

April 10, 2025

Ryan Birdseye, Principal  
Birdseye Planning Group, LLC  
P.O. Box 1956  
Vista, CA 92085  
[ryan@birdseyeplanninggroup.com](mailto:ryan@birdseyeplanninggroup.com)

**RE: Paleontological Resources Assessment for the 901 Mission Avenue Project, City of Oceanside, San Diego County, California**

Dear Ryan:

South Environmental conducted a paleontological resources assessment for the 901 Mission Avenue Project in the City of Oceanside, San Diego County, California. The purpose of this assessment was to describe the results of a paleontological resources literature review and records search, summarize the paleontological sensitivity of the geologic units within the project site, assess the potential for the project to impact scientifically significant paleontological resources, and provide recommendations consistent with standard City conditions of approval for similar projects to avoid or reduce project-related impacts to paleontological resources.

## Project Location and Description

The project is at 901 Mission Avenue in the City of Oceanside, California, a currently undeveloped approximately 1.5-acre property. The project site is located on the United States Geological Survey (USGS) *Oceanside, California* 7.5-minute Quadrangle Map in Sections 23 and 26 of Township 11 South and Range 05 West, San Bernardino Base and Meridian (see Figure 1). The proposed project would develop a new six-story mixed-use development with residential units over street-level retail spaces and subterranean parking levels at the subject addresses. The estimated maximum depth of disturbance is 25 to 30 feet below current ground level. The project site is a block bounded by Mission Avenue on the northwest, Horne Street on the northeast, Seagaze Avenue on the southeast, and Clementine Street on the southwest.



Source: ESRI USA Topo Maps and World Topo Map 2024

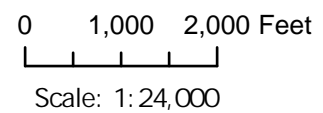
901 Mission Avenue Oceanside

# 1. Project Location Map

Project Site

Project Location is within Oceanside, California, in San Diego County on the USGS Oceanside 7.5-minute quadrangle map in Section 26 of Township 11 South and Range 05 West

Center Coordinate (Decimal Degrees):  
 Latitude: 33.1975010N Longitude: -117.3757811W



## Regulatory Context

Paleontological resources are generally considered non-renewable scientific resources because they cannot be replaced once damaged or destroyed, and considerable scientific information can be lost should they be disturbed or displaced from their original location and geologic context without a proper record of their original placement and arrangement in their natural sediments. For this reason, fossils are typically protected under a variety of federal, state, and local laws and regulations to ensure that these basic scientific considerations are made and carried out whenever paleontological resources are going to be disturbed. The pertinent laws and regulations governing paleontological resources are discussed in this section.

### State Laws and Regulations

#### California Public Resources Code (PRC)

Section 5097.5 of the PRC states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this PRC section, 'public lands' means lands owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof.

Therefore, public agencies are required to comply with PRC Section 5097.5 for their activities including construction and maintenance as well as for permit actions (e.g., encroachment permits) undertaken by others.

### Paleontological Resource Definitions

Toward the goal of providing guidance to federal, state, and local agencies in carrying out environmental assessments, the Society of Vertebrate Paleontology (SVP) has created a set of definitions to determine the significance of paleontological resources. Significant paleontological resources are defined as follows:

Fossils and fossiliferous deposits consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older

than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). (SVP, 2010)

By this definition, significant paleontological resources are fossils (or fossil assemblages) that are unique, unusual, rare, diagnostically important, or even common with the potential to provide additional scientific information about evolutionary patterns or the paleoenvironmental conditions of a site. This includes fossils that may enhance our understanding of depositional histories, evolutionary trends and patterns within lineages, information regarding palaeoecological environments, that can be used to identify the sedimentary rock units that they are within, or fossils that are unique to a particular geologic region. For this reason, even common or unidentifiable invertebrate and vertebrate fossil remains may be considered scientifically significant, particularly within the larger context of a geologic area from which many specimens have previously been collected and examined.

For additional information relating to the determination of the potential significance of paleontological resources based on SVP guidelines, please see Attachment A: Paleontological Resource Potential Classifications. These definitions have been used to determine the potential paleontological sensitivity of the project site.

