

## 5.8 PALEONTOLOGICAL RESOURCES

Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal organisms, as well as the mineralized impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. These resources are considered to be non-renewable resources significant to our culture under state and federal law.

In compliance with California Energy Commission Guidelines (CEC, 1992) and “Rules of Practice and Procedure & Power Plant Site Certification Regulations (CEC, February, 1997), the paleontological analysis provided herein assesses whether significant paleontological resources exist in areas which could be adversely affected by the El Segundo Power Redevelopment Project (ESPR). Stipulated conditions provide mitigation for any potential adverse effects of the project to any significant resources that may be present.

Laws, ordinances and regulations pertinent to the identification, assessment of significance, and assessment of and mitigation of adverse effects to paleontological resources are identified in Section 5.8.5 and Table 5.8-4.

This paleontological analysis also complies with guidelines and significance criteria issued in 1994 by the Society for Vertebrate Paleontology (SVP), a national professional organization. These criteria outline acceptable professional practices in the conduct of paleontological resource surveys, data recovery, analysis, and curation. The paleontological resources assessment for this project was carried out by, or under the direct supervision of, Mr. David Lawler, a qualified paleontologist.

This section summarizes the technical report (Appendix K), “Paleontological Resources Assessment - the El Segundo Power Redevelopment Project, Los Angeles County, California” prepared by Mr. David Lawler, Principal Investigator (November 2000). The technical report, which contains sensitive resource location information (provided in Appendix L), is filed under separate cover with the California Energy Commission under a request for confidentiality.

A 1978 memorandum from Griswold E. Petty (then acting director of the U.S. Department of the Interior, Bureau of Land Management [BLM]) proposed the following guidelines to determine the significance of a paleontological resource.

- Provides important information on evolutionary trends, relating living organisms to extinct organisms
- Provides important information pertaining to biological community development and zoological/botanical biota interaction

- Demonstrates unusual circumstances in biotic history
- Existence of limited sample size, in danger of depletion or destruction by natural processes, vandalism or commercial exploitation, found in no other geographic location.

Under California Environmental Quality Act (CEQA) guidelines, a significant effect on paleontological resources can occur when a proposed project will “directly or indirectly destroy ...a unique paleontological resource.” In addition, all vertebrate fossils are categorized as being of significant scientific value, in keeping with the significance criteria of the SVP (1994).

Paleontological resources are classified as a non-renewable scientific-cultural resource and are protected most notably by the 1906 Federal Antiquities Act and other subsequent federal legislation and policies and California Environmental Quality Act (CEQA) environmental provisions. Significant paleontological resources are defined in this report to include the interpretation outlined by the SVP (1994), wherein vertebrate fossils are considered significant.

## **5.8.1 Affected Environment**

### **5.8.1.1 Overview**

The ESPR project area is located in the southwestern portion of Los Angeles County, south of the Los Angeles International Airport and adjacent to the Chevron Refinery and Marine Terminal facilities, in Los Angeles County, California. The topography is very level and represents part of a coastal plain that extends south to the San Diego area. The project area is approximately 2.5 miles southwest of the Los Angeles International Airport and west of the San Diego Freeway on the eastern shore of Santa Monica Bay. The power plant site is bordered by Vista Del Mar to the east, 45th Street in Manhattan Beach to the south, Santa Monica Bay on the west, and the Chevron Refinery on the north, in Los Angeles County, California. The proposed project includes the following elements: a power plant site, temporary staging areas and temporary parking areas. A detailed project description is provided in section 3.0 of this AFC.

Southwestern Los Angeles County contains a diverse record of geologic and biologic history, which spans more than 30 million years, dating from the Miocene period. Under the combined influences of regional geologic and tectonic events, fossils of marine and terrestrial organisms have accumulated to produce a significant record of prehistoric life in this area.

Of greatest paleontological interest within the Los Angeles County coastal region are the well known discoveries of Pleistocene age fossil vertebrate faunas in both the Palos Verdes Sand and the San Pedro Formation. Preservation of riparian and other continental volcanoclastic deposits provided favorable conditions for preserving vertebrate fossil remains in these geologic units.

These diverse fossil vertebrate assemblages provide the best known record of late Pleistocene faunas in California. Figure 5.8-1 depicts the project area, project components and areas subjected to paleontological survey.

Specific technical paleontological and detailed lithologic data were derived from both from local geoscientist informants at California colleges and universities, and designated museum repositories Los Angeles County Museum (LACM) and California Academy of Sciences (CAS). Paleontological resources are lithologically dependent; that is, deposition and preservation of paleontological resources is tied to the lithologic unit in which they occur. If the rock types representing a depositional environment conducive to deposition and preservation of fossils are not favorable, fossils will not be present. The potential for paleontological resources to be present is described as the ‘paleontological sensitivity’ of the lithologic unit.

#### **5.8.1.2 Paleontological Literature and Locality Records Review**

Data for the following descriptions of paleontological resources within the project area were compiled by David Lawler; project paleontologist, from a review of published records of previous geologic and paleontological investigations (see Section 5.8.5 for references). Data collection also included additional published descriptions of the geology, including geologic maps, unpublished paleontological research papers, museum records, and interviews conducted with individuals having first-hand knowledge of resources within the project area.

Sources consulted on the general geology of the area included regional geologic maps compiled by the California Division of Mines and Geology (CDMG) and more specific geologic information in the form of 1:24,000 and 1:62,500 scale USGS and CDMG geologic maps available for the project area.

Geologic map data covering the Venice Quadrangle 1:24,000 scale, and Long Beach Sheet 1:250,000 scale (CDMG 1970) has been used as the most recently published or currently available references for paleontological resource sensitivity and stratigraphic analysis.

Fossil locality records were reviewed and fossil specimens inspected (when possible) at the following institutions, which provided most of the data concerning distribution of known fossil resources:

- Los Angeles Museum of Natural History (LACM). Dr. Samuel McLeod, Vertebrate Paleontologist, performed a paleontological resources record data search on October 31, 2000 and provided a letter report detailing the results of the data search (See appendix L(A)1).

- California Academy of Sciences, (CAS). Ms. Jean DeMouthe, Mineralogical Collections Curator, was very helpful in providing information on paleontological collection and record access in the El Segundo region.

Collected data were reviewed to assess the relative potential for each of these geologic limits to contain significant paleontological resources. These data assisted in a determination of appropriate field survey coverage.

### **5.8.1.3 Methods of Assessing Sensitivity**

The assessment of paleontological sensitivity is based both on known paleontological sites near the project area, as well as extrapolated biostratigraphic information derived from rock units in adjacent areas or areas of regional context. Paleontological sensitivity of each project component has been determined from the distribution of known nearby fossil localities, fossil-bearing geologic units, exposures on non-fossiliferous rocks, and available mapping of the surface outcrops of the different rock units, in combination with paleontological field survey as appropriate.

The paleontological potential sensitivity of the ESPR plant site and associated linear facilities, staging areas and parking areas is assessed in this report.

