

Chapter 5

Cultural and Paleontological Resources

Introduction

Chapter Overview

This chapter discusses the Project's potential impacts on cultural and paleontological resources. It contains the following information:

- Overview of chapter preparation, including sources of baseline information and an explanation of the methods used to analyze impacts
- Description of the Project area's archaeological and historic setting, including information on previously documented cultural resources and an assessment of the potential for additional undocumented resources to be present
- Overview of laws, ordinances, policies, and planning documents that regulate and protect cultural and paleontological resources
- Analysis of potential impacts on cultural and paleontological resources under the proposed Project, the 2 action alternatives, and the No Project/No Action Alternative, including approaches to avoid or reduce (mitigate) potentially significant adverse impacts

The Project would be located within Escondido Creek/San Elijo Lagoon corridor, which has a long history of human habitation; more than 80 known prehistoric and historic archaeological resources are present within 0.5 mile of the Project alignment, with additional, previously unrecorded resources documented by work performed for the Project.

Most of these resources, however, are well outside the Project footprint and would not be directly or indirectly affected by the Project; further, the Project would incorporate provisions for monitoring by qualified archaeological and Native American staffers to address the potential to encounter previously unknown buried resources in this culturally sensitive area. The Project would have the potential to impact a fence line associated with the remains of a previously undocumented historic ranch complex in the western portion of the alignment. This would also be addressed by archaeological and Native American monitoring oversight.

How this Chapter Was Prepared

Assessment of Existing Conditions

Information on archaeological and historical resources in the Project vicinity was summarized from the Archaeological Resources Survey Report prepared for the Project in August 2014 and updated in February 2015, which is presented in Appendix E, and referenced in this chapter as *Tierra Environmental 2015*. The Archaeological Resources Survey Report draws on multiple sources, including

- National Park Service's (NPS's) National Register of Historic Places (NRHP) Records on file at the California Office of Historic Preservation's (OHP's) South Coast Information Center (SCIC) at San Diego State University

- OHP’s California Historical Landmarks listing
- Historic U.S. Geological Survey topographic maps for the Rancho Santa Fe and Encinitas 7.5-minute quadrangles, where the Project alignment is located
- Historic San Diego County road maps from 1779 to 1885
- Native American Heritage Commission’s Sacred Lands database

Information from these sources was supplemented by a reconnaissance pedestrian survey in 2012 and by an intensive pedestrian survey along the Project alignment in 2014.

Information on paleontological resources in the Project area was drawn from published geologic mapping and the geologic and paleontological literature; references are cited in the text and full reference information is provided in *References Used in Preparing this Chapter* following the impact analysis.

Impact Analysis Methods

The potential for impacts on archaeological and paleontological resources depends largely on the extent and location of ground disturbance. Analysis concentrated on first understanding the location and importance of known and potential resources, and then on evaluating the potential for the Project to result in ground disturbance affecting these resources. Impacts on cultural resources can also occur when a Project would introduce new elements into a landscape or otherwise modify the context in which a resource is situated; this aspect of impacts was also considered.

The Project would result in a significant impact under CEQA if it would lead to any of the following.

- A substantial adverse change in the significance of a historic period resource that is
 - listed, or eligible for listing, in the National Register of Historic Places
 - listed, or eligible for listing, in the California Register of Historic Resources
 - included in a local register of historical resources, or otherwise identified as an important resource by a local jurisdiction or agency
- A substantial adverse change in the significance of an archaeological resource that is
 - listed, or eligible for listing, in the National Register of Historic Places
 - listed, or eligible for listing, in the California Register of Historic Resources
 - included in a local register of historical resources, or otherwise identified as an important resource by a local jurisdiction or agency
- A substantial adverse change in a “unique archaeological resource,” as defined in Section 21083.2[g] of the California Public Resources Code
- Disturbance of human remains, including those interred outside of formal cemeteries
- Loss, damage, or destruction of unique paleontological resources; loss, damage, or destruction of other paleontological resources that meet the qualifications for significance as defined by the Society of Vertebrate Paleontological Resources (2010), including but not limited to vertebrate fossils

Any of these outcomes would also represent an adverse effect under NEPA.

Existing Conditions

Paleontological Setting

The portions of the project alignment within San Elijo Lagoon are situated on estuarine deposits of late Holocene age and those within the immediate Escondido Creek corridor overlie alluvial deposits of Holocene and/or late Pleistocene age (Kennedy and Tan 2002). The portion of Lone Jack Road proposed for installation of the realigned segment of the OTS is underlain by sediments assigned to the Delmar Formation (Kennedy and Tan 2002), a shallow- and marginal-marine deposit of Eocene age (Boyer and Warmé 1975, Warmé 1991).

Sedimentary deposits of Holocene age are not typically considered paleontologically sensitive in San Diego County, and the County has evaluated the active Escondido Creek/San Elijo Lagoon drainage in general as having low sensitivity for paleontological resources (County of San Diego 2009). Where present, deposits of Pleistocene age may have some sensitivity (Deméré and Walsh 2011).

In addition, the Delmar Formation has produced numerous fossil finds, including remains of both estuarine invertebrates (clams, oysters, and snails) and vertebrates (sharks, rays, and a crocodile). The Delmar Formation has also locally yielded remains of large terrestrial vertebrates, including an early rhinoceros, and tillodont, a large, beaver-like extinct mammal (Deméré and Walsh 2011). Because of its extensive and diverse fossil content, the Delmar Formation is considered highly sensitive for paleontological resources (County of San Diego 2009, Deméré and Walsh 2011).

Cultural Setting

Prehistory and Historic Background

The earliest well documented prehistoric sites in southern California are identified as dating to the Paleoindian period, locally referred to as the San Dieguito complex/tradition, and dating between about 9,000 and 8,000 years ago in this region. The San Dieguito complex reflects a hunting-focused economy with limited use of seed-grinding technology. Hunting appears to have prioritized highly ranked resources such as large mammals, and the archaeological record indicates a relatively high degree of mobility that may be related to following large game (Tierra Environmental 2015).

Around 8,000 years ago, the archaeological record shows a shift to a more generalized economy with an increased focus on the technology of seed grinding and processing. The increased occurrence of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, identifies a range of adaptations to a more diversified set of plant and animal resources. Various types of projectile points, large bifaces, manos, and portable metates, core tools, and heavy use of marine invertebrates in coastal areas are characteristic of this period (Tierra Environmental 2015).

Technologies remained fairly stable until about 1,500 years ago. About 2,000 years ago, Yuman-speaking people from the eastern Colorado River region began migrating into southern California, initiating cultural shifts that include the widespread use of smaller projectile points, the replacement of flexed inhumations with cremation, the introduction of ceramics, and an emphasis on the use of inland plant foods, especially acorns. Inland, semi-sedentary villages were established along major water courses, and montane areas were seasonally occupied to exploit acorns and piñon nuts, resulting in permanent milling features on bedrock outcrops. Mortars for acorn processing increased in frequency relative to seed grinding basins (Tierra Environmental 2015).