# Paleontological Sensitivity Determination Methods

To assess the paleontological sensitivity of the project site and determine its placement within the definitions provided by the SVP, several sources of recorded data were examined:

- 1) Published geologic maps of the project site and surrounding vicinity.
- 2) A collections record search was performed by the San Diego Natural History Museum (SDNHM) to identify previously collected localities within one mile of the project site.
- 3) Searches of the following on-line databases were performed to determine additional fossil sites recorded within one mile of the project site:
  - a. University of California Museum of Paleontology (UCMP) Collections
  - b. The Paleobiology Database
  - c. iDigBio
- 4) Additional published and unpublished paleontological literature pertaining to the project site and the surrounding vicinity.

## Geological Context

### Geologic Setting

The project site sits within the Peninsular Ranges Geomorphic Province. The Peninsular Ranges is a region that is approximately 125 miles in length and bound to the north by the Transverse Ranges, stretching to Baja California in the south. It contains northwest trending valleys and is bordered on the east by the Colorado Desert (California Geological Survey, 2002). The project site is located on a sequence of marine and nonmarine rocks of nearshore and marine deposits (Demere and Walsh, 1993) and older terrestrial deposits that currently sit upon wave-cut terraces created by regional uplift (Demere and Walsh, 1993; Kennedey and Tan, 2007).

### Site Specific Geology and Paleontology

Published geologic maps (Kennedy and Tan, 2007) indicate that the project site is located on Pleistocene-aged old paralic deposits, Units 6-7, which have been found to be broadly equivalent to the Bay Point Formation of Kennedy (1975) (see Figures 2 and 3). These paralic deposits are described by Kennedy and Tan (2007) as being "poorly sorted, moderately permeable, reddish-brown, interfingered strandline, beach, estuarine and colluvial deposits composed of siltstone, sandstone and conglomerate."

Similar deposits near the project site have produced a variety of marine invertebrates including crustaceans, echinoids, and molluscs (Stephens, 1929; Grant and Gale, 1931; Emerson and Chace, 1959; Valentine, 1960, 1961; Kern 1977) as well as vertebrate remains including bony fish, rays and

sharks (Jefferson, 1991), and even camel, horse and mammoth from more inland deposits (Grant and Hertlein, 1944; Demere and Walsh, 1993).

Finally, a large number of invertebrate and vertebrate fossil remains have been discovered in the Bay Point Formation specifically, of which the Pleistocene-aged old paralic deposits of the project site are broadly equivalent to. Therefore, these rock units are considered to be of high paleontological sensitivity due to the diverse and well-preserved assemblage of fossils collected from them (Demere and Walsh, 1993).

Summary of Geologic Units in the Project Site and their Paleontological Sensitivity

<b>Geologic Units</b>	<b>Map Abbr.<sup>1</sup></b>	<b>Age</b>	<b>Fossils<sup>2</sup></b>	<b>Sensitivity</b>
Old paralic deposits – Units 6-7	Qop6-7	Pleistocene	Gastropoda, Bivalvia, Theocostraca, Echinoidea, Scaphopoda, Malacostraca, Mollusca	High

<sup>1</sup>Kennedy and Tan, 2007.

<sup>2</sup>DigBio, 2024; PBDB, 2024, Mueller, 2024; UCMP, 2024





Source: ESRI USA Topo Maps and World Topo Map 2024

901 Mission Avenue Project

## Figure 2. Project Geology Map

- ▭ Project Site
- ▭ Geologic Units



0 1,000 2,000 Feet  
 Scale: 1: 24,000



Project Location is within Oceanside, California, in San Diego County on the USGS Oceanside 7.5-minute quadrangle map in Section 26 of Township 11 South and Range 05 West

Center Coordinate (Decimal Degrees):  
 Latitude: 33.1975010N Longitude: -117.3757811W





