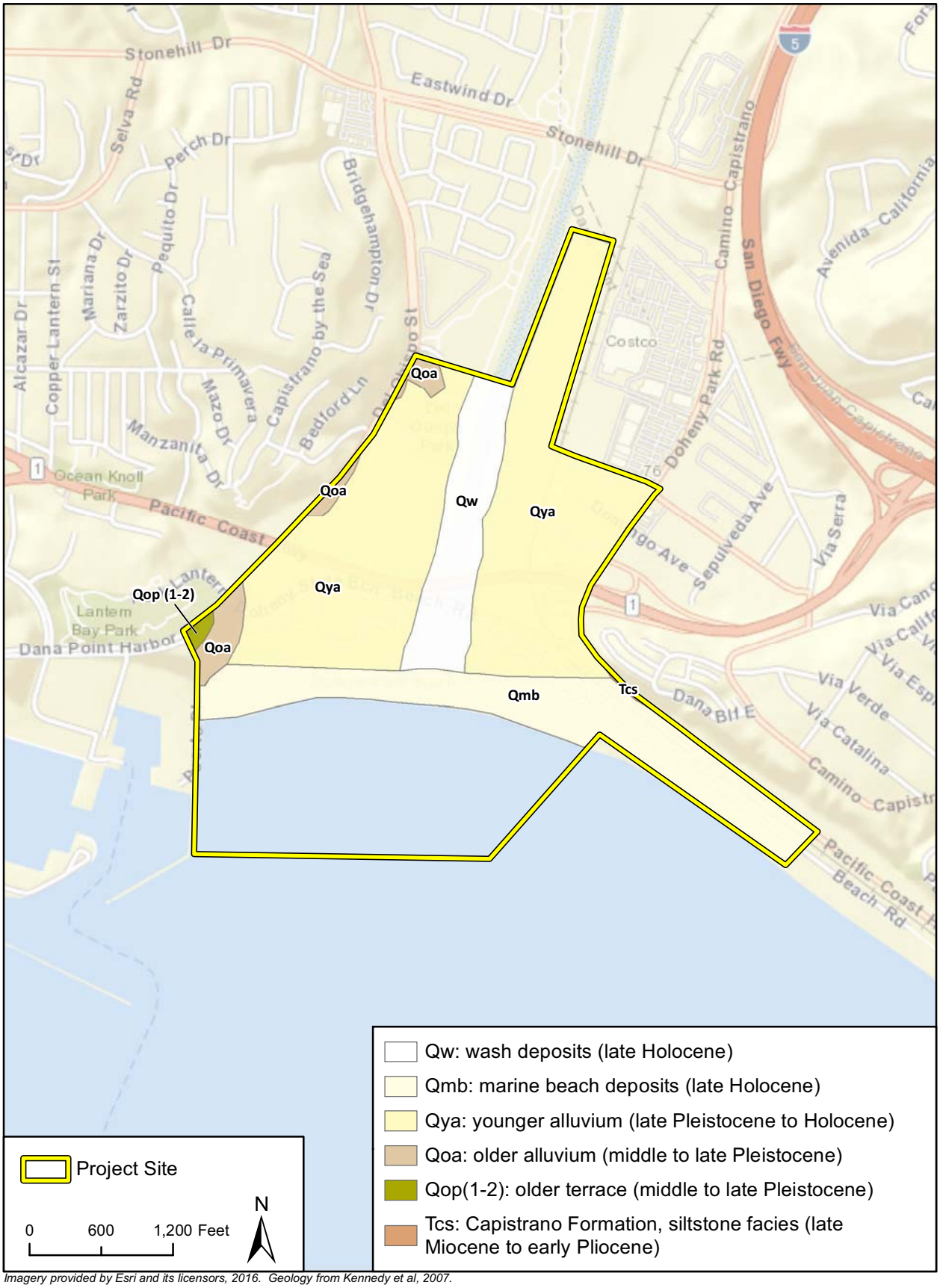
# Attachment A

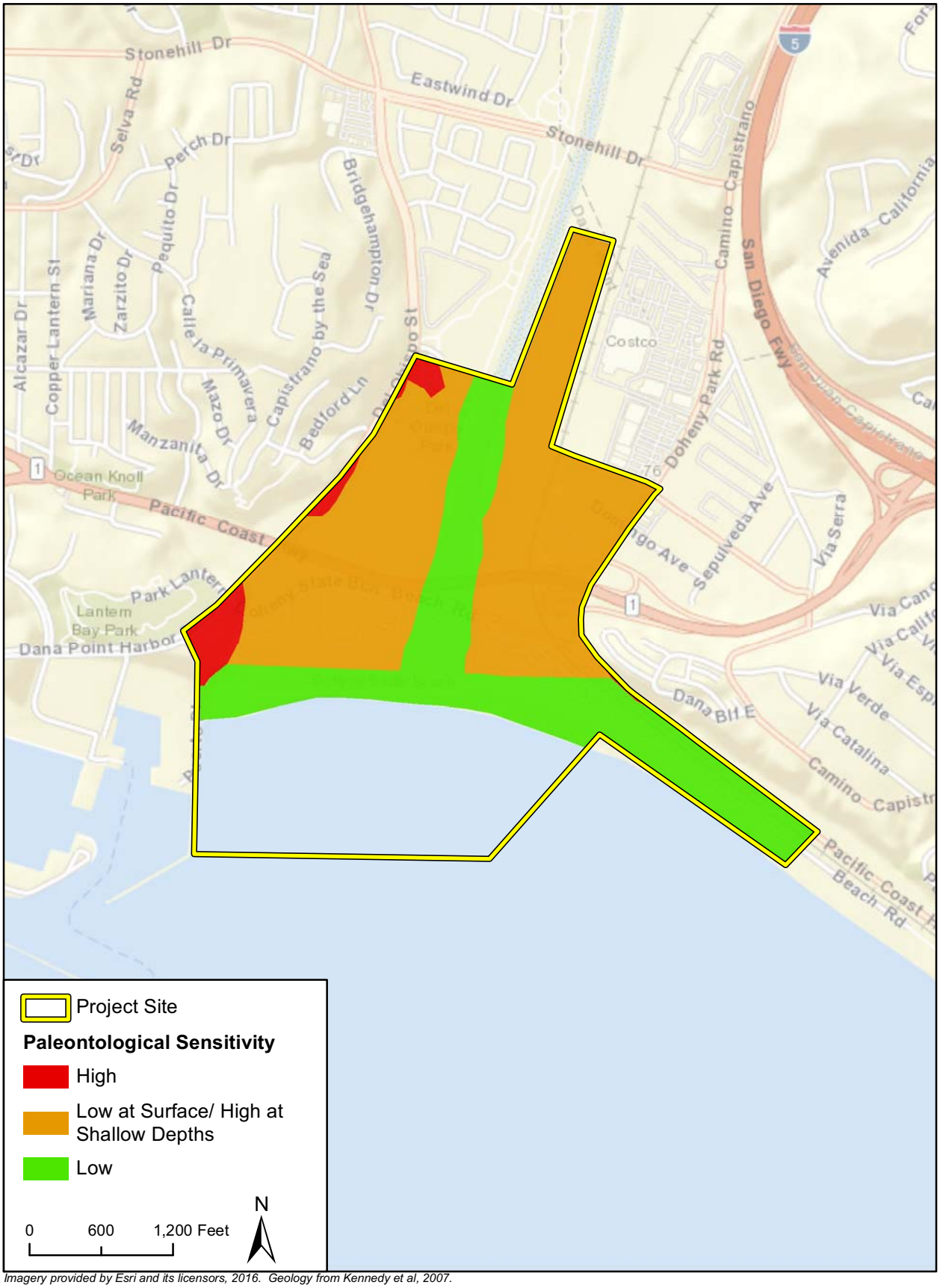
Figures




*Imagery provided by Esri and its licensors, 2016. Geology from Kennedy et al, 2007.*

Geologic Map

Figure 1




*Imagery provided by Esri and its licensors, 2016. Geology from Kennedy et al, 2007.*

Paleontological Sensitivity

Figure 2

# Attachment B

SDNHM Records Search Results

SAN DIEGO NATURAL HISTORY MUSEUM
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

6 October 2016

Mr. Kyle Brudvik
Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, CA 94612

RE: Paleontological Record Search – Doheny Desalination Plant Project

Dear Mr. Brudvik:

This letter presents the results of a paleontological record search conducted for the Doheny Desalination Plant project, located in the central portion of the City of Dana Point, Orange County, CA. The project area is generally bounded to the west by Del Obispo Street and Puerto Place, to the north by residential and commercial development, and to the east by Doheny Park Road; it also encompasses a portion of Doheny State Beach southeast of the Pacific Coast Highway.

A review of published geological maps covering the project area was conducted to determine the specific rock units underlying the site. Each unit was subsequently assigned a paleontological resource sensitivity following guidelines developed by the Society of Vertebrate Paleontology (SVP, 2010). Published geological reports (e.g., Kennedy and Tan, 2007) reveal that the proposed project will impact four geological rock units. Each of these rock units and their paleontological sensitivities are summarized in detail in the following section.