The Kumeyaay (formerly referred to as Diegueño), whose traditional territory encompasses southern San Diego County, western and central Imperial County, and northern Baja California, are the direct descendants of the early Yuman hunter-gatherers. Kumeyaay lands encompassed a large and diverse environment that included marine, foothill, mountain, and desert resource zones, and there seems to have been considerable variability in social organization and settlement mobility. The Kumeyaay were organized by patrilineal, patrilocal lineages that claimed prescribed territories, but did not own the resources except for some plants and eagle aeries. Some lineages occupied procurement ranges that required considerable residential mobility, such as those in the deserts. In the mountains, some of the larger groups used a few large residential bases that would be occupied biannually, such as those occupied in Cuyamaca in the summer and fall, and in Guatay or Descanso during the rest of the year. Many Eastern Kumeyaay spent the time from spring through autumn in larger residential bases in the upland procurement ranges, and wintered in mixed groups in residential bases along the eastern foothills on the edge of the desert. This variability in settlement mobility and organization reflects the great range of environments in the territory (Tierra Environmental 2015).

In general, acorns were the single most important food source used by the Kumeyaay. Villages were usually located near the water necessary for leaching acorn meal. Seeds from grasses, manzanita, sage, sunflowers, lemonadeberry, chia and other plants were also used, along with various wild greens and fruits. Deer, small game, and birds were hunted and fish and marine foods were eaten (Tierra Environmental 2015).

The Kumeyaay constructed a variety of kinds of structures. The houses in primary villages were conical structures covered with tule bundles, having excavated floors and central hearths. Houses at seasonal mountain camps were similar but generally lacked any excavation, probably due to the shorter-term summer occupation. Other structures included sweathouses, ceremonial enclosures, ramadas, and acorn granaries (Tierra Environmental 2015).

The material culture also included ceramic cooking and storage vessels, baskets, flaked lithic and ground stone tools, arrow shaft straighteners, stone, bone, and shell ornaments. Hunting implements included the bow and arrow, curved throwing sticks, nets and snares. Shell and bone fishhooks as well as nets were used for fishing. Lithic materials such as quartz and metavolcanic rocks were commonly available throughout much of the Kumeyaay territory. Other lithic resources, such as obsidian, chert, chalcedony, and steatite, occur in more localized areas and were acquired through direct procurement or exchange (Tierra Environmental 2015).

When Spanish colonists began to enter California in the latter part of the 18th century, the Project area was within the territory of a loosely integrated cultural group historically known as the Kumeyaay, previously referred to as the Diegueño because of their association with the San Diego Mission. Missionization combined with diseases introduced through European contact resulted in a dramatic reduction in the Native American population and a breakdown of traditional cultural institutions; in the political view of western European nations, Native American control of the region that was to become southern California ended with Spanish colonization. De facto Native American control of the majority of the population of California did not end until several decades later, however. Nonetheless the transition to a largely Euroamerican lifestyle occurred relatively rapidly in the 19th century, with Euroamerican control in southern California firmly established by the end of the 1850s (Tierra Environmental 2015).

Kumeyaay culture and society, briefly described above, had remained stable until the advent of the mission system. During the Spanish Period, dual military and religious contingents established the San Diego Presidio and the San Diego and San Luis Rey Missions. The Mission system used Native Americans to build a footing for greater European settlement and also introduced horses, cattle, other agricultural goods and implements as well as providing new construction methods and new architectural styles (Tierra Environmental 2015).

Many of the cultural and institutional systems established by the Spanish continued after California came under Mexican rule in 1821. The Mission system was secularized in 1834, dispossessing many Native Americans and increasing the extent of Mexican settlement as large tracts of land were granted to individuals and families and the rancho system was established. Cattle ranching dominated the economy, and the development of the hide and tallow trade with the United States increased. The Mexican period in California ended with the Mexican-American War; the Treaty of Guadalupe Hidalgo, signed in 1848, concluded hostilities and included terms ceding California to the United States (Tierra Environmental 2015).

Soon after American control was established, gold was discovered in California. The tremendous influx of Americans and Europeans that resulted quickly drowned out much of the Spanish and Mexican cultural influences and eliminated the last vestiges of Native American control in the region. Few Mexican ranchos remained intact because of land claim disputes, and the homestead system extended American settlement beyond the coastal plain. While the Treaty of Guadalupe was supposed to ensure that the grants awarded during the Spanish and subsequent Mexican rule were to remain intact, in 1851 the United States established a Land Commission to review the grants and evaluate their validity. In practice, it was incumbent on grantees to prove to the Commission that they were entitled to the lands in question. For many claimants, this resulted in years of appeals, often ending with forfeiture of the holdings (Tierra Environmental 2015).

Brief History of Encinitas

In 1842, Governor Juan Alvarado granted 4,434 acres to Andrés Ybarra to establish Rancho Los Encinitos, whose name was derived from the Spanish word for “Little Oaks,” a feature common to the area. Ybarra and his wife, Francisca Juana Moreno, built the rancho residence and lived there for 18 years (Tierra Environmental 2015).

In 1860, Ybarra sold Rancho Los Encinitos to a pair of San Diego businessmen, Joseph S. Manasse and Marcus Schiller, who converted the Ybarra residence into a stagecoach station but continued to maintain cattle on the rancho. Some 11 years later, in 1871, the patent on Rancho Los Encinitos was finally approved, 19 years after Ybarra had initiated the process with the Land Commission. Not long afterward, following a series of financial shortfalls, Manasse and Schiller sold the rancho to Frank and Warren Kimble, 2 brothers who also owned the nearby Rancho de la Nación (Tierra Environmental 2015).

Four years later, in 1880, the Kimble brothers resold their investment to Theodore Pinther and Conrad Stroebel, who intended to establish a German colony on the former rancho. The name of the colony was Olivenhain, which was derived from the German word for “olive grove.” The community of Olivenhain prospered and grew, until in 1986 it was combined with four other communities (Old Encinitas, Leucadia, Cardiff-by-the-Sea, and New Encinitas) into the City of Encinitas (Tierra Environmental 2015).

Results of Background Studies and Surveys Performed for Project

The Project area has been extensively studied; a total of 81 previous cultural resources investigations have been conducted within 0.5 mile of the Project corridor, and 34 of these studies covered areas that overlap at least in part with the Project alignment. As a result of these prior studies, some 58 known and documented cultural resources have been identified within the search radius, as follows.