Geologic units (mappable rock formations) occurring within a one mile wide radius of the project area and their respective interpreted paleontological sensitivity are shown on Figure 5.8-1 and Tables 5.8-1 and 5.8-2 as geologic contacts and specific sensitivity ratings. Known paleontological sites within or near the project area are depicted on Figure L-1 in confidential technical Appendix L.

**Paleontological Survey.** Three categories of paleontological potential are used in this report according to California Energy Commission standards: Rating categories are to be considered interpretive and subject to change as new information is obtained. High potential, Moderate potential, and Low potential ratings are defined as follows:

- **High Potential Rating**

Rock units with a high potential for significant paleontological resources are known to have yielded vertebrate fossils within the project area or region. This does not necessarily imply that vertebrate fossils will always be recovered from a high-potential rated rock unit, but only that there are recorded occurrences within the unit. Additional factors that are considered pertain to inferred depositional environment and lithology.

**TABLE 5.8-1**

**EL SEGUNDO POWER REDEVELOPMENT PROJECT  
GEOLOGIC UNITS WITHIN PROJECT AREA**

<b>SYMBOL</b>	<b>ROCK UNIT</b>	<b>AGE</b>	<b>SENSITIVITY RATING</b>
( <i>Qal</i> ) <sup>1</sup>	<b>Alluvium</b>	Pleistocene	(Mod-High)-(Known vertebrate fauna)

- **Moderate Potential Rating**

Rock units possessing some degree of potential such as favorable depositional environment for resource preservation or lithologically similar rock units in the region have yielded vertebrate fossils. All moderate potential rated rock units are recommended for field survey and construction monitoring.

- **Low Potential Rating**

Rock units containing lithologies that do not commonly preserve significant fossil resources (i.e. coarse conglomerates, welded or ignimbrite volcanic ash deposits). Igneous rocks, such as the granodiorite outcrops in the northern part of the project area, are precluded from preservation of paleontological resources, due to their genesis within a magmatic environment.

Mr. David Lawler, project paleontologist, conducted a site visit on November 3, 2000. The project components were subjected to a pedestrian survey where open exposures afforded the potential for observation of undisturbed native substrate. cursory observations were made at the Kramer Staging Area, Federal Express Staging/Parking Area and the LAX Pershing Staging/Parking Area, as these areas are either partially or fully paved, graveled, or highly disturbed and have low potential to yield significant surface discoveries. The various potential parking areas are all paved and preclude observation of native surfaces.

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<sup>1</sup> While Quaternary alluvium deposits of Pleistocene age occur locally within the project area, usage of the *Qal* geologic symbol designation on available geologic maps covering the El Segundo-Santa Monica Bay- Palos Verdes Peninsula region is highly variable. Geologic units ranging from the San Pedro Fm., Palos Verdes Sand, Quaternary Stream deposits, and recently designated hydrogeologic units such as the Old Dune Sand, Manhattan Beach Clay, the Gage Sand, the El Segundo Clay, and the Silverado Sand may be lumped under this designation, particularly where regional geologic data is scarce, due to urban development. (see Jennings (1962) and Cleveland (1976) for comparison). Paleontological resources can potentially vary greatly in stratigraphic distribution within this grouping of geologic units.

**TABLE 5.8-2**

**PALEONTOLOGICAL SENSITIVITY & GEOLOGIC UNITS**

**Pipeline Routes**

**Potable/Reclaimed Water Line – Route 1**

LENGTH	ROCK FORMATION	SENSITIVITY RATING
Pending	<i>Qal</i>	High

**Sanitary Discharge Line – Route 2**

LENGTH	ROCK FORMATION	SENSITIVITY RATING
150 Ft.	<i>Qal</i>	High

**Aqueous Ammonia Supply Line – Route 3**

LENGTH	ROCK FORMATION	SENSITIVITY RATING
0.7 Mile	<i>Qal</i>	High

**Areas**

**Kramer Staging Area –Area 1**

AREA	ROCK FORMATION	SENSITIVITY RATING
11.5 Acres	<i>Qal</i>	High

**Federal Express Staging/Parking Area – Area 2**

AREA	ROCK FORMATION	SENSITIVITY RATING
46 Acres	<i>Qal</i>	High

**LAX Pershing Staging/Parking Area – Area 3**

AREA	ROCK FORMATION	SENSITIVITY RATING
TBD Acres	<i>Qal</i>	High

**TABLE 5.8-2**

**(CONTINUED)**

**Marina Del Rey Boat Launch Parking Area – Area 4**

AREA	ROCK FORMATION	SENSITIVITY RATING
442 Spaces	<i>Qal</i>	High

**Dockweiler State Beach Parking Area – Area 5**

AREA	ROCK FORMATION	SENSITIVITY RATING
900 Spaces	<i>Qal</i>	High

**Hyperion Parking Area – Area 6**

AREA	ROCK FORMATION	SENSITIVITY RATING
461 Spaces	<i>Qal</i>	High

**Grand Avenue Parking Area – Area 7**

AREA	ROCK FORMATION	SENSITIVITY RATING
115 Spaces	<i>Qal</i>	High

**Chevron Marine Terminal Staging Area – Area 8**

AREA	ROCK FORMATION	SENSITIVITY RATING
115 Spaces	<i>Qal</i>	High

**Power Plant Site – Area 9**

AREA	ROCK FORMATION	SENSITIVITY RATING
32.8 Acres	<i>Qal</i>	High

#### **5.8.1.4 Findings**

The sensitivity ratings determined through archival research and field survey are shown on Tables 5.8-1 and 5.8-2. It should be noted that sensitivity ratings change as paleontological surveys are undertaken in the future and add to the existing database. Identification of significant vertebrate or microvertebrate sites and materials of scientific significance can elevate a particular rock unit's paleontological resource rating. Table 5.8-3 provides a discussion of field conditions encountered during the surveys.

**5.8.1.4.1 Overview of Lithologic Units.** Surficial sedimentary units of predominantly Pleistocene and Holocene age underlie the entire project area. These sediments include deposition that range from continental, alluvial fan-derived sediments to subaerial floodplain to marine terrace and near-shore deposits. Lithologies include sand, gravel, silt and clay; all of which are potentially favorable to the preservation of paleontological resources.

Pleistocene age geologic units occur as surficial deposits in the project area. Subsurface sedimentary deposits as old as Miocene age exist along this portion of the Los Angeles County coastal plain area. These sedimentary units have been described and mapped previously by Dall (1898), Arnold (1903), Kew (1923), Tiejie (1926), Woodring et. al. (1936, 1946), Brandy and Emery (1954), Kundert (1955), Poland and Piper (1956), Yerkes et. al. (1965), Allen (1974), Cleveland (1976) and Reiter (1984).

The geomorphic development of the successive series of Pleistocene marine terraces that have been subsequently dissected by the major west flowing river drainages. The lateral extent of these units has been determined from petroleum exploration and development by geological subsurface mapping (Wright 1987).