In addition, a search of the paleontological records at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur on the project site or within the immediate surrounding area (Figure 1). The SDNHM has seven recorded fossil localities within a 1-mile radius of the project (Appendix 1). Four of the localities are from the late Miocene-age Capistrano Formation, and the remaining three localities are from Pleistocene-age terrace deposits. These localities are described in greater detail below.

**GEOLOGICAL ROCK UNITS UNDERLYING THE PROJECT AREA:**

LATE QUATERNARY ALLUVIAL AND BEACH DEPOSITS – Holocene and late Pleistocene alluvial and beach deposits [mapped by Kennedy and Tan, 2007, as Quaternary wash (Qw), younger alluvial floodplain deposits (Qya), and marine beach deposits (Qmb)] occur in modern canyons and floodplains (e.g., along San Juan Creek), and on modern coastlines (e.g., at Doheny State Beach). The SDNHM does not have any fossil localities from these deposits within a 1-mile radius of the project site. These deposits are mostly less than 10,000 years old, and are assigned a low paleontological sensitivity based on their young geologic age and the lack of known fossil localities; however, these deposits may overlie sensitive units that could be impacted where the contact is relatively shallow.

PLEISTOCENE OLD ALLUVIAL FLOOD PLAIN DEPOSITS – Late to middle Pleistocene-age (approximately 10,000 to 800,000 years old) old alluvial flood plain deposits (mapped by Kennedy and Tan, 2007, as Qoa) underlie the project site at lower elevations along slopes west of the mouth of San Juan Creek. The SDNHM does not have any fossil localities from old alluvial deposits within a 1-mile radius of the project site; however, fossils are known from these deposits elsewhere, including several locations in coastal San Diego County. Recovered fossils include scientifically significant terrestrial vertebrate fossils (e.g., reptiles, birds, small mammals, and large-bodied "Ice-Age" mammals such as mammoth, bison, horse, and camel). Therefore, these deposits are assigned a high paleontological sensitivity.

PLEISTOCENE TERRACE DEPOSITS – A series of terrace deposits (mapped by Kennedy and Tan, 2007, as Quaternary old paralic deposits, units 2-6) of late to middle Pleistocene age (approximately 85,000 to 500,000 years old) underlie the project site along slopes west of the mouth of San Juan Creek. These terraces record a regressive sequence, with basal shallow marine deposits that transition to estuarine and fluvial deposits up section. The SDNHM has three recorded fossil localities from Pleistocene terrace deposits within 1-mile of the project site that were discovered as a result of mitigation work for improvements to Interstate 5 in 2014–2015. These localities produced fossilized impressions or remains of a variety of marine animals including bryozoans (moss animals), mollusks (e.g., clams, oysters, mussels, snails, worm snails, tusk shells), barnacles, bony fish, and cartilaginous fish (e.g., sharks, rays, and skates). Additionally, fossil remains of freshwater bony fish and terrestrial rodents were recovered from the nonmarine portions of the terrace deposits. Elsewhere in Orange County and northern San Diego County, similar terrace deposits are known to produce large and diverse assemblages of marine invertebrate and vertebrate fossils, as well as less common fossils of terrestrial vertebrates. The Pleistocene terrace deposits are therefore assigned a high paleontological sensitivity.

CAPISTRANO FORMATION – The marine deposits of the late Miocene-age (approximately 5 to 7 million years old) Capistrano Formation underlie the project site in a few small areas along Del Obispo Street and Puerto Place, west of the mouth of San Juan Creek. The SDNHM has four recorded fossil localities from the Capistrano Formation within a 1-mile radius of the project site. These localities produced fossilized impressions or remains of marine plants (e.g., brown algae), trace fossil burrows, marine clams, and marine vertebrates (e.g., bony fish). The Capistrano Formation is known to produce diverse assemblages of fossil marine vertebrates (e.g., sharks, rays, bony fishes, sea birds, toothed whales, baleen whales, sea cows, fur seals, and walruses) in Orange County, and has thus been assigned a high resource sensitivity.

**SUMMARY AND RECOMMENDATIONS:**

Given the high paleontological sensitivity of three of the geologic units underlying the project area (e.g., Pleistocene old alluvial flood plain deposits, Pleistocene terrace deposits, and the Capistrano Formation), and the known SDNHM fossil localities in close proximity to the project site, any proposed excavation activities that extend deep enough to encounter previously undisturbed deposits of these units have the potential to impact paleontological resources preserved in these deposits. For these reasons, implementation of a complete paleontological resource mitigation program during ground-disturbing activities is recommended.