- 50 prehistoric resources, comprising lithic scatters, ceramic scatters, shell scatters, middens, groundstone and bedrock milling features, hearths, and fire-affected rock; 11 sites featuring artifact assemblages typically associated with short-term habitation and are characterized as campsites
- 7 historic period resources, including structural foundations, residences and associated features, and water conveyance systems

- 1 site whose age could not be determined

Pedestrian surveys conducted for the Project in summer 2014 resulted in the identification and recordation of 7 additional historical and/or sub-modern (less than 50 years old) resources. These include

- 4 sub-modern concrete markers for the City of Escondido's sewer outfall located in a parallel easement to the southeast of the OTS
- a historic period ranch complex, a windmill, and a shed

In addition the 2014 pedestrian survey revisited the location of two prehistoric resources identified within the Project APE. Both sites are characterized as lithic and shell scatter resources.

Most of the known resources in the general Project area are outside the immediate vicinity of the Project alignment. However, there are 3 locations where the alignment would pass in proximity to known resources. These are referred to as Areas of Concern:

- **Area of Concern 1** – Previously recorded; prehistoric shell midden and groundstone, with shell currently visible eroding out of embankments in some locations
- **Area of Concern 2** – Identified during the 2014 surveys; a historic period ranch complex, with structures, water conveyance systems, and fence lines still present
- **Area of Concern 3** – Previously recorded prehistoric lithic scatter and groundstone site. In this vicinity, a prehistoric site was originally recorded in the late 1970s; the area has experienced disturbance, and no current surface indications remain to confirm the site's location or enable evaluation of its current condition

Due to heavy vegetation along the Project alignment, surface visibility within the undeveloped portions of the survey area was typically less than 5%. This limited visibility is insufficient to confirm the absence of additional resources within or in proximity to the Project footprint, and the findings of the records search, along with the area's long history of human habitation, suggest a relatively high density of both archaeological and historic resources in the vicinity. As a result, the entirety of the Project alignment is also considered highly sensitive for additional previously undocumented resources.

The cultural resources technical study conducted for the project included contacting a list of 19 local and regional Native American representatives provided by the NAHC, for further information regarding resources of importance within the project area. The Viejas Band of Kumeyaay Indians (Viejas) responded to indicate that the project area has significance or ties to the tribe and requested that a Native American Cultural Monitor be present for all ground-disturbing activities associated with the project. No additional responses have been received to date (Tierra Environmental 2015).

Regulatory Setting

Cultural and paleontological resources are regulated primarily at the federal and state levels. Key regulations at the federal level include the Antiquities Act, National Historic Preservation Act, Archaeological Resources Protection Act, and Native American Graves Protection and Repatriation Act for cultural resources; as well as the recently passed Omnibus Public Lands Management Act for paleontological resources. At the state level, fundamental protection for cultural resources is provided by CEQA, with important requirements for treatment of human remains found in the Health and Safety Code and Public Resources Code. CEQA and the Public resources Code also protect paleontological resources in California.

At the local level, many counties and cities protect cultural and paleontological resources (sometimes collectively identified as “heritage resources”) through general plan policies and/or ordinances. The goal of general plan policies is typically to recognize the importance of these resources as part of a jurisdiction’s unique character and heritage, and to ensure that they are preserved as development proceeds. Some jurisdictions also emphasize the need to increase public awareness of such resources.

Federal Regulations

Antiquities Act

The American Antiquities Act (16 USC 431–433) was signed into law in 1906 with the explicit goal of protecting the nation’s cultural resources, and is widely viewed as the cornerstone for subsequent regulatory protection for archaeological and historic architectural features and cultural materials. It prohibits and criminalizes the appropriation, excavation, injury, and destruction of “any historic or prehistoric ruin or monument, or any object of antiquity” on federally owned or managed lands without permission of the secretary of the federal department with jurisdiction; and establishes penalties for such acts, including fines and/or imprisonment.

The Act does not define *object of antiquity*, and neither the Act itself nor its implementing regulations (43 CFR 3) specifically recognizes paleontological resources. However, several federal agencies including the Bureau of Land Management have interpreted *object of antiquity* as encompassing paleontological materials, and as a result the Act also considered foundational to the protection of paleontological resources.

National Environmental Policy Act

NEPA and CEO’s NEPA implementing regulations (40 CFR 1500 et seq.) implementing regulations require federal agencies to assess the potential for their actions (including permitting and funding decisions) to result in significant impacts on the environment, including “the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register for Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources” (40 CFR 1508.24[b][8]). Neither the NEPA statute nor CEO’s implementing regulations provide specific guidance relative to effects on paleontological resources. However, consistent with other, preexisting federal practice, the NEPA directive that federal agencies take all practicable measures to “preserve important historic, cultural, and natural aspects of our national heritage” (NEPA Sec. 101[b][4]) is generally understood to apply to paleontological materials.

National Historic Preservation Act

The National Historic Preservation Act (16 USC 470) (NHPA), originally enacted in 1966 and most recently amended in 2006, is intended to preserve the cultural heritage represented by the nation’s prehistoric and historic resources. It codifies numerous landmark policies, emphasizing

- federal responsibility for leadership in preserving the prehistoric and historic resources of the United States and “the international community of nations”
- the importance of a “spirit of stewardship” in the management of resources subject to federal control
- the need for an active federal role in administering a national preservation program, working in partnership with the states, Native American tribes, Native Hawaiians, and local governments
- the need for federal contributions to the preservation of non-federally owned prehistoric and historic resources, and encouragement of private preservation efforts

In support of this vision, NHPA established the National Register of Historic Places, an official list of prehistoric and historic resources that merit preservation. Section 106 of the Act requires federal agencies to “take into account” the effects of their actions on resources (including historic districts, sites, buildings, structures, and objects) that are listed, or eligible for listing, in the National Register.

Implementing regulations for NHPA §106 (36 CFR Part 800) establish a stringent process for this review, which applies not only to federally proposed projects, but also to projects that receive federal funding or are subject to federal permit authority.

In general, to qualify for National Register listing, a resource must be more than 50 years old and must have archaeological, architectural, engineering, or cultural significance. The quality of *significance* is considered to apply to resources that possess integrity of setting, design, materials, workmanship, feeling, and association, and meet one or more of the following criteria.

- Association with events that have made a significant contribution to the broad patterns of our history
- Association with the lives of significant persons in our past
- Embodiment of the distinctive characteristics of a type, period, or method of construction; representing the work of a master; or possession of high artistic values
- Demonstrated or probable potential to yield information important in history or prehistory

Additionally, a group of properties that lack individual distinction may qualify jointly for listing if they represent a “significant and distinguishable entity” meriting recognition.

Resources that typically do not qualify for National Register listing include the following.