The Cenozoic rock formations range in facies type from conglomerates to sandstones to unconsolidated siltstone and clays, all of which are either fossiliferous or potentially fossiliferous.

Gradual, long-term erosion has removed parts of the Tertiary and Quaternary rock formations so that these rocks and their contained fossils are now at or near the surface throughout most of the project area. These formations or parts of the formations now exist at or near the surface as rock outcrops with varying width across the project area terrain, but are obscured in most areas by industrial development and surficial sediments. Visual detection of fossils is possible in those areas where natural erosion or man-made excavations during road, pipeline, or building site excavation or grading operations have removed artificial fill material. The majority of the project area is reportedly overlain by imported fill material or unconsolidated sediments of Holocene age.

**TABLE 5.8-3**

**SURVEY COVERAGE BY PROJECT COMPONENT AND FIELD CONDITIONS**

Project Component	Field Conditions	Comments
Water Supply Lines (Potable & Reclaimed) – Route 1	0 percent ground visibility; entire linear component is built environment.	Pedestrian field inspection, no visibility and no exposures.
Sanitary Discharge Line – Route 2	0 percent ground visibility; entirely built underneath sand and rip-rap.	Pedestrian field inspection, no ground visibility and no exposures.
Aqueous Ammonia Supply Line – Route 3	0-2 percent ground visibility; The aqueous ammonia Line component runs from the Power Plant across the Chevron El Segundo Refinery property. The entire Chevron property is essentially a built refinery environment with nearly all open spaces covered by asphalt and/or imported gravels. Most of the natural sand dunes have been covered with the asphalt to prevent creep and subsidence. There are almost no surface exposures throughout the entire length on the aqueous ammonia Line. Chevron indicated that the aqueous ammonia line will, in most instances, run through existing refinery pipes. Survey occurred in areas deemed safe and appropriate by Chevron staff. The survey required a Chevron staff member to serve as escort across the refinery. No cultural resources were observed in the exposures.	Survey of the entire linear component via pedestrian walking (non-transect). Limited access to the Chevron areas due to safety concerns.
Kramer Staging Area – Area 1	0 percent ground visibility; soil exposure on the shoulder of the paved road, between pistachio trees in the orchards, and in limited fallow areas.	Area not accessed, client could not secure right of entry.
Federal Express Staging/Parking Area – Area 2	Field appears to be covered in grass and scrub brush.	Area not accessed, client could not secure right of entry.
LAX Pershing Staging/Parking Area – Area 3	0 percent ground visibility. Entire area is an existing parking lot	Area not accessed, client could not secure right of entry.
Marina Del Rey Boat Launch Parking Area – Area 4	0 percent ground visibility. Entire area is an existing parking lot.	Pedestrian field inspection, no ground visibility and no exposures.
Dockweiler State Beach Parking Area – Area 5	0 percent ground visibility. Entire area is an existing parking lot	Pedestrian field inspection, no ground visibility and no exposures.
Hyperion Parking Area – Area 6	0 percent ground visibility. Entire area is an existing parking lot	Pedestrian field inspection, no ground visibility and no exposures.
Grand Avenue Parking Area – Area 7	0 percent ground visibility. Entire area is an existing parking lot	Pedestrian field inspection, no ground visibility and no exposures.
Chevron Marine Terminal Staging Area – Area 8	0-5 percent ground visibility; area mostly covered in asphalt, with some minor surface exposures	Pedestrian field inspection, minimal ground visibility, one exposure at location where Chevron had previously excavated.
Power Plant Site – Area 9	0 percent ground visibility; entire facility is built environment.	Pedestrian field inspection, no visibility and no exposures.

### **Cenozoic Rock Units.**

**San Pedro Formations (*Osp*) and Palos Verdes Sands (*Opv*).** The San Pedro Formation represents the oldest known Cenozoic sedimentary unit of Pleistocene age in the Los Angeles Coastal Region. This formation was originally described by Dall (1898) for outcrops at Harbor Hill, in the vicinity of nearby San Pedro Harbor and then applied to extensive beds of unconsolidated sand containing abundant molluscan shells of Pleistocene age outcropping as far south as San Diego and as far north as Santa Monica.

The formation name was redescribed by Arnold (1903) and Kew (1923) in greater detail for beds in the vicinity of San Pedro and redefined it by dividing it into two members, separated by an unconformity.

Tieje (1926) formally defined the two stratigraphic members and assigned the name Palos Verdes Sands to the upper member of typical San Pedro Formation and restricted San Pedro or San Pedro Sand to the lower member of Arnold's San Pedro Formation.

It is important to note that in this report the stratigraphic nomenclature and redefinition of both the San Pedro Formation and Palos Verdes Sand of Tieje (1926) is followed, since this is the present approved definition of the U. S. Geological Survey.

Tieje also describes the Palos Verde Sand as consisting of massive and loosely cemented marine sands varying from coarse sand to gravelly quartzose sands with pebbles. Maximum thickness in the Palos Verdes Hills section is 50 feet. Fossil sand dollars of the taxon *Echinarachnius exoetricus* are highly abundant and found in association with the Palos Verdes invertebrate fauna, consisting of at least 70 species.

The San Pedro Formation consists of poorly consolidated coarse sands and gravels, sandy silts, clays and silty clays. Over 75 percent of the formation is composed of sands and pebble to cobble gravels.

The La Brea Tar Pit fossil mammal assemblage of upper Pleistocene age is well known world-wide and is derived from the Palos Verdes Sand (upper part of Arnold's San Pedro Formation) in the northwestern portion of the Los Angeles Basin. This assemblage includes a wide variety of carnivores (canids and felids), small to large ungulate herbivores (cervids, antilocaprids, camelids, equids, suids), edentates (sloths), and a myriad of small mammals including lagomorphs (rabbits), rodents, insectivores and a variety of birds and lower vertebrates (frogs, lizards and snakes). Many of the fossil specimens represent the best preserved specimens of particular taxa found to date.

The geology of the La Brea deposit has been recently described by Wright (1987) and Woodward and Marcus (1973). These workers have subdivided the Palos Verdes Sand into three members (units A, B and C) that document the gradual transition from deep water marine conditions to non-marine alluvial plain deposition in this area of the Los Angeles Basin. None of the scientific literature reviewed to date has recognized these subdivisions of the Palos Verdes Sand in the project area.

Nearly 75 years of fossil vertebrate collecting in the Los Angeles Harbor region has produced one of the most extensive databases for understanding the fossil vertebrate record of the southern California coastal plain. Only the Newport Beach area of Orange County has yielded as much information on the Pleistocene coastal vertebrates of North America (Langenwalter 1975). The first record of a fossil vertebrate from this region was a fossil mammoth tooth from the San Pedro area, as reported by Blake (1855).

Mammalian assemblages collected from both the San Pedro Sands and Palos Verdes Sands in the vicinity of the project area within the San Pedro townsite contain fossil remains of most of the above mentioned Rancho La Brea terrestrial vertebrate groups, as described by Hay (1927) and Miller (1971). Also included at these sites are aquatic mammalian taxa including otter, whale, and dolphin as well as shark and teleost fish taxa, and birds.