The information contained within this paleontological record search should be considered private and is the sole property of the San Diego Natural History Museum. Any use or reprocessing of information contained within this document beyond the scope of the Doheny Desalination Plant project is prohibited.

If you have any questions concerning these findings please feel free to contact me at 619-255-0321 or kmccomas@sdnhm.org.

Sincerely,

Katie McComas
Paleontology Collections Assistant
Department of Paleontology

*Enc: Figure 1: Project map*
*Appendix 1: List of SDNHM fossil localities with a 1-mile radius of the project*

**Literature Cited:**

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# Appendix B

*Native American Correspondence*

**NATIVE AMERICAN HERITAGE COMMISSION**
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 FAX

March 3, 2016

Ashley Brodkin
Kimley-Horn

Sent via e-mail: ashley.brodkin@kimley-horn.com
Number of pages: 3

RE: Proposed Doheny Ocean Desalination Project, City of Dana Point, Dana Point USGS Quadrangle, Orange County, California

Dear Ms. Brodkin:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties. Please note that the intent above reference codes is to mitigate impacts to tribal cultural resources, as defined, for California Environmental Quality Act (CEQA) projects.

As of July 1, 2015, Public Resources Code Sections 21080.1, 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose mitigating impacts to tribal cultural resources:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code Section 21080.1(d))

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the APE, such as:

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

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

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

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

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

3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. A search of the SFL was completed for the USGS quadrangle information provided with negative results.

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

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

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

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

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

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

Sincerely,

Gayle Totton
Associate Government Planning Analyst

**Native American Heritage Commission**
**Tribal Consultation List**
**Orange County**
**March 3, 2016**

Juaneno Band of Mission Indians Acjachemen Nation
Chairperson, Matias Belardes
32161 Avenida Los Amigos Juaneno
San Juan Capisttrano , CA 92675
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Juaneno Band of Mission Indians Acjachemen Nation
Teresa Romero, Chairwoman
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Juaneño Band of Mission Indians
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Juaneno Band of Mission Indians Acjachemen Nation
Joyce Perry, Tribal Manager
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Irvine , CA 92612
kaamalam@gmail.com
(949) 293-8522

**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 Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65362.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed Doheny Ocean Desalination Project, City of Dana Point, Dana Point USGS Quadrangle, Orange County, California.**

Kimley»Horn

March 11, 2016

Chairperson Matias Belardes
Juaneno Band of Mission Indians Acjachemen Nation
32161 Avenida Los Amigos
San Juan Capistrano, CA 92675

**RE: Native American Consultation for the Doheny Ocean Desalination Project**

Dear Chairperson Belardes,

Pursuant to the requirements of AB 52, on behalf of the South Coast Water District (District) we are informing you that the District is the lead agency on a project located at in the City of Dana Point and are contacting you to elicit information not contained in the present database and offer to initiate government-to-government consultation should you choose.

The District proposes to develop an ocean water desalination facility in Dana Point, California, at Doheny State Beach. The desalination study area is traversed by two regional imported water supply pipelines and the adjacent San Juan Creek Ocean Outfall, which has sufficient brine disposal capacity. The major components of the Doheny Ocean Desalination Project includes: subsurface slant well intake system, desalination facility, product water distribution, ocean water concentrate disposal, and electrical energy service (including state-of-the-art energy recovery devices). The desalination facility itself would be sited on existing District property, located to avoid or minimize disruption to any existing operations and the subsurface intake wells are proposed at Doheny State Beach.

The proposed desalination facility would produce up to 15 million gallons per day (MGD) of potable drinking water, with an initial demonstration phase of 4 to 5 MGD. Both the initial 4 to 5 MGD and ultimate 15 MGD capacities would be available to the District and local water agencies to provide a high quality, locally-controlled, drought-proof potable drinking water supply. The desalination facility would also provide emergency back-up water supplies, should an earthquake, system shutdown, or other event disrupt the delivery of import water to the area.

Per Section 106 of the National Historic Preservation Act of 1966, Kimley-Horn and Associates have notified the Native American Heritage Commission (NAHC) and requested a Sacred Lands File (SLF) search for the project Area of Potential Effects (APE). The results of the SLF search did not indicate the presence of Native American cultural resources within the APE as specified in our request. The NAHC included a California Tribal Consultation List for the City of Dana Point.

If there are specific resources in or near this location of which we should be aware or you wish to initiate government-to-government consultation, please contact me by telephone at (714) 269-7427, or by email at kevin.thomas@kimley-horn.com within 30 days of the date of this letter. Also, please feel free to forward this information to others in your group whom you believe may have information that would be helpful in identifying cultural resources in the project area. Thank you for your involvement in this process. Your comments are important to the project, and I look forward to hearing from you.