- Properties that are less than 50 years old, and properties that have become significant within the past 50 years, unless they are of exceptional importance
- Cemeteries, except those that derive their primary importance from graves of “persons of transcendent importance,” from age, from distinctive design features, or from association with historic events
- Birthplaces and graves of historical figures, unless no other appropriate site(s) associated with that person’s life are preserved
- Religious properties without other (architectural, artistic, and/or historic) distinguishing merits
- Structures that have been moved from their original locations, except those that derive their primary significance from architectural merit (i.e., largely or entirely independent of setting and context); and those that are the most important surviving structure associated with a historic person or event
- Reconstructed historic buildings, unless no other building or structure with the same association has survived and the reconstruction is “accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan”
- Properties that are “primarily commemorative” in nature, except those invested with independent significance because of their design, age, tradition, or symbolic value

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 (Public Law 96-95) (ARPA), signed into law in 1979 and amended several times in the years that followed, was intended to protect archaeological sites and resources on public and Native American lands and to foster increased cooperation and information exchange between government agencies, the professional archaeological community, and private individuals in possession of archaeological materials obtained prior to the passage of the Act.

One of ARPA's milestone contributions was to codify a federal definition of the term *archaeological resources* encompassing any material remains of past human life or activities that are determined to be of archaeological interest, including but not limited to the following: pottery, basketry, bottles, weapons, tools, structures and portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, and human skeletal materials. Items must be at least 100 years old to qualify as archaeological resources; paleontological materials are explicitly excluded from protection under ARPA.

ARPA prohibits excavation or removal of archaeological resources on federal and tribal lands without a permit from the appropriate federal authority and establishes penalties for unauthorized excavation and removal. Under ARPA Section 4, permits may be issued only to qualified individuals for purposes of furthering archaeological knowledge in the public interest. The resources that are excavated or removed remain the property of the United States and once removed must be preserved by a suitable university, museum, or other scientific or educational institution. Permits may not be issued if the proposed activity would be inconsistent with an existing management plan for the lands involved.

Recognizing tribal sovereignty, ARPA does not require permits for excavation or removal undertaken by a Native American tribe on the tribe's own lands. Similarly, if there is an applicable tribal law in place to regulate resource excavation and removal, individual tribal members are assumed to be governed by that law and are not required to obtain ARPA permitting. If no tribal law is in place, resource excavation or removal activities undertaken by individual tribal members are subject to ARPA permit requirements.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (Public Law 101-601) (NAGPRA), signed into law in 1990, gave landmark recognition to the ownership rights of Native American tribes and Native Hawaiian organizations over human remains and "objects of cultural patrimony." Among the NAGPRA provisions most relevant to new projects are the following.

- NAGPRA establishes explicit recognition that Native American remains and associated funerary objects excavated or discovered on federal or tribal lands are owned by the "lineal descendants" of the dead Native American. If the lineal descendants cannot be identified, ownership rests with the Indian tribe or Native Hawaiian organization on whose lands the objects or remains were discovered.
- Funerary objects, sacred objects, and objects of cultural patrimony that are not found in association with a burial ("unassociated objects") may be claimed by the tribe or Native Hawaiian organization that has the closest cultural affiliation with the objects; or, if a cultural affiliation cannot be identified, by the tribe or organization that aboriginally inhabited the lands where the find was made. If unassociated objects are not claimed, the objects are considered to be owned by the Indian tribe or Native Hawaiian organization on whose lands the objects or remains were discovered.
- Native American remains and cultural objects may only be excavated or removed from federal and tribal lands under a permit issued under Section 4 of the Archaeological Resources Protection. Consultation with the appropriate tribe or Native Hawaiian organization is required for any such activity, and excavation/removal on tribal or Native Hawaiian lands requires the consent of the tribe or Native Hawaiian organization.

- In the event of inadvertent discovery of Native American cultural items on federal or tribal lands, activity must cease in the area of the discovery, reasonable efforts must be made to protect the find, and the secretary of the department or head of agency with management authority, as well as appropriate tribe/organization must be notified.

NAGPRA also expanded existing prohibitions on trafficking in Native American remains and cultural objects.

National Natural Landmarks Program

The National Natural Landmarks (NNL) program was established in 1962 under the authority of the Historic Sites Act of 1935 (16 USC 461 et seq.) to encourage the preservation of geologic and biological features representing nationally significant examples of the nation's natural heritage. The program does not protect cultural resources, and because of the program's emphasis on preservation of the "best" examples of various types of biological communities or geologic features (those in good condition and effectively illustrating the specific character of a particular resource) general protection for paleontological resources is not afforded through this avenue. However, a number of important paleontological sites are included on the NNL registry; examples in California include Rancho La Brea in Los Angeles, Sharktooth Hill in Kern County, and Rainbow Basin, north of Barstow in San Bernardino County.

The NNL Program is administered by the National Park Service, although most NNLs remain in private or nonfederal agency ownership and continue to be managed by their owners after listing. NPS is responsible for monitoring the condition of all NNLs and preparing an annual report to the Secretary of the Interior and Congress, identifying NNLs at risk of damage or degradation.

Omnibus Public Lands Management Act

Title VI, Subtitle D (*Paleontological Resources Preservation*) of the Omnibus Public Land Management Act of 2009 (Publ. L. 111-11 H.R. 146), also referred to as the Paleontological Resources Preservation Act, charges the Secretary of the Interior with using "scientific principles and expertise" to manage paleontological resources on federal lands, emphasizing inventory, monitoring, and scientific and educational use; and requiring the establishment of a program to increase public awareness of the resources' importance. With passage of the Act, most collection of paleontological materials on federal lands now requires permit authorization. Permit issuance is restricted to qualified applicants undertaking collection "for the purpose of furthering paleontological knowledge" or for educational purposes. Collected materials remain the property of the United States and must be curated in an approved repository, where they and associated records remain available for research and educational use. An exception to the permit requirement applies for "casual collecting," defined as collection of a "reasonable amount" of "common invertebrate and plant paleontological resources for non-commercial personal use, either by surface collection or the use of nonpowered hand tools resulting in only negligible disturbance to the Earth's surface and other resources." Definition of the critical terms *reasonable amount*, *common invertebrate and plant paleontological resources* and *negligible disturbance* is left to the Secretary.

Other key provisions of the Act establish criminal penalties for excavation, removal, damage, and alteration of paleontological resources on federal lands; for exchange, transport, receipt, sale, and purchase of resources illegally obtained from federal lands; and for submittal of misrepresentation and false identification of paleontological resources excavated or removed from federal lands. The Act also established for the first time a federal statutory definition of paleontological resources as consisting of "any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth" with the explicit exception of materials associated with an archaeological resource as defined in the Archaeological Resources Protection Act of 1979 (16 USC 470bb[1]) and cultural items as defined in the Native American Graves Protection and Repatriation Act (25 USC 3001, Sec. 2).

State Regulations and Policies

California Environmental Quality Act

The CEQA statute includes “objects of historic...significance” in its definition of the environment (§21060.5), establishing critical protection for cultural resources at the state level.

Under the state’s *CEQA Guidelines* (§15064.5[b]), a project “with an effect that may result in a substantial adverse change in the significance of a historical resource” is one that may have a significant impact on the environment. For purposes of CEQA review, *historical resources* include a wide range of archaeological, architectural, and other types of resources, as follows.