Source: BING Map 2024

901 Mission Avenue Oceanside

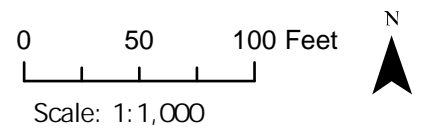
Figure 3. Detail of Project Geology

 Project Site

Geologic Units

 Qop2-4

 Qop6-7



## Records Search Results

The SDNHM conducted a search of its paleontological records (Mueller 2024) for all fossil localities recorded within one mile of the project site, finding three within its records. South Environmental also performed a record search of several online databases for all fossil localities recorded within one mile of the project site. The results of the records and online database searches are summarized below:

Source*	Localities	Age/Formation	Taxa	Depth	Distance
SDNHM <sup>1</sup>	7676	Bay Point Fm.	Baleen whale (rib)	25 ft	½ mile
	2811, 3149	San Mateo Fm.	Not described	-	½ mile
UCMP	18	Bay Point Fm.	Invertebrates, Microfossils	-	1 mile
PBDB	G&H 1938 <sup>2</sup>	Pliocene	Gastropoda, Bivalvia, Theocostraca, Echinoidea, Scaphopoda	-	1 mile
	N 1975 <sup>3</sup>	Bay Point Fm.	Malacostraca	-	1 mile
iDigBio	None	-	-	-	-

\*SDNHM = San Diego Natural History Museum records search; UCMP = University of California Museum of Paleontology Collections Online Database; PBDB = Paleobiology Online Database; iDigBio = iDigBio Online Database

<sup>1</sup>Mueller, 2024

<sup>2</sup>Grant and Hertlein, 1938

<sup>3</sup>Nations, 1975

## Field Analysis Methods

Although outside the scope of work, South Environmental's Senior Paleontologist was in the project vicinity on May 5, 2024, so a field observation was conducted of the project site from outside the fence. A full field survey was not conducted nor was it necessary for this study.

## Results

### Field Observation

The field observation confirmed that a field survey was unnecessary. The entire project site is covered in thick vegetation, and a paved road divides the project site into two equal sections (Photographs 1 and 2). While sediment was exposed at a few small locations, these areas appeared to consist entirely of previously worked fill materials, and thus not paleontologically significant, nor are they likely to contain any salvageable fossil materials.

### Geology Exposure Status

There were no visible bedrock exposures present within the project site. All soil exposed at the surface appeared to be previously reworked fill material, and thus not likely to yield any pertinent information regarding the geology of the area.



**Photo 1. From center of project site, facing southeast.**



**Photo 2. From center of project site, facing northwest with paved road in the foreground.**

## Paleontological Sensitivity Analysis

Although no bedrock exposures and no fossil specimens were observed on the surface, the project site is located atop the Pleistocene-aged old paralic deposits (Qop) of Units 6 and 7 (Kennedy and Tan, 2007), which are considered to be very similar to other rock units in the area, such as the Bay Point Formation, that are of high sensitivity for scientifically significant paleontological resources (Demere and Walsh, 1993). This is further supported by the number of previously recorded fossil localities identified within a one-mile radius of the project site, many of which are considered to be scientifically significant. This sensitivity ranking is also consistent with the recommendations provided by the SDNHM as part of their records search results, that the underlying old paralic deposits be considered of “high paleontological sensitivity for the diverse and well-preserved fossils of marine invertebrates, marine vertebrates, and occasional terrestrial vertebrates” discovered in deposits similar to these (Mueller, 2024). Additionally, the project plan notes that the intent is to construct subterranean parking on the site, which would very likely necessitate the disturbance of large amounts of underlying sediments in the area that may not have been disturbed by previous construction activities at the site. Therefore, following the guidelines prepared by the SVP (2010), the project site and its underlying sediments are considered to be of High Potential for yielding scientifically significant fossil materials.

## Findings

Although no scientifically significant fossil materials were discovered in the project site, either during the field observation or in the records searches of previously recorded fossil localities, the underlying sediments are still considered to be of High Potential for yielding scientific fossils, based on the records search and literature review performed by the SDNHM (2024) and South Environmental. The project will include excavation and grading activities for the creation of a seven-story structure with subterranean parking. Consistent with standard City conditions of approval for similar projects, the project will be required to retain a Qualified Paleontologist to implement the following City of Oceanside standard conditions for addressing paleontological resources.