A well-represented marine and shore birds fauna from both the San Pedro Sands and Palos Verdes have been described in detail by Miller (1912, 1914, 1930) and Miller and DeMay (1942); with the most complete avian faunal record derived from the Palos Verdes Sand.

The bony fish (or osteichthyan fish) record from these formations has been extensively described by Fitch (1967, 1969, 1970). The 1967 paper compares the San Pedro Sand fish fauna with other modern faunas of this area and concludes (with some exceptions) that they are similar in composition, but that ocean temperatures were cooler than presently.

A composite invertebrate fauna has been collected from both rock units includes a diverse mollusc (pelecypod and gastropod) and echinoderm fauna with many taxa identified to the family and genera taxonomic level well represented. San Pedro Formation invertebrate faunas have been described by Bramlette et. al. (1946) and more recently by Kennedy (1975).

Artificial fill and cement materials at the ESPR site as well as at the proposed laydown areas are expected have either removed or obscured potentially fossiliferous exposures of Qal in some areas. Occurrence of these stratigraphic units at shallow depths is quite likely, given the known depths at which vertebrate fossils have been recovered in areas adjacent to the project site.

**Quaternary Alluvium Deposits (*Qal*)**. Locally occurring stream terrace deposits of Pleistocene age include unconsolidated sand and gravel derived from adjacent strata. This unit has yielded fragmentary remains of both large mammalian taxa including horse, bison, mammoth, as well as the remains of microvertebrate taxa including rabbits, rodents and fish. (See LACM collection data - Appendix L[A]). The rock-unit lithologies would be favorable to the preservation of fossil resources such as large vertebrate and/or microvertebrate remains.

While Quaternary alluvium (*Qal*) deposits of Pleistocene age occur locally within the project area, usage of the *Qal* geologic symbol designation on available geologic maps of the El Segundo region - Los Angeles Coastal Plain region is highly variable. It includes numerous geologic units, such as stratigraphic equivalents of the Palos Verde Sand (*Qpv*), San Pedro Fm. (*Qsp*), Lakewood Fm. (*Qlw*), and Quaternary Stream deposits (*Qt*). It also includes more recently recognized hydrogeologic subdivisions such as the Old Dune Sand, Manhattan Beach Clay, Gage Sand, El Segundo Clay, and the Silverado Sand. Paleontological resources are known to vary widely in stratigraphic distribution within this generalized geologic unit.

While no paleontological resources are known from the project site, numerous paleontological sites occur within a five-mile radius of it. A fossil proboscidian (elephant family) (bone) was found at site designated as LACM 6896, located in the middle of the Los Angeles International Airport. In the vicinity of West Century Blvd. and Ballanca Ave, a fossil baby mammoth jaw was recovered at the LACM 7332 site. The LACM 3789 site, located on Bellanca Ave. south of Manchester Ave., produced fossil mammoth, rodent, and fish material. Fossil mammal bones at site LACM 1180 and LACM 4942 near the intersections of Airport Blvd and Manchester Ave, produced fossil horse, mammoth, bison, and rabbit remains at depths of 13-16 feet.

These paleontological localities occurring within a five-mile radius contain scientifically important paleontological resources that represent a wide variety of terrestrial and aquatic vertebrate taxa (fossil horse, bison, rabbit, and rodent terrestrial mammalian taxa and fossil marine fish (flounder) taxa) (See LACM confidential fossil locality and specimen data). The sandstone, silt, and clay lithologies of the known Pleistocene age geologic units are favorable for exceptional preservation of vertebrate, microvertebrate, and invertebrate fossil resources.

With one exception, no other projects with a designated paleontological component are known to have conducted previous field or literature surveys or produced sensitivity maps or reports within or adjacent to the ESPR site. A paleontological literature review was conducted in support of an EIR prepared for the Los Angeles International Airport Property (Raschke and Bissel 1995).

**Holocene and Post-Holocene Age Sediments**. Sediments of probable Holocene or post-Holocene age that form the thin, surficial cover are considered to be of limited paleontological

interest and thus considered inconsequential. These are represented by the Holocene Dune Sand unit (*Qsr*), which is considered a subset of the (*Qal*) geological unit.

#### **5.8.1.4.2 Pipeline Routes**

**Potable/Reclaimed Water Line – Route 1.** The formations traversed by the two new water supply pipelines are assigned a high sensitivity rating. The proposed 12-inch diameter potable water pipeline will link water from the City of El Segundo at Eucalyptus Drive and El Segundo Boulevard to the El Segundo power plant site. This project component is located underneath city streets and therefore has 0 percent ground visibility. The proposed 8-inch diameter reclaimed water supply pipeline will link the West Basin Municipal Water District on El Segundo Boulevard, adjacent to the Chevron Refinery to the El Segundo power plant site. This project component is located underneath city streets and therefore has 0 percent ground visibility.

**Sanitary Discharge Line – Route 2.** The formation traversed by the new sanitary pipeline route is assigned a high sensitivity rating. This pipeline route will discharge sanitary wastes from the existing plant site and proposed combined cycle plant into the municipal sanitary sewer that is operated by the City of Manhattan Beach. Approximately 150 feet of forced flow sewer line will need to be constructed to route sewage discharge from the site to an existing manhole at the intersection of Strand and 45th St. This pipeline is built underneath sand and rip-rap and has 0 percent ground visibility.

**Aqueous Ammonia Supply Line – Route 3.** The formation traversed by the new aqueous ammonia supply pipeline is assigned a high sensitivity rating. The pipeline will be constructed from a tie-in point within the Chevron Refinery, then routed to the north perimeter fence line of the power plant site (R3-MP0.0) via the Vista Del Mar overpass and then to the plant site; a total distance of 0.7 miles. The majority of this pipeline will be constructed in existing above ground pipe racks. However, portions of the route may require trenching. This supply line is located underneath asphalt and/or imported gravels and has 0-2 percent ground visibility.

#### **5.8.1.4.3 Areas**

**Kramer Staging Area – Area 1.** The formation underlying the 11.5 acre Kramer staging area site is assigned a high sensitivity rating. This area is located in southern El Segundo and may be utilized for staging and parking. It is delimited by Rosecrans Boulevard on the south, El Segundo Boulevard on the north, Aviation Boulevard on the east and Sepulveda Boulevard on the west. The site surface is partially paved and has been nearly completely disturbed from prior industrial activity and infrastructure development. The eastern end of the property has been completely sealed with an asphalt covering. The parcel was visually assessed from the perimeter as it is completely paved.

**Federal Express Staging/Parking Area – Area 2.** The formation underlying this 46-acre location is assigned a high sensitivity rating. This area is located on the northeast corner of Mariposa Ave. and Nash Streets in the municipality of El Segundo. The parcel surface is highly disturbed from prior agricultural and/or industrial activity. The parcel was visually assessed from the perimeter as the surface has been highly disturbed.