- Resources that are listed, or are determined by the State Historical Resources Commission to be eligible for listing, in the California Register of Historical Resources (CRHR). Criteria for CRHR listing include the following.
 - Association with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage
 - Association with the lives of persons important in the state’s past
 - Embodiment of the distinctive characteristics of a type, period, region, or method of construction; representing the work of an important creative individual; possession of high artistic values
 - Demonstrated or potential ability to yield information important in prehistory or history
- Resources that are included in a local register of historical resources as defined in Public Resources Code §5020.1[k], or identified as significant in a historical resources survey meeting the requirements of Public Resources Code §5024.1[g], unless there is a preponderance of evidence demonstrating that a resources is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript determined by the lead agency to be historically significant or significant in California’s architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural history, based on substantial evidence in light of the whole record; lack of listing status does not preclude the lead agency from determining that a resource is significant, and per *CEQA Guidelines* §15064.5[a][4], a resources that is not eligible for listing may nonetheless be determined to be significant.

Substantial adverse change in the significance of a resource refers to the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that its significance would be materially impaired. For listed properties, this often means actions that would alter the physical characteristics that qualify the property for listing; similarly, for unlisted but nonetheless significant properties, it means actions that would alter the characteristics that render the property historically or culturally important.

The CEQA statute (§21083.2) also recognizes a category of “unique archaeological resources” subject to protection. *Unique archaeological resources* are those that offer information needed to answer important research questions in which there is demonstrable public interest; have a special quality such as being the oldest or best available example of their type; or are directly associated with an important prehistoric or historic event or person. Unique archaeological resources may or may not qualify as historic resources per the CEQA definition given above, so in practice this additional category broadens the aegis of CEQA protection for archaeological resources; archaeological resources that are neither unique archaeological resources nor historical resources are not protected by CEQA.

Section 15064.5 of the *CEQA Guidelines* defines historical resources as including “any object...site, area, [or] place...that has yielded, or may be likely to yield, information important in prehistory.” In practice, this has been widely interpreted as extending CEQA protection to paleontological resources, a perspective reflected in the cultural resources section of the sample initial study checklist presented in *Guidelines Appendix G* sample environmental checklist, which includes a question addressing the project’s potential to “directly or indirectly destroy a unique paleontological resource or site.” Neither the CEQA statute nor the *Guidelines* defines the term *unique paleontological resource*, and by contrast with historical resources, there is no explicit statutory guidance for analysis and treatment of paleontological resources impacts.

As a general rule, however, treatment of paleontological resources under CEQA has been similar to treatment of cultural resources, involving evaluation of resources in a project’s area of potential affect, assessment of the project’s potential impacts on significant or unique resources, and development of mitigation (commonly including some combination of avoidance, data recovery, and monitoring) to address significant impacts. In recent years, additional guidance and an emerging standard of care have been provided by professional guidelines, most notably the protocols developed by the Society of Vertebrate Paleontology (Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee 1995, 1996).

Regulations Governing Treatment of Human Remains in California

When human remains are discovered in any location other than a dedicated cemetery¹, the California Health and Safety Code (§7050.5) requires a stop-work in the area of the find, followed by notification of the County Coroner. The Coroner must then determine (1) whether an investigation into the cause of death is warranted; and (2) whether the remains are of Native American origin. If the remains are determined to be of Native American origin, the Coroner then notifies the state’s Native American Heritage Commission (NAHC), which has jurisdiction pursuant to §5097 of the California Public Resources Code. Consistent with NAGPRA requirements (see above), NAHC must make an effort to identify and contact the most likely descendant of the deceased. Work in the vicinity of the find may not resume until the most likely descendant has made a recommendation regarding the treatment, or appropriate and dignified disposal, of the remains and any associated grave goods, as provided in §5097.98 of the Public Resources Code. If NAHC is unable to identify a descendant, or the descendant fails to make a recommendation within 24 hours of receiving notification from NAHC, work may resume.

Disturbance of Native American cemeteries is a felony (Health and Safety Code §7052).

Protection for Paleontological Resources

Several sections of the California Public Resources Code protect paleontological resources. Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

The sections of the California Administrative Code relating to the State Division of Beaches and Parks afford protection to geologic features and “paleontological materials” but grant the director of the state park system authority to issue permits for specific activities that may result in damage to such resources, if the activities are in the interest of the state park system and for state park purposes (Administrative Code §§4307 – 4309).

¹ The California Health and Safety Code (§8100) defines 6 or more burials as constituting a cemetery.

Local Regulations and Plans

City of Encinitas Policies and Regulations

The City is committed to preserving the numerous culturally significant sites that have been identified within City limits, and to facilitating the identification of additional cultural and paleontological sites. The City's General Plan requires that paleontological, archaeological, and historical resources be documented and preserved or salvaged if threatened by proposed development (Resource Management Element Policy 7.1) (City of Encinitas 1989).

The General Plan also provides for a Cultural Resources Overlay Zone that designates areas of low, moderate, and high sensitivity for cultural (primarily archaeological) resources. Areas of high sensitivity typically include locations that have retained their natural character and/or have not been subject to cultural resources surveys. Accordingly, much of the Escondido Creek/San Elijo Lagoon corridor falls within the Overlay Zone. The southwestern and central portions of the segment generally include areas of moderate and high sensitivity, while the northeastern portion of the alignment includes alternating areas of low and high sensitivity (City of Encinitas 1989).

Under the City's Municipal Code (§30.34.050.A.1), projects proposed for parcels with known archaeological resources must provide for archaeological surveys to evaluate the project's potential impacts on the resource and determine appropriate mitigation.

County of San Diego Policies and Regulations

The County of San Diego values archaeological resources for their cultural importance to local communities and for their research and education potential. As such, the County General Plan charges development with avoiding archaeological resources where feasible (Policy COS-7.2). Where complete avoidance is not possible, projects must include appropriate mitigation to protect the "quality and integrity" of the resource (Policy COS-7.1) (County of San Diego 2011).

The County has also designated Historic Properties (County of San Diego 2014a) and Historic Sites (County of San Diego 2014b). Projects proposed in these designated areas must provide a site plan to demonstrate that the project will not interfere with or degrade the historic, cultural, architectural, or archaeological resource values of the designated landmark or district (San Diego County Zoning Code, Section 5700 et seq.). Similarly, projects that propose excavation within a San Diego County Park (including County-owned portions of San Elijo Lagoon) must apply for authorization from the San Diego County Department of Parks and Recreation (San Diego County Municipal Code, Section 41.113).

In addition, the County's Resource Protection Ordinance (County Code of Regulatory Ordinances Title 8, Division 6, Chapter 6, §87.601 ff.) includes lands that support significant prehistoric or historic sites in its definition of "environmentally sensitive lands" that merit protection. Among other provisions, the Resource Protection Ordinance generally prohibits development, trenching, grading, clearing and grubbing, and other activities that are damaging to significant prehistoric or historic site lands. However, essential public facilities are exempt from this limitation when all of the following conditions are met to the satisfaction of the approving County authority.