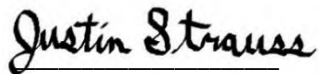
- 1) Prior to the beginning of any ground disturbing activities, the Qualified Paleontologist should conduct a Paleontological Awareness Training Program for all personnel. The program should include descriptions of potential fossil resources that may be encountered in the project site during earth-moving activities, a discussion of the pertinent laws and regulations relating to said paleontological resources in the area, and a review of the steps that should be taken if a fossil discovery is made.
- 2) Full-time paleontological resource monitoring should be performed by a paleontological monitor under the direction of a Qualified Paleontologist during said activities. Monitoring should involve the visual inspection of all earth-moving activities, graded areas, trench sidewalls, and spoils piles. If the Qualified Paleontologist determines that full-time monitoring is no longer required based on the geologic conditions of the site, monitoring be reduced or stopped entirely.
- 3) Should fossil materials be discovered, the paleontological monitor shall have the authority to temporarily halt or divert construction activities and equipment in a 50-foot radius around the discovery to further assess the discovery. Should the fossils be determined to be of scientific significance, they should be collected as soon as possible. Standard field procedures should be used in the collection of the fossils to ensure that no scientific data is lost in the recovery process.

An accredited repository (typically a museum) should be identified for the long-term storage and care of any qualifying fossil specimens discovered during paleontological monitoring. Upon completion of the project, collected fossil specimens should be prepared to the standards required by the repository that has agreed to take them and delivered as soon as is feasible upon completion of the preparatory work.

4) Upon completion of paleontological monitoring, the Qualified Paleontologist shall prepare a final monitoring report to be submitted to the City, the developer, and the repository (if there is one). This report should detail the monitoring activities and methods used during construction, a description of the construction activities that took place, stratigraphic sections created during monitoring, a review of any fossils discovered (whether or not they were deemed significant and collected), a detailed description of the fossils that were collected including their scientific significance, and information relating to the repository where the fossils will be curated.

Thank you for working with South Environmental on this project. If you have any questions about this paleontological resources assessment, please feel free to call me at (626) 314-2961 or email me [jstrauss@southenvironmental.com](mailto:jstrauss@southenvironmental.com).

Respectfully Submitted,



Justin J. Strauss, MS  
Principal Paleontologist

*Attachments:*

*Attachment A. Paleontological Resource Potential Classifications*

*Attachment B. San Diego Natural History Museum Records Search*

## References

- California Geological Survey, 2002, CGS Note 36: California Geomorphic Provinces, Electronic document, <https://www.conservation.ca.gov/cgs/documents/publications/cgs-notes/CGS-Note-36.pdf> (accessed May 2024).
- Deméré, T.A., and Walsh, S.L., 1993, Paleontological Resources, County of San Diego: Prepared for the San Diego Planning Commission, 68 p.
- Emerson, W.K., and Chace, E.P., 1959, Pleistocene mollusks from Tecolote Creek, San Diego, California: San Diego Society of Natural History, Transactions, v. 12, p. 335–345.
- iDigBio, 2024, iDigBio: Integrated Digitized Biocollections: iDigBio Specimen Portal, <http://portal.idigbio.org/portal> (accessed May 2024).
- Grant, U.S., IV, and Gale, H.R., 1931, Catalogue of the marine Pliocene and Pleistocene Mollusca of California: San Diego, San Diego Society of Natural History, Memoirs of the San Diego Society of Natural History Volume 1.
- Grant, U.S. and Hertlein, L.G., 1938. The West American Cenozoic Echinoidea. Publications of the University of California at Los Angeles in Mathematical and Physical Sciences 2:1-225
- Grant, U.S., IV, and Hertlein, L.G., 1944, The geology and paleontology of the marine Pliocene of San Diego, California, Part 1, Geology: San Diego, San Diego Society of Natural History, Memoirs of the San Diego Society of Natural History Volume 2.
- Kennedy, M.P. 1975. Geology of the San Diego metropolitan area, California. Section A - Western San Diego metropolitan area. California Division of Mines and Geology, Bulletin 200: 9–39.
- Kennedy, M.P., and Tan, S.S., 2007, Geologic map of the Oceanside 30' × 60' quadrangle and adjacent areas, California: California Geological Survey, California Department of Conservation Regional Geologic Map Series, Map No. 2, scale 1:100,000.
- Kern, J.P., 1977, Origin and history of upper Pleistocene marine terraces, San Diego, California: GSA Bulletin, v. 88, p. 1533–1566.
- Mueller, K., 2024, Unpublished museum collections records for the 901 Mission Avenue project: San Diego Natural History Museum.
- Nations, J.D., 1975, The genus *Cancer* (Crustacea: Brachyura): systematics, biogeography and fossil record. Natural History Museum of Los Angeles County Science Bulletin 23:1-104