**LAX Pershing Staging/Parking Area – Area 3.** The formation underlying the Pershing location is assigned a high sensitivity rating. The parcel is located on the east side of Pershing Avenue, roughly 0.5 miles north of Imperial Highway, within the western runway path of the Los Angeles International Airport. Total acreage and parcel boundaries are still pending. A perimeter fence encompasses the parcel and its entire site surface is paved.

**Marina Del Ray Boat Launch Parking Area – Area 4.** The formation underlying the Marina Del Ray Boat Launch, parking lot location is assigned a high sensitivity rating. It is located on Admiralty Way north of Fiji Avenue. The parcel is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses 442 parking spaces. The parcel surface is entirely paved and has 0 percent ground visibility.

**Dockweiler State Beach Parking Area – Area 5.** The formation underlying the Dockweiler State Park - parking lot location is assigned a high sensitivity rating. The parcel is located between Vista Del Mar Avenue. and the beach. The parcel is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses three parking lots, each containing 300 spaces for a total of 900 parking spaces. The parcel surface is entirely paved and has 0 percent ground visibility.

**Hyperion Parking Area – Area 6.** The formation underlying the Hyperion Corporation parking lot location is assigned a high sensitivity rating. The parcel is located between Vista Del Mar Avenue. and the beach. The parcel is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses 461 parking spaces. The parcel surface is entirely paved and has 0 percent ground visibility.

**Grand Avenue Parking Area – Area 7.** The formation underlying the Grand Avenue parking lot location is assigned a high sensitivity rating. It is located between Vista Del Mar Ave. and the beach. The parcel is under consideration only for automobile parking use for the plant construction crew. The total area of concern encompasses 115 parking spaces. The parcel surface is entirely paved and has 0 percent ground visibility.

**Chevron Marine Terminal Staging Area – Area 8.** The formation underlying the Chevron Marine Terminal laydown area is assigned a high sensitivity rating. It is located approximately 1/4 mile north of the ESPR plant site and is bordered by Vista Del Mar Ave. on the east, Santa

Monica Bay bike path on the west, and. Portions of the site has been previously leveled by heavy equipment. A spoils pile containing an estimated 10,000 cubic yards of material that was excavated from a nearby sump feature is located near the center of the laydown area. This staging area has 0-5 percent ground visibility. It is mostly covered in asphalt, with some minor surface exposures.

**Power Plant Site – Area 9.** The formation underlying the ESPR plant site is assigned a high sensitivity rating. The parcel is approximately 32.8 acres in size. It is located between Vista Del Mar Ave. and the beach, just north of the 45th St. intersection. The entire facility is a built environment and has 0 percent ground visibility.

### **5.8.2 Environmental Consequences**

Often, only monitoring during excavation can reveal the paleontological content of a formation at a specific impact location. However, for the purposes of this analysis, and in keeping with CEC guidance, the assumption is made that “if the rock units in the geologic formations which are to be disturbed have a high or moderate potential to contain fossil materials, these formations are considered likely to incur impacts” (CEC, 1992:3.10-5).

Project related excavation activities have the highest potential to unearth and impact paleontological resources. Typically direct impacts would occur during construction activities that involve subsurface disturbance, or create exposures of fossil materials that could be removed by unauthorized personnel. With implementation of the Applicant proposed mitigation measures in Section 5.8.3, no significant direct impacts on paleontological resources are anticipated. With proper mitigation, the project has the potential to result in new information regarding paleontological resources in the project region associated with data recovery, evaluation, and curation. Indirect impacts such as changes in visual setting would have no effect on paleontological resources as their importance is derived from their direct physical association with geologic strata and other fossil assemblages.

#### **5.8.2.1 Pipeline Routes**

**Potable/Reclaimed Water Line – Route 1.** The formation traversed by the two water supply pipeline routes are assigned a high sensitivity rating. A maximum excavation depth of 6 feet for the majority of the underground pipeline route is estimated. Paleontological resources could be impacted by this excavation activity.

**Sanitary Discharge Line – Route 2.** The formation traversed by reclaimed water supply pipeline route is assigned a high sensitivity rating. A maximum excavation depth of 6 feet for

the majority of the underground pipeline route is estimated. Paleontological resources could be impacted by this excavation activity.

**Aqueous Ammonia Supply Line – Route 3.** A proposed right-of-way (ROW) area within the western portion of the Chevron El Segundo Refinery was subjected to a limited field survey on November 3, 2000. Much of the ROW area was covered with a thin veneer of asphalt, for erosion control purposes. The underlying sedimentary unit appeared to represent modern, stabilized sand dunes as well as ancient sand dune deposits. The formation traversed by the proposed aqueous ammonia pipeline route is assigned a high sensitivity rating. A maximum excavation depth of 6 feet is estimated for those portions of the pipeline route that will require trenching. Paleontological resources could be impacted by this excavation activity.

#### 5.8.2.2 Areas

**Kramer Staging Area – Area 1.** The site surface is paved and has been nearly completely disturbed from prior industrial activity and infrastructure development. A high sensitivity rating is assigned to the underlying formation. Unless disturbance activities penetrate below the surface disturbance zone and/or artificial fill layer, paleontological impacts are unlikely at this location.

**Federal Express Staging/Parking Area – Area 2.** Observations from the perimeter indicate that the site surface appears highly disturbed from prior agricultural and/or industrial activity as well as leveled for pending industrial development. A high sensitivity rating is assigned to the underlying formation. Unless disturbance activities penetrate below the surface disturbance zone and/or artificial fill layer paleontological impacts are unlikely at this location.

**LAX Pershing Staging/Parking Area – Area 3.** The site surface is paved and no excavation is proposed. A high sensitivity rating is assigned to the underlying formation. Unless disturbance activities penetrate below the surface asphalt zone and/or artificial fill layer paleontological impacts are unlikely at this location.

**Marina Del Ray Boat Launch Parking Area – Area 4.** The site is under consideration only for automobile parking use for the plant construction crew. A high sensitivity rating is assigned to the underlying formation. The site surface is entirely paved and no excavation is proposed. Paleontological impacts are unlikely at this location.

**Dockweiler State Beach Parking Area – Area 5.** The parcel is under consideration only for automobile parking use for the plant construction crew. A high sensitivity rating is assigned to the underlying formation. The site surface is entirely paved and no excavation is proposed. Paleontological impacts are unlikely at this location.

**Hyperion Parking Area – Area 6.** The parcel is under consideration only for automobile parking use for the plant construction crew. A high sensitivity rating is assigned to the underlying formation. The site surface is entirely paved and no excavation is proposed. Paleontological impacts are unlikely at this location.

**Grand Avenue Parking Area – Area 7.** The parcel is under consideration only for automobile parking use for the plant construction crew. A high sensitivity rating is assigned to the underlying formation. The site surface is entirely paved and no excavation is proposed. Paleontological impacts are unlikely at this location.