- The facility or project is consistent with adopted community or subregional plans
- All possible mitigation measures have been incorporated into the facility or project, and there are no feasible less environmentally damaging alternatives that would meet project objectives

- Mitigation is incorporated to offset wetland and/or riparian losses; the extent of mature riparian woodland is not reduced
- Areas of excavation or fill placement on steep slopes are revegetated in native species

Impacts and Mitigation Measures

Impact	Significance	Mitigation	Significance with Mitigation
<u>Proposed Project</u>			
CUL1 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Historic Resource	Potentially significant	CUL1.1: Provide Qualified Archaeologist Supervision for Removal and Reinstallation of Historic-Era Fence Posts CUL1.2: Provide Qualified Archaeologist and Native American Monitoring for Ground-Disturbing Activities in Vicinity of Area of Concern 2	Less than significant
CUL2 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Archaeological Resource	Potentially significant	CUL2.1: Conduct Resource Evaluation and Implement Treatment Follow-Up	Less than significant
CUL3 – Potential to Result in a Substantial Adverse Change in the Significance of Previously Unrecorded (Unknown) Resources	Potentially significant	CUL3.1: Provide Qualified Archaeologist and Native American Monitoring for Additional Ground-Disturbing Activities	Less than significant
CUL4 – Potential to Result in a Substantial Adverse Change to a “Unique Archaeological Resource”	No impact	<i>None required</i>	No impact
CUL5 – Potential for Disturbance of Human Remains	Potentially significant	CUL5.1: Comply with State Requirements in the Event Human Remains Are Discovered	Less than significant
CUL6 – Potential for Loss, Damage, or Destruction of Paleontological Resources	Potentially significant	CUL6.1: Retain Qualified Paleontologist Staff to Conduct Design Review and Implement Treatment Plan	Less than significant
<u>Alternative 1 – Combination Access, Alternate Configuration</u>			
CUL1 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Historic-Era Resource	No impact	<i>None required</i>	No impact
CUL2 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Archaeological Resource	Potentially significant	CUL2.1: Conduct Resource Evaluation and Implement Treatment Follow-Up	Less than significant

Impact	Significance	Mitigation	Significance with Mitigation
CUL3 – Potential to Result in a Substantial Adverse Change in the Significance of Previously Unrecorded (Unknown) Resources	Potentially significant	CUL3.1: Provide Qualified Archaeologist and Native American Monitoring for Additional Ground-Disturbing Activities	Less than significant
CUL4 – Potential to Result in a Substantial Adverse Change to a “Unique Archaeological Resource”	No impact	<i>None required</i>	No impact
CUL5 – Potential for Disturbance of Human Remains	Potentially significant	CUL5.1: Comply with State Requirements in the Event Human Remains Are Discovered	Less than significant
CUL6 – Potential for Loss, Damage, or Destruction of Paleontological Resources	Potentially significant	CUL6.1: Retain Qualified Paleontologist Staff to Conduct Design Review and Implement Treatment Plan	Less than significant

Alternative 2 – Conventional Continuous Access, Plantable/Pervious Surface Treatments

CUL1 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Historic-Era Resource	No impact	<i>None required</i>	No impact
CUL2 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Archaeological Resource	No impact	<i>None required</i>	No impact
CUL3 – Potential to Result in a Substantial Adverse Change in the Significance of Previously Unrecorded (Unknown) Resources	Potentially significant	CUL3.1: Provide Qualified Archaeologist and Native American Monitoring for Additional Ground-Disturbing Activities	Less than significant
CUL4 – Potential to Result in a Substantial Adverse Change to a “Unique Archaeological Resource”	No impact	<i>None required</i>	No impact
CUL5 – Potential for Disturbance of Human Remains	Potentially significant	CUL5.1: Comply with State Requirements in the Event Human Remains Are Discovered	Less than significant
CUL6 – Potential for Loss, Damage, or Destruction of Paleontological Resources	Potentially significant	CUL6.1: Retain Qualified Paleontologist Staff to Conduct Design Review and Implement Treatment Plan	Less than significant

No Project/No Action Alternative

CUL1 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Historic Resource	No impact	<i>None required</i>	No Impact
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Impact	Significance	Mitigation	Significance with Mitigation
CUL2 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Archaeological Resource	No impact	<i>None required</i>	No Impact
CUL3 – Potential to Result in a Substantial Adverse Change in the Significance of Previously Unrecorded (Unknown) Resources	No impact	<i>None required</i>	No Impact
CUL4 – Potential to Result in a Substantial Adverse Change to a “Unique Archaeological Resource	No impact	<i>None required</i>	No Impact
CUL5 – Potential for Disturbance of Human Remains	No impact	<i>None required</i>	No Impact
CUL6 – Potential for Loss, Damage, or Destruction of Paleontological Resources	No impact	<i>None required</i>	No Impact

Proposed Project

Less than Significant Impacts

Because of the Project alignment’s documented sensitivity for cultural resources, all potential impacts are discussed in *Significant Impacts and Mitigation Approaches* below. With the identified mitigation incorporated, all impacts would be mitigated to a less than significant level under both CEQA and NEPA.

Significant Impacts and Mitigation Approaches

Impact CUL1 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Historic Period Resource

There are no City- or County-designated historic properties or landmarks in proximity to the alignment. However, as discussed in *Results of Background Studies and Survey* under *Existing Conditions*, the cultural resources inventory prepared for this Project (Appendix E) identified several previously recorded historic-era resources—including structural remains, single-family residences, and water conveyance systems or cisterns—within 0.5 mile of the Project alignment, as well as additional, previously undocumented historic and/or sub-modern resources: City of Escondido sewer outfall markers (4), a windmill, a shed, and a historic ranch complex (Tierra Environmental 2015). None of these resources has been evaluated for significance pursuant to *CEQA Guidelines* Section 15064.5. However, the proposed Project would not require construction or install facilities in immediate proximity to any of these known resources except the historic ranch complex discussed further below. The Project would thus have no direct effect on the remaining level of integrity of these resources. The addition of the new access would slightly modify their context, but would be in keeping both with the natural character of the Creek and Lagoon corridor and with the surrounding semi-rural development and thus is not considered a substantial adverse modification of context. **Impacts, if any, on the significance of known resources in the general Project vicinity would thus be less than significant under CEQA and NEPA.** No mitigation is required relative to these resources.