Paleobiology Database [PBDB], 2024, The Paleobiology Database: About the PBDB, <https://paleobiodb.org/#/> (accessed May 2024).

Society of Vertebrate Paleontology [SVP], 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources: Society of Vertebrate Paleontology, Impact Mitigation Guidelines Revision Committee, [https://vertpaleo.org/wp-content/uploads/2021/01/SVP\\_Impact\\_Mitigation\\_Guidelines-1.pdf](https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf) (accessed May 2024).

Stephens, F., 1929, Notes on the marine Pleistocene of San Diego County, California: San Diego Society of Natural History, Transactions, v. 5, p. 245–256.

University of California Museum of Paleontology [UCMP], 2024, UCMP Specimen Search: University of California Museum of Paleontology, <https://ucmpdb.berkeley.edu/> (accessed May 2024).

Valentine, J.W., 1960, Habitats and sources of Pleistocene mollusks at Torrey Pines Park, California: Ecology, v. 41, p. 161–165, doi:10.2307/1931949.

Valentine, J.W., 1961, Paleoecologic molluscan geography of the California Pleistocene: University of California Publications in Geological Sciences, v. 34, p. 309–442.

**Attachment A:**  
Paleontological Resource Potential Classifications

## Paleontological Resource Potential Classifications

When specific agency guidelines are not provided regarding the protection and preservation of paleontological resources, professional paleontologists in California will refer to the guidelines set forth by the Society of Vertebrate Paleontology (SVP) in order to determine the level of mitigation activities necessary for a particular project. These assessments are made by examining the geologic units in the area, known paleontological sites and localities recorded in the vicinity, and references made to the area by published literature. Based on the results of these analyses, the paleontological resource potential of the geology in the area can be classified into one of four categories: High Potential, Low Potential, Undetermined Potential, and No Potential. Although these guidelines were created specifically for vertebrate fossil remains, they have generally been adopted for use in all fields of paleontology. The definitions for these categories are listed below:

### High Potential

Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcanoclastic formations (e. g., ashes or tephra), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.

### Low Potential

Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.

### Undetermined Potential

Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

### No Potential

Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

### **Reference:**

Society of Vertebrate Paleontology [SVP], 2010, Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources: Society of Vertebrate Paleontology, Impact Mitigation Guidelines Revision Committee, [https://vertpaleo.org/wp-content/uploads/2021/01/SVP\\_Impact\\_Mitigation\\_Guidelines-1.pdf](https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf) (accessed May 2024).

## **Attachment B:**

### San Diego Natural History Museum Records Search

# SAN DIEGO NATURAL HISTORY MUSEUM

1 April 2024

Kevin Hunt  
South Environmental  
2061 N Los Robles Avenue  
Pasadena, CA 91104

RE: Paleontological Records Search – 901 Mission Avenue

Dear Mr. Hunt:

This letter presents the results of a paleontological records search conducted for the 901 Mission Avenue project (Project), located in the northwestern portion of the City of Oceanside, San Diego County, California. The 1.96-acre Project site is bordered to the northwest by Mission Avenue, to the northeast by Horne Street, to the southeast by Seagaze Drive, and to the southwest by Clementine Street.

## Methods

A review of published geological maps covering the Project site and surrounding area was conducted to determine the specific geologic units underlying the Project site. Each geologic unit was subsequently assigned a paleontological resource sensitivity (Deméré and Walsh, 1993). In addition, a search of the paleontological collection records housed at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur at the Project site or within the immediate surrounding area.