**Chevron Marine Terminal Staging Area – Area 8.** The site surface is partially paved leaving one exposure at the location where Chevron had previously excavated. The majority of the property has been completely sealed with an asphalt covering. The underlying substrate is assigned a high sensitivity. No excavation is proposed. Paleontological impacts are unlikely at this location.

**Power Plant Site – Area 9.** The majority of the power plant area is paved and contains a highly developed industrial infrastructure. The project site overall has high paleontological sensitivity. The paleontological resources potentially could be exposed in the sedimentary exposures forming the steep slopes on the eastern border of the plant site adjacent to Vista Del Mar Ave since these represent deep cuts in the underlying Quaternary sedimentary deposits (*Qal*). Elsewhere within the plant site, paleontological sensitivity is low on the surface because of the presence of asphalt and artificial fill, but high beneath the fill. Pipeline linears and other plant components slated for excavation beneath asphalt and artificial fill have the potential to impact paleontological resources.

### **5.8.2.3 Indirect Cumulative Impacts**

The construction, operation and maintenance of the ESPR Project is not expected to result in significant new indirect impacts to the paleontological resource base. As noted above, since paleontological resources typically derive their importance from their physical remains and/or association with geologic strata or other fossils, the non-physical nature of indirect impacts would not affect those elements that contribute to the significance of a fossil resource.

### **5.8.2.4 Cumulative Impacts**

Cumulative impacts from the ESPR Project on the regional paleontological base are limited because implementation of the mitigation measures proposed above for paleontological resources will reduce project-related impacts to a less than significant level and would not contribute potential impacts associated with the past, present and reasonably foreseeable projects detailed

in Section 5.20 of the AFC. Scientifically controlled recovery at significant paleontological sites and/or site avoidance ensures that the information content of significant paleontological resource sites will be retained, and thus, limits the contribution of cumulative impacts of the ESPR Project on the regional paleontological resources base for this project.

### **5.8.3 Stipulated Conditions**

As a means of cooperating with the CEC and establishing a conciliatory relationship, and an open efficient AFC process that allows the Commission to utilize its resources in the most efficient manner possible, ESPR expresses a willingness to stipulate to and accept the following CEC standard general conditions as promulgated by the CEC that apply to the issue area of **Paleontological Resources**.

#### **PAL-1: Designated Paleontologic Resources Specialist**

Prior to the start of construction, the project owner shall provide the California Energy Commission Compliance Project Manger (CPM) with the name(s) and qualifications of its designated paleontologic resources specialist and mitigation team members.

The designated paleontologic resources specialist is responsible for implementing all the Conditions of Certification and for using qualified personnel to assist him or her in project-related field surveys.

After CPM approval of the Paleontologic Resources Monitoring and Mitigation Plan, the designated paleontologic resources specialist and team shall be available to implement the mitigation plan prior to, and throughout construction of the project.

**Protocol:** The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resources specialist.

- 1) The statement of qualifications for the designated paleontological resource specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology, geology, or paleontological resource management; at least three years of paleontological resource mitigation and field experience in California, including at least one year's experience leading paleontological resource mitigation and field activities.
- 2) The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

3) If the CPM determines that the qualifications of the proposed paleontological resources specialist are not in concert with the above requirements, the project owner shall submit another individual 's name and qualifications for consideration.

4) If the approved, designated paleontological resources specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resources specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least ten (10) days prior to the termination or release of the preceding designated paleontological resources specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

**Verification:** At least ninety (90) days prior to the start of construction on the project, the project owner shall submit the name and resume and the availability for its designated paleontological resources specialist to the CPM for review and approval. The CPM shall provide written approval or disapproval of the proposed paleontological resources specialist. At least ten (10) days prior to the termination or release of a designated paleontological resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of the proposed new designated paleontological resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

**PAL-2: Draft Paleontologic Resource Monitoring and Mitigation Plan.** Prior to the start of project construction, the designated paleontologic resources specialist shall prepare a draft paleontologic Resource Monitoring Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontologic resources. The CPM will review and must approve in writing the draft paleontologic Resource Monitoring Mitigation Plan. After CPM approval, the project owner's designated paleontologic resource specialist and designated paleontologic resource team shall be available to implement that Monitoring and Mitigation Plan, as needed throughout project construction.

**Protocol:** In addition to the project owner 's adoption of the guidelines of the Society of Vertebrate paleontologists, as modified in the Application for Certification for the La Paloma Generating Project, dated July 1998 (Ex.1; revised November 1998), the project owner shall adopt and implement the BLM's *General Procedural Guidance Manual for Paleontological Resource Management* for those sections of the project determined by the BLM to be under its jurisdiction. When the guidelines overlap, the project owner shall follow the more stringent guideline. The Paleontological Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures:

- 1) A discussion of the sequence of project-related tasks, such as any pre-construction surveys, fieldwork, flagging, or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation.
- 2) Identification of the person(s) expected to assist with each of the tasks identified in (a) above, and a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities.
- 3) Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring.
- 4) An explanation that the designated Paleontological resources specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined.
- 5) A discussion of equipment and supplies necessary for recovery of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits.
- 6) Inventory, preparation, and delivery for curation into a retrievable storage collection, in a public repository or museum that meets the Society of Vertebrate

Paleontologists standards and requirements for the curation of paleontological resources.

- 7) Identification of the institution that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work; discussion of any requirements or specifications for materials delivered for curation and how they will be met; and the name and phone number of the contact person at the institution.

**Verification:** At least sixty (60) days prior to the start of construction on the project, the project owner shall provide the CPM with a copy of the Monitoring and Mitigation Plan prepared by the designated Paleontological resource specialist for review and approval. If the plan is not approved, the project owner, the designated paleontological resources specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

**PAL-3: Paleontologic Resources Training Program.** Prior to the start of construction on the project, the designated paleontologic resources specialist shall prepare an employee training

program. The designated paleontologic resources specialist shall submit the training program to the CPM for approval.

**Protocol:** The training program will discuss the potential to encounter fossil resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall also include the set of reporting procedures that workers are to follow if sensitive paleontologic resources are encountered during project activities. The training program will be presented by the designated paleontologic resources specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

**Verification:** At least thirty days prior to the start of construction on the project, the project owner shall submit to the CPM for review, comment, and written approval, the proposed employee training program and set of reporting procedures the workers are to follow if Paleontologic resources are encountered during project construction.

The CPM shall provide the project owner with written approval or disapproval of the employee-training program and the set of procedures within 15 days of receipt of the submittal. If the draft-training program is not approved, the project owner, the designated Paleontologic resources specialist, and the CPM shall meet to discuss the comments and work out necessary changes.

**PAL-4: Paleontologic Resources Reporting Preparations.** Prior to the start of Construction, and throughout the project construction period as needed for all new employees, the project owner and the designated paleontologic resource specialist shall provide the CPM-approved training to all the project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers with the CPM-approved set of procedures for reporting any sensitive paleontologic resources or fossil bearing sediments that may be discovered during project-related ground disturbance.