In Area of Concern 2, the Project would entail construction to install the new access route in close proximity to remnants of a historic ranch complex. As discussed above, the finished appearance of the new access would be consistent with both with the natural character of the Creek and Lagoon corridor and the surrounding semi-rural development; the long-term modification of context would not rise to a level considered to compromise the characteristics potentially contributing to significance. However, construction

would cross the path of a fence line, with the **potential for significant adverse direct impacts on the residual integrity of the resource** if the remaining fence posts are further damaged. There is no surface evidence of buried materials associated with the ranch complex, but with surface features preserved, there may be some potential for buried cultural materials as well, and if present, they would be disturbed by project grading, with the potential for additional significant impacts. To address this, the City will implement the following mitigation measures. **With these measures incorporated, impacts on the historic ranch complex would be less than significant under both CEQA and NEPA.**

Mitigation Measure CUL1.1: Provide Qualified Archaeologist Supervision for Removal and Reinstallation of Historic-Era Fence Posts

The City will retain an archaeologist meeting the Secretary of the Interior’s professional qualification standards for archaeology to supervise the relocation and reinstallation of historic period fence posts and lines in the vicinity of Project construction in Area of Concern 2. Fence posts will be removed prior to construction mobilization, will be safely stored per the recommendation of the archaeologist, and will be reinstalled once construction is complete. Reinstallation will be coordinated with revegetation in this area, to avoid damage to revegetation plantings.

Mitigation Measure CUL1.2: Provide Qualified Archaeologist and Native American Monitoring for Ground-Disturbing Activities in Vicinity of Area of Concern 2

The City will retain (1) an archaeologist meeting the Secretary of the Interior’s professional qualification standards for archaeology, and (2) a qualified Native American monitor representing the Viejas Band of Kumeyaay Indians to monitor ground-disturbing activities in the vicinity of Area of Concern 2. Monitoring will be required to commence during fence post removal (per Mitigation Measure CUL1.1) and will continue through contractor mobilization, site preparation, and construction, and will proceed until the archaeologist is satisfied that buried deposits are not present, or if present, will not be adversely impacted by construction, at which time it may be discontinued. In the event of a find of known or potential cultural material(s), deposit(s), or feature(s), the archaeologist will have the authority to temporarily suspend or divert work in the immediate area of the find; will evaluate the find; and will make recommendations for further investigation and/or treatment, as appropriate. The City will be responsible for following up to implement the archaeologist’s recommendations.

Impact CUL2 – Potential to Result in a Substantial Adverse Change in the Significance of a Known Archaeological Resource

The Archaeological Resources Survey prepared for this Project (Tierra Environmental 2015) (Appendix E) identified 50 previously recorded prehistoric sites and 12 additional isolates within 0.5 mile of the Project alignment. These sites include a combination of lithic scatters, ceramic scatters, shell scatters, midden, groundstone, bedrock milling features, hearths, and fire affected-rock, with 11 of the 50 sites characterized as campsites, containing artifact assemblages typically associated with short-term habitation.

Most of the sites identified in the Project vicinity are outside the Project footprint and would not be affected by Project activities. However, the new access footprint would partially overlap the extent of 2 of the previously identified sites, located in Areas of Concern 1 and 3. Area of Concern 1 involves a prehistoric shell midden and groundstone deposit. Area of Concern 3 is a prehistoric lithic scatter and groundstone site. Neither of these sites has been evaluated for significance. If either qualifies as a resource meriting protection under CEQA, disturbance as a result of construction could represent a significant impact under both CEQA and NEPA, depending on the extent of damage to the resource(s). To address this concern, the City will implement the following measures. **With these measures in place, impacts on known archaeological**

resources would be reduced/avoided consistent with regulatory requirements and prevailing professional standards and are therefore considered less than significant under both CEQA and NEPA.

Mitigation Measure CUL2.1: Conduct Resource Evaluation and Implement Treatment Follow-Up

The City will retain (1) an archaeologist meeting the Secretary of the Interior’s professional qualification standards for archaeology and (2) a qualified Native American monitor representing the Viejas Band of Kumeyaay Indians to conduct archaeological field survey and/or test excavation activities to assess the extent and significance of the previously unidentified sites in Areas of Concern 1 and 3. If the resources are found not to qualify as significant, no further mitigation will be required relative to these sites. If the resources are found to qualify as significant, the archaeologist, with input from the Native American monitor, will develop a treatment approach consistent with all applicable state and federal standards, including those under CEQA, NEPA, and Section 106 of the National Historic Preservation Act. The treatment approach will also be developed in consistency with applicable County of San Diego requirements. Treatment may include any or all of the following: avoidance, capping with clean fill, provided this can be done without hydraulically significant modification of topography, and/or archaeological recovery. If capping and or archaeological recovery is recommended, it will be completed prior to contractor mobilization for access installation and manhole rehabilitation.

Impact CUL3 – Potential to Result in a Substantial Adverse Change in the Significance of Previously Unrecorded (Unknown) Resources

As discussed in the *Results of Background Studies and Surveys Performed for the Project* section under *Existing Conditions* above, the Project corridor is considered sensitive for the potential presence of additional, previously unrecorded (“unknown”) historic and archaeological resources. If present, such resources could be affected by a variety of ground-disturbing activities required for Project construction, including grading for access installation, trenching for the Lone Jack pipeline realignment, and siphon and manhole removal. **Depending on the extent of disturbance, impacts could rise to a level considered significant under CEQA and NEPA. To address this, the City will implement the following mitigation measure. With this measure in place, impacts would be reduced to a level that is less than significant under CEQA and NEPA.**

Mitigation Measure CUL3.1: Provide Qualified Archaeologist and Native American Monitoring for Additional Ground-Disturbing Activities

The City will retain (1) an archaeologist meeting the Secretary of the Interior’s professional qualification standards for archaeology, and (2) a qualified Native American monitor representing the Viejas Band of Kumeyaay Indians to monitor ground-disturbing activities for Project construction. Monitoring will commence at construction mobilization and will proceed until the archaeologist is satisfied that buried deposits are not present, or if present, will not be adversely impacted by construction, at which time it may be discontinued. In the event of a find of known or potential cultural material(s), deposit(s), or feature(s), the archaeologist will have the authority to temporarily suspend or divert work in the immediate area of the find; will evaluate the find; and will make recommendations for further investigation and/or treatment, as appropriate. The City will be responsible for following up to implement the archaeologist’s recommendations.

Impact CUL4 – Potential to Result in a Substantial Adverse Change to a “Unique Archaeological Resource”

As discussed above in *State Regulations and Policies*, CEQA statute 21083.2[g] recognizes “unique archaeological resources” as offering information to answer research questions with demonstrable public

interest, having special qualities such as being the oldest or best available example of their type, or being directly associated with an important prehistoric or historic event or person. No unique archaeological resources are known to exist in the Project vicinity, and **no impact on such resources is anticipated**. No mitigation is required. (Please note that impacts on unknown resources of all types are addressed above in Impact CUL3 and Mitigation Measure CUL3.1.)