Kimley»Horn

Sincerely,

**Kevin Thomas, CEP**
**Kimley-Horn** | 765 The City Drive, Suite 200 Orange, CA 92868
Direct: (714) 705-1316 | Main: (714) 939-1030

Enclosures: Notice of Preparation

Kimley»Horn

March 11, 2016

Chairwoman Teresa Romero
Juaneno Band of Mission Indians Acjachemen Nation
31411-A La Matanza Street
San Juan Capistrano, CA 92675

**RE: Native American Consultation for the Doheny Ocean Desalination Project**

Dear Chairwoman Romero,

Pursuant to the requirements of AB 52, on behalf of the South Coast Water District (District) we are informing you that the District is the lead agency on a project located at in the City of Dana Point and are contacting you to elicit information not contained in the present database and offer to initiate government-to-government consultation should you choose.

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Enclosures: Notice of Preparation

Kimley»Horn

March 11, 2016

Chairperson Sonia Johnston
Juaneno Band of Mission Indians
P.O. Box 25628
Santa Ana, CA 92799

**RE: Native American Consultation for the Doheny Ocean Desalination Project**

Dear Chairperson Johnston,

Pursuant to the requirements of AB 52, on behalf of the South Coast Water District (District) we are informing you that the District is the lead agency on a project located at in the City of Dana Point and are contacting you to elicit information not contained in the present database and offer to initiate government-to-government consultation should you choose.

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Direct: (714) 705-1316 | Main: (714) 939-1030

Enclosures: Notice of Preparation

Kimley»Horn

March 11, 2016

Tribal Manager Joyce Perry
Juaneno Band of Mission Indians Acjachemen Nation
4955 Paseo Segovia
Irvine, CA 92612

**RE: Native American Consultation for the Doheny Ocean Desalination Project**

Dear Tribal Manager Perry,

Pursuant to the requirements of AB 52, on behalf of the South Coast Water District (District) we are informing you that the District is the lead agency on a project located at in the City of Dana Point and are contacting you to elicit information not contained in the present database and offer to initiate government-to-government consultation should you choose.

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Enclosures: Notice of Preparation

# Appendix C

*Local Historical Group Consultation*

Rincon Consultants, Inc.
2215 Faraday Avenue Suite A
Carlsbad, California 92008

760 918 9444
FAX 918 9449

info@rinconconsultants.com
www.rinconconsultants.com

September 26, 2016

Dana Point Historical Society
PO Box 544
Dana Point, CA 92629

RE: Doheny Desalination Plant Project, Dana Point, California

To whom it may concern,

Rincon Consultants, Inc. (Rincon) has been retained to conduct a cultural resources study for the Doheny Desalination Plant Project (project) in the City of Dana Point, California. Rincon understands the project consists of the development of a desalination plant on the south side of San Juan Creek, including associated pipelines and intake wells. The APE is depicted on Township 08S, Range 08W of the U. S. Geological Survey *Dana Point*, CA 7.5-minute topographic quadrangle. The project is subject to the California Environmental Quality Act. The cultural resources study is also being prepared in accordance with Section 106 of the National Historic Preservation Act (Section 106) in the event that a federal nexus for the project is established.

The purpose of this letter is to request your input on potential or known historic resources or other cultural resources in the project area or vicinity. In conformance with Section 106, we are in the initial phase, "identify[ing] historic properties potentially affected by the undertaking" (36 Code of Federal Regulations Part 880.1 a). Rincon is currently working in the study area to identify any cultural resource issues for the proposed project. However, it is acknowledged that some areas and properties may contain values not readily apparent and would appreciate any such information you can provide. Please send notification in writing at the above address or hhaas@rinconconsultants.com, or by telephone at 760-918-9444, if you have information on potential or identified historical resources in the project study area. If a response is not received, follow up phone calls will be made to ensure receipt of the letter to establish whether your organization has information germane to the project. Thank you for your assistance.

Sincerely,

Hannah Haas

Hannah Haas
Cultural Resources Specialist

*Enclosure: Project Location Map*

Rincon Consultants, Inc.
2215 Faraday Avenue Suite A
Carlsbad, California 92008

760 918 9444
FAX 918 9449

info@rinconconsultants.com
www.rinconconsultants.com

September 26, 2016

Orange County Historical Society
PO Box 10984
Santa Ana, CA 92711

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Hannah Haas

Hannah Haas
Cultural Resources Specialist

*Enclosure: Project Location Map*