## Results

Published geological reports (e.g., Kennedy and Tan, 2007) covering the Project area indicate that the proposed Project has the potential to impact late Pleistocene-age old paralic deposits, Units 6-7 (broadly equivalent to the Bay Point Formation of Kennedy, 1975). This geologic unit and its paleontological sensitivity are summarized below.

The SDNHM has three recorded fossil collection localities that lie within ½ mile of the Project site, one of which is from the Bay Point Formation. This locality is discussed in more detail below. The remaining two fossil collection localities are from the San Mateo Formation, which is not expected to be impacted by Project earthwork. A map (Figure 1) and list (Appendix A) of the fossil localities are attached at the end of this report.

**Old paralic deposits, Units 6-7 (Bay Point Formation)** – Old paralic deposits, Units 2-6 of late Pleistocene age (approximately 120,000 to 80,000 years old) underlie the entire Project site at the surface, and are broadly equivalent to the nearshore marine deposits of the Bay Point Formation of Kennedy (1975). The SDNHM has one fossil collection locality from the Bay Point Formation within a ½-mile radius of the Project site. This locality, which was discovered during the construction of the Oceanside Beachfront Resort project, produced the rib of a baleen whale (Locality 7676, recovered in-situ from a stratum located 25 feet below the surface). More broadly, the Bay Point Formation has been assigned a high paleontological sensitivity for the diverse and well-preserved fossils of marine

invertebrates, marine vertebrates, and occasional terrestrial vertebrates that have been recovered from these deposits in western San Diego County.

### Summary and Recommendations

The presence of fossil collection localities in the Project vicinity and the high paleontological sensitivity of the Bay Point Formation in San Diego County (Deméré and Walsh, 1993) suggests the potential for construction of the proposed Project to result in impacts to paleontological resources. Any proposed excavation activities that extend deep enough to encounter previously undisturbed deposits of this geologic unit (i.e., below the depth of any previously imported artificial fill or disturbed sediments present within the Project site) have the potential to impact the paleontological resources preserved therein. If such excavation is required for Project construction, implementation of a complete paleontological resource mitigation program during ground-disturbing activities is recommended.

The fossil collection locality information contained within this paleontological record search should be considered private and is the sole property of the San Diego Natural History Museum. Any use or reprocessing of information contained within this document beyond the scope of the 901 Mission Avenue project is prohibited.

If you have any questions concerning these findings please feel free to contact me at [kmueller@sdnhm.org](mailto:kmueller@sdnhm.org).

Sincerely,



Kirstin Mueller  
Assistant Report Writer  
San Diego Natural History Museum

*Enc: Figure 1: Project map  
Appendix A: List of SDSNH fossil localities in the vicinity of the Project*

### Literature Cited

- Deméré, T.A., and S.L. Walsh. 1993. Paleontological Resources, County of San Diego. Unpublished technical report prepared for the San Diego County Department of Public Works: 1–68.
- Kennedy, M.P. 1975. Geology of the San Diego metropolitan area, California. Section A - Western San Diego metropolitan area. California Division of Mines and Geology, Bulletin 200: 9–39.
- Kennedy, M.P., and S.S. Tan. 2007. Geologic Map of the Oceanside 30' x 60' Quadrangle, California. California Geological Survey, Regional Geologic Map Series 1:100,000 scale, map no. 2.
- SDNHM, unpublished paleontological collections data.



Figure 1: Records Search Map, 901 Mission Avenue, City of Oceanside, San Diego County, CA

**Appendix A: Locality List**  
 San Diego Natural History Museum  
 Department of Paleontology

Locality Number	Locality Name	Location	Elevation (feet)	Geologic Unit	Era	Period	Epoch
7676	Oceanside Beachfront Resort	City of Oceanside, San Diego County, California	15.1	Bay Point Formation, Bird Rock Terrace	Cenozoic	Quaternary	late Pleistocene
2811	Lawrence Canyon	City of Oceanside, San Diego County, California	0	San Mateo Formation, lower sandstone unit	Cenozoic	Neogene	late Miocene
3149	Lawrence Canyon	San Diego County, California	25	San Mateo Formation, lower sandstone unit	Cenozoic	Neogene	late Miocene