Impact CUL5 – Potential for Disturbance of Human Remains

Because of the Project area's long history of occupation and overall sensitivity for buried archaeological resources, there may be some potential to encounter human remains during ground-disturbing activities, including grading for access installation, trenching for the Lone Jack realignment, and siphon and manhole removal. **Disturbance or loss of remains would constitute a significant impact. However, implementation of the following mitigation, based on requirements of the California Health and Safety Code (§7050.5) and California Public Resources Code (§5097), would ensure that impacts related to discovery of human remains are less than significant under CEQA and NEPA.**

Mitigation Measure CUL5.1: Comply with State Requirements in the Event Human Remains Are Discovered

If human remains are discovered, work in the vicinity of the find will cease immediately and the contractor or designated representative will notify the San Diego County Coroner. If the remains are determined to be of Native American origin, the Coroner will then notify the Native American Heritage Commission (NAHC) for identification of the most likely descendant. Work in the vicinity of the find will not resume until the most likely descendant has made a recommendation regarding the treatment, or appropriate and dignified disposition, of the remains and any associated grave goods, and that recommendation has been implemented. If NAHC is unable to identify a descendant, or the descendant fails to make a recommendation within 24 hours the remains and associated materials will be reinterred on the property in an area not subject to further subsurface disturbance. The City or a delegated consultant representative will be responsible for following up with the County Coroner and NAHC to ensure and confirm that their responsibilities have been discharged.

Impact CUL6 – Potential for Loss, Damage, or Destruction of Paleontological Resources

As discussed in *Paleontological Setting*, the portions of the project alignment within San Elijo Lagoon and Escondido Creek are underlain by estuarine deposits of late Holocene age and alluvial deposits of Holocene and/or late Pleistocene age (Kennedy and Tan 2002). Most of the project would involve very limited grading and excavation for construction of the new access. This is expected to be limited within Holocene strata, which are not considered sensitive for paleontological resources (e.g., County of San Diego 2009), and is thus unlikely to disturb significant paleontological resources. However, siphon removal would likely require localized deeper excavation and would have more potential to involve older, and potentially more sensitive strata, potentially resulting in loss of significant resources. **Although it is considered unlikely, this could rise to a level representing a significant impact under CEQA and NEPA.**

The portion of Lone Jack Road proposed for installation of the realigned segment of the OTS is underlain by sediments assigned to the Delmar Formation (Kennedy and Tan 2002), an Eocene shallow-marine deposit that has yielded numerous significant fossil finds in the past and is therefore considered paleontologically sensitive (County of San Diego 2009, Deméré and Walsh 2011). Although the areal extent of excavation would be limited, excavation for the new pipeline trench could be as deep as 15 feet below ground surface, well below the depth already disturbed for roadway construction. Trenchless installation would reach a similar depth. Because of the likelihood that construction would involve previously undisturbed strata assigned to a geologic unit with documented paleontological sensitivity, there would be some potential to encounter significant paleontological resources during construction of this portion of the Project, **and some potential for loss of resources rising to the level of a significant impact under CEQA and NEPA.**

To address both concerns, the City will implement the following mitigation measure. **With this measure incorporated, impacts would be addressed consistent with current practices for paleontological resources protection and conservation; residual impacts, if any, are considered less than significant.**

Mitigation Measure CUL6.1: Retain Qualified Paleontologist Staff to Conduct Design Review and Implement Treatment Plan

During the final design phase, the City will retain a qualified individual (an individual meeting the qualifications for Project Paleontologist as defined by the current adopted *County of San Diego Guidelines for Determining Significance: Paleontological Resources*) to review the 75 – 90% design submittal and supporting geotechnical report, assess the potential for impacts on paleontologically sensitive substrate units (Delmar Formation and alluvial units of Pleistocene age), and develop a treatment plan consistent with all applicable County of San Diego requirements. The plan may include paleontological monitoring by qualified paleontological staff during excavation involving paleontological sensitive units, and/or paleontological sensitivity training for contractor staff, along with resource recovery overseen by qualified paleontologist staff, if appropriate. The plan will also provide for recovery and curation of recovered materials, if any, consistent with current adopted County requirements. If appropriate in the professional judgment of the Project Paleontologist, the plan may include provisions for inspection/monitoring of trenchless spoils. The City will be responsible for retaining staff meeting applicable County qualifications to implement the plan during construction, and for verifying plan implementation.

Action Alternatives

Under both Alternative 1 (Combination Access, Alternate Configuration) and Alternative 2 (Conventional Continuous Access, Plantable/Pervious Surface Treatments), the construction process and access road design principles would be essentially the same as that described for the proposed Project. Both alternatives would involve a very similar suite of ground-disturbing activities during access grading, realignment of the Lone Jack segment, and manhole and siphon removal, and would thus have a very similar potential to encounter previously unknown cultural resources and/or human remains. However, both Alternatives would avoid impacts on the historic ranch complex in Area of Concern 2, and Alternative 2 would also avoid impacts on the archaeological resources identified as Areas of Concern 1 and 3. **As described above for the proposed Project, both of the action alternatives would have some potential for significant impacts on cultural resources, for the same reasons, and the same mitigation approaches would apply. With incorporation of Mitigation Measure CUL2.1 for Alternative 1 and Mitigation Measures CUL3.1 and CUL5.1 for both alternatives, impacts would be less than significant under both CEQA and NEPA for Alternatives 1 and 2.**

Both of the action alternatives would include siphon removal and realignment of the Lone Jack segment of the OTS; the potential for loss of paleontological resources under both action alternatives would thus be similar to that under the proposed Project, for the same reasons, and the same mitigation approach would apply. **With Mitigation Measure CUL6.1 incorporated, impacts on paleontological resources would be less than significant under both CEQA and NEPA for Alternatives 1 and 2.**

No Project/No Action Alternative

Under the No Project/No Action Alternative, there would be no modifications to the existing OTS infrastructure: no new access, no manhole or siphon removal, no realignment, and no manhole rehabilitation. Consequently, there would be no Project-related ground disturbance and **no impact under either CEQA or NEPA on cultural or paleontological resources.** No mitigation is required.

Over the longer term, the aging manholes along the project reach of the OTS would continue to deteriorate, and it would eventually become necessary to rehabilitate them under a separate future project or projects. Based on recent condition inspections, this is expected to become a critical need within the foreseeable future, and could entail ground disturbance depending on the nature and extent of the work required. The timing, extent, and specific nature of activities is speculative at this time and therefore cannot be analyzed in detail in this document although such a future project would be a discretionary undertaking likely subject to CEQA/NEPA review and regulatory permitting at the time it is proposed.

Even with no details on potential future projects available, however, it is clear that although the No Project/ No Action alternative would avoid immediate short-term potential for construction-related impacts on cultural resources, it would have the potential for such impacts over the longer term. Moreover, if maintenance and cleaning needs are not addressed proactively, the potential that repairs would need to be made on an emergency basis is expected to increase. This development could increase the **potential for significant unmitigated impacts** on cultural and paleontological resources since emergency repairs are made by necessity on an immediate basis and are exempt from the CEQA process when they involve “publicly...owned service facilities necessary to maintain service essential to the public health, safety or welfare” (*CEQA Guidelines* §15269[b]).

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