**Verification:** Prior to the start of construction, and throughout the project construction period as needed for all new employees, the project owner and the designated paleontologic resources specialist shall present the CPM-approved training program on the potential for project impacts to sensitive paleontologic resources. The training shall include a set of reporting procedures for paleontologic resources encountered during project activities. The project owner shall provide documentation in the Monthly Compliance Report to the CPM that the employee training and the set of procedures have been provided to all project managers, construction supervisors, and to all workers.

**PAL-5: Measures to Ensure Adequate Paleontologic Resource Monitoring.** The designated paleontologic resource specialist shall be present at all times to monitor construction-related grading, excavation, trenching, and/or augering in areas.

**Verification:** The project owner shall maintain in its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, identification, and inventory, and preparation for and delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

**PAL-6: Paleontologic Resource Recovery.** The project owner through the designated paleontologic specialist, shall ensure the recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontologic resource materials encountered and collected during the monitoring, data recovery, mapping and mitigation activities related to the project.

**Verification:** The project owner shall maintain, in its compliance files, copies of signed contracts or agreements with the designated paleontologic resource specialist and other qualified research specialists. These specialists will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation and delivery for curation of all significant paleontologic resource materials collected during data recovery and mitigation for the project. The project owner shall keep these files available for periodic audit by the CPM.

**PAL-7: Preliminary Paleontologic Resources Report.** The project owner shall ensure preparation of a Preliminary Paleontologic Resources Report following completion of data recovery and site mitigation work. The preliminary report is to be prepared by the designated paleontologic resources specialist and submitted to the CPM for review, comment, and written approval.

**Verification:** The preliminary report shall include (but not be limited to) preliminary information on the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; possible results and findings of any analysis to be conducted on recovered paleontologic resource materials and data; proposed research questions that may be answered or may have been raised by the data from the project; and an estimate of the time needed to complete the analysis of recovered fossil materials and prepare a final report. If no fossil resources were recovered during

project construction, the CPM-approved preliminary report shall also serve as the final report and shall be filed with appropriate entities.

**PAL-8: Final Paleontologic Resources Report.** The project owner shall ensure preparation of a Final Paleontologic Resources Report by the designated paleontologic resources specialist if significant fossil resources are found and recovered during project-related surveys, monitoring and mitigation.

**Verification:** The project owner shall submit a copy of the draft Final Paleontologic Resources Report to the CPM for review, comment and written approval. The draft Final Paleontologic Resources Report shall be submitted to the CPM within ninety (90) days following completion of the analysis of the recovered fossil materials and preparation of text and related information, such as maps, diagrams, tables, charts, photos, etc.

#### **5.8.4 Mitigation Measures**

With the incorporation of the stipulated conditions previously referenced in this section, impacts to paleontological resources are minimized to a less than significant level. As a result, additional mitigation measures are not needed.

#### **5.8.5 Applicable Laws, Ordinances, Regulations, and Standards**

The applicable LORS for the evaluation and protection of paleontological resources include the following (summarized in Table 5.8-4):

##### **5.8.5.1 Federal Authorities and Administering Agencies**

**National Environmental Policy Act of 1968 (NEPA), as amended; USC § 4321 4327; 40 CFR 1502.25.** The Act requires analysis of potential environmental impacts to cultural resources.

Federal involvement has not yet been identified for this project, thus a lead Federal agency would be identified at the time the project is determined to be a “Federal undertaking”.

**1978 Memorandum from Acting Director of BLM.** This memorandum provides significance criteria for paleontological resources. Federal involvement has not yet been identified for this project, thus a lead Federal agency would be identified at the time the project the project is determined to be a “Federal undertaking”.

**TABLE 5.8-4**

**LORS APPLICABLE TO PALEONTOLOGICAL RESOURCES**

<b>Jurisdiction</b>	<b>LORS</b>	<b>Applicability</b>	<b>Conformance Section</b>
Federal	NEPA; 42 USC 4321 – 4327; 40 CFR § 1502.25.	Analysis of potential environmental impacts on federal lands.	5.8.5.1, 5.8.1, 5.8.2
State	1978 Memorandum from the Associate Director of the US BLM	Implement significance criteria for paleontological resources.	
	California Environmental Quality Act (CEQA) Section 15064.5; California Public Resources Code § 5024, 5024.5, and 21083.2; Title 14, CCR § 15126.4 Cal. Pub. Res. Code § 5097.5	Formal findings by the lead state agency regarding project-related effects to important paleontological resources.	5.8.5.2, 5.8.1, 5.8.2
Local	Los Angeles County General Plan (Los Angeles County 1980).	This code section makes it a misdemeanor to remove without authorization paleontological remains on sites located on public lands	5.8.5.2, 5.8.1, 5.8.2, 5.8.3
	Los Angeles County Code Title 22; Chapter 22.56.215 Section F1b.	Provides policies to protect and identify historical, archaeological, paleontological, geological and significant architectural structures.	5.8.5.3, 5.8.1, 5.8.3
	City of El Segundo Planning Department	Requires projects in hillside management areas be compatible with the natural, biotic, cultural, scenic and open space resources of the area.	5.8.5.3, 5.8.1, 5.8.3
	City of Manhattan Beach Community Development Department	The city follows all provisions of CEQA and requires notification of significant paleontological findings to the administering city or state agency.	5.8.5.3, 5.8.3
	Los Angeles City Planning Department	The city follows all provisions of CEQA and will be notified of significant paleontological findings.	5.8.5.3, 5.8.3
Industry	None applicable.	The city follows all provisions of CEQA and will be notified of significant paleontological findings.	5.8.5.3, 5.8.3
		--	5.8.5.4

\* This project is not a Federal undertaking at this time and is not expected to trigger any of the Federal LORS described herein

### **5.8.5.2 State Authorities and Administering Agencies**

**California Environmental Quality Act (CEQA) Section 15064.5; California Public Resources Code § 5024, 5024.5, and 21083.2; Title 14, CCR § 15126.** CEQA addresses the treatment of cultural resources that could be affected by the project, the evaluation of the importance of these resources, the assessment of project impacts to important resources, and the development of a plan to avoid or address adverse effects to these resources. Formal findings of importance (for state purposes, eligibility to the California Register of Historic Places) and project effects are made by the lead state regulatory agency or, for federal undertakings, in consultation between the federal lead agency, SHPO, and the Advisory Counsel on Historic Preservation.

The administering agency for the above authority is the CEC.

**California Public Resources Code § 5097.5.** The code section makes it a misdemeanor to remove without authorization archaeological resources or paleontological remains on sites located on public lands (Stats. 1965, c. 1136, p. 2792).

The administering agency for the above authority is the Los Angeles County Planning Department.

### **5.8.5.3 Local Authorities and Administering Agencies**

#### **Los Angeles County General Plan: General Provisions**

The Los Angeles general plan (Los Angeles County 1980) encourages cultural heritage resources to be identified and protected. These resources include historical, archaeological, paleontological and geological sites, and significant architectural structures. The county promotes public awareness and use of cultural heritage sites consistent with the protection of these resources. Los Angeles County supports the mitigation of damage to archaeological and paleontological resources, which may include excavation and deposition of specimens in scientific institutions. The county offers various techniques to protect and enhance cultural heritage resources including land use regulations, historic district zoning, conservation and open space easements, registration in the National Register, transfer of development rights, and public acquisition. Per Ms. Annie Lin of Los Angeles County Planning, the County of Los Angeles follows all provisions of the CEQA.

The administering agency is Los Angeles County.

### **Los Angeles County Code**

In the Los Angeles County, Title 22: Planning and Zoning, Chapter 22.56.215 refers to regulations in hillside management and significant ecological areas. Section F(1)(b) requires proposed projects in hillside management areas be compatible with the natural, biotic, cultural, scenic and open space resources of the area.

The administering agency is Los Angeles County.

### **City of El Segundo**

Per Mr. Enrique Huerta of the El Segundo City planning department, the city of El Segundo follows all provisions of CEQA. Upon discovery of areas of potential cultural, archaeological and paleontological significance, the city requires notification to the administering city or state agency.

The administering agency is the City of El Segundo.

### **City of Manhattan Beach**

Per Ms. Rosemary Lackow of the Manhattan Beach Community Development Department, there is no specific city legislation regarding cultural or paleontological resources. The City will follow all provisions of CEQA and require notification upon discovery of areas with potential cultural and paleontological significance.

The administering agency is the City of Manhattan Beach.

### **City of Los Angeles**

The City of Los Angeles Planning Department is unaware of any city LORS pertaining to cultural or paleontological resources. The City will follow all provisions of CEQA and require notification upon discovery of areas with potential cultural and paleontological significance.

The administering agency is the City of Los Angeles.

#### **5.8.5.4 Industry Codes and Standards**

No laws, ordinances, regulations, standards or codes are applicable.

**5.8.5.5 Agencies and Agency Contacts**

The agencies and agency contacts are included in Table 5.8-5.

**TABLE 5.8-5****AGENCY CONTACTS**

<b>Agency</b>	<b>Contact</b>	<b>Title</b>	<b>Telephone</b>
City of El Segundo Community Economic and Development Department	Mr. Enrique Huerta	Planning Technician	310-322-4670
City of Manhattan Beach Community Development Department	Ms. Rosemary Lackow	Senior Planner	310-802-5515
California Native American Heritage Commission	Mr. Rob Wood	Associate Government Program Analyst	916-653-4082
California Department of Parks and Recreation Office of Historic Preservation	Kim Leads	Secretary	916-653-8551

**5.8.5.6 Applicable Permits**

No permit requirements have been identified at the federal, state, or local level that would be required of this project (See Table 5.8-6).

**TABLE 5.8-6****APPLICABLE PERMITS**

<b>Jurisdiction</b>	<b>Potential Permit Requirements</b>
Federal	No applicable permits have been identified.
State	No applicable permits have been identified.
Local	No applicable permits have been identified.

### 5.8.6 References

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Adequacy Issue: Adequate \_\_\_\_\_ Inadequate \_\_\_\_\_  
 Technical Area: **Paleontological Resources**  
 Project Manager: \_\_\_\_\_

**DATA ADEQUACY WORKSHEET**

Revision No. 0 Date \_\_\_\_\_  
 Technical Staff: \_\_\_\_\_  
 Technical Senior: \_\_\_\_\_

Project: \_\_\_\_\_  
 Docket: \_\_\_\_\_

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Sections 5.8.1.1, 5.8.1.2, 5.8.1.3, 5.8.1.4.2, 5.8.1.4.3, 5.8.2, 5.8.2.2, 5.8.2.3, 5.8.2.4, 5.8.4  Appendix L L-3 through L-16		
Appendix B (g) (16) (A)	Identification of the physiographic province and a brief summary of the geologic setting, formations, and stratigraphy of the project area. The area may vary depending on the depositional history of the area.	Section 5.8.1.3  Appendix L L-5, L-6		
Appendix B (g) (16) (B)	A discussion of the sensitivity of the project area described in subsection (g)(16)(A) and the presence and significance of any known paleontologic localities or other paleontologic resources within or adjacent to the project.	Section 5.8.1.3  Table 5.8-2; Figure 5.8-1; Appendix L L-7 through L-10; Figure L-1; Table L-2		
Appendix B (g) (16) (C)	A summary of all literature searches and field surveys used to provide information about paleontologic resources in the project area described in subsection (g)(16)(A). Identify the dates of the surveys, methods used in completing the surveys, and the names and qualifications of the individuals conducting the surveys.	Appendix L(A)1 5.8.3 through 5.8.5; 5.8-11 through 5.8-12  Sections 5.8.1.3, 5.8.1.4.1  Appendix L L-3, L-5, L-6, L-8 through L-10		

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate \_\_\_\_\_  
 Technical Area: **Paleontological Resources**  
 Project Manager: \_\_\_\_\_

**DATA ADEQUACY WORKSHEET**

Revision No. 0 Date \_\_\_\_\_  
 Technical Staff: \_\_\_\_\_  
 Technical Senior: \_\_\_\_\_

Project: \_\_\_\_\_  
 Docket: \_\_\_\_\_

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (16) (D)	Information on the specific location of known paleontologic resources, survey reports, locality records, and maps at a scale of 1:24,000, shall be included in a separate appendix to the Application and submitted to the Commission under a request for confidentiality, pursuant to Title 20, California Code of Regulations, § 2501 et seq.	Appendix L Figure L-1; L-8 through L-10 Appendix L(A)1		
Appendix B (g) (16) (E)	A discussion of any educational programs proposed to enhance awareness of potential impacts to paleontological resources by employees, measures proposed for mitigation of impacts to known paleontologic resources, and a set of contingency measures for mitigation of potential impacts to currently unknown paleontologic resources.	Appendix L L-13		
Appendix B (h) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;	Sections 5.8.1.1, 5.8.1.4.1, 5.8.2.3, 5.8.3, 5.8.4 Table 5.8-4		

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate \_\_\_\_\_

**DATA ADEQUACY WORKSHEET**

Revision No. 0 Date \_\_\_\_\_

Technical Area: **Paleontological Resources**

Project: \_\_\_\_\_

Technical Staff: \_\_\_\_\_

Project Manager: \_\_\_\_\_

Docket: \_\_\_\_\_

Technical Senior: \_\_\_\_\_

<b>SITING REGULATIONS</b>	<b>INFORMATION</b>	<b>AFC PAGE NUMBER AND SECTION NUMBER</b>	<b>ADEQUATE YES OR NO</b>	<b>INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS</b>
Appendix B (h) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.8.5.5 Table 5.8-5		
Appendix B (h) (2)	A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).	Sections 5.8.5.1, 5.8.5.2, 5.8.5.3		
Appendix B (h) (3)	The name, title, telephone number, and address, if known, of an official within each agency who will serve as a contact person for the agency.	Section 5.8.5.5 Table 5.8-5		
Appendix B (h) (4)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.8.5.6 Table 5.8-6		