PALEONTOLOGICAL ASSESSMENT FOR THE 7400 EAST SLAUSON AVENUE PROJECT

CITY OF COMMERCE
LOS ANGELES COUNTY, CALIFORNIA

APN 6356-016-022

Prepared on Behalf of:

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Prepared for:

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Planning Division
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Prepared by:

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July 9, 2021; Revised February 17, 2023

Paleontological Database Information

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Report Date:	July 9, 2021; Revised February 17, 2023
Report Title:	Paleontological Assessment for the 7400 East Slauson Avenue Project, City of Commerce, Los Angeles County, California
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Prepared for:	City of Commerce Planning Division 2535 Commerce Way Commerce, California 90040
Prepared by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064
Assessor's Parcel Number:	6356-016-022
USGS Quadrangle:	*South Gate, California* (7.5 minute)
Study Area:	13.93 acres
Key Words:	Paleontological assessment; late Pleistocene alluvial fan deposits; High sensitivity; City of Commerce.

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I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the 7400 East Slauson Avenue Project located southwest of the intersection of East Slauson and Greenwood avenues in the city of Commerce, Los Angeles County, California (Figures 1 and 2). The 13.93-acre project occupies Assessor's Parcel Number (APN) 6356-016-022. On the United States Geological Survey 7.5-minute, 1:24,000-scale *South Gate, California* topographic quadrangle map, the project is located in unsectioned Township 2 South, Range 12 West (projected), San Bernardino Baseline and Meridian (see Figure 2). The project will include the construction of a 285,839-square-foot warehouse with 31 dock doors and 72 trailer parking spaces, associated parking, hardscape, and a stormwater detention basin. According to the geotechnical report for the project by Leon and Trazo (2020), "No significant amounts of below-grade construction, such as basements or crawl spaces, are expected to be included in the proposed development." Currently, the subject property is developed with several commercial and industrial buildings surrounded by pavement.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), which is patterned after the National Environmental Policy Act, is the overriding environmental regulation that sets the requirement for protecting California's paleontological resources. CEQA mandates that governing permitting agencies (lead agencies) set their own guidelines for the protection of nonrenewable paleontological resources under their jurisdiction.

State of California

Under "Guidelines for Implementation of CEQA," as amended in December 2018 (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3, Sections 15000 et seq.), procedures define the types of activities, persons, and public agencies required to comply with CEQA. Section 15063 of the CCR provides a process by which a lead agency may review a project's potential impact to the environment, whether the impacts are significant, and provide recommendations, if necessary.

In CEQA's Environmental Checklist Form, one of the questions to answer is, "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (Appendix G, Section VII, Part f). This is to ensure compliance with California Public Resources Code Section 5097.5, the law that protects nonrenewable resources, including fossils:

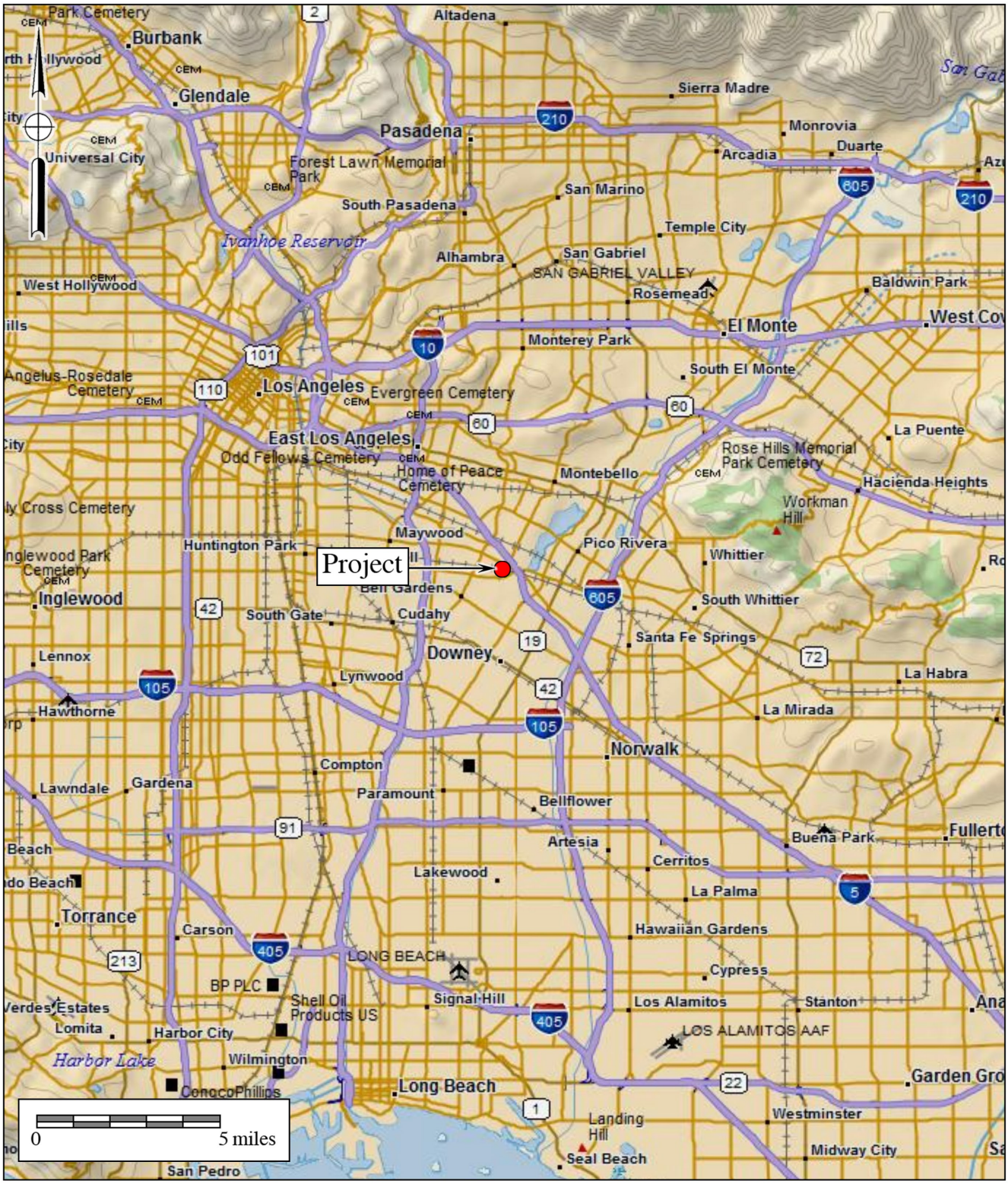


Figure 1

General Location Map

The 7400 East Slauson Avenue Project

DeLorme (1:250,000 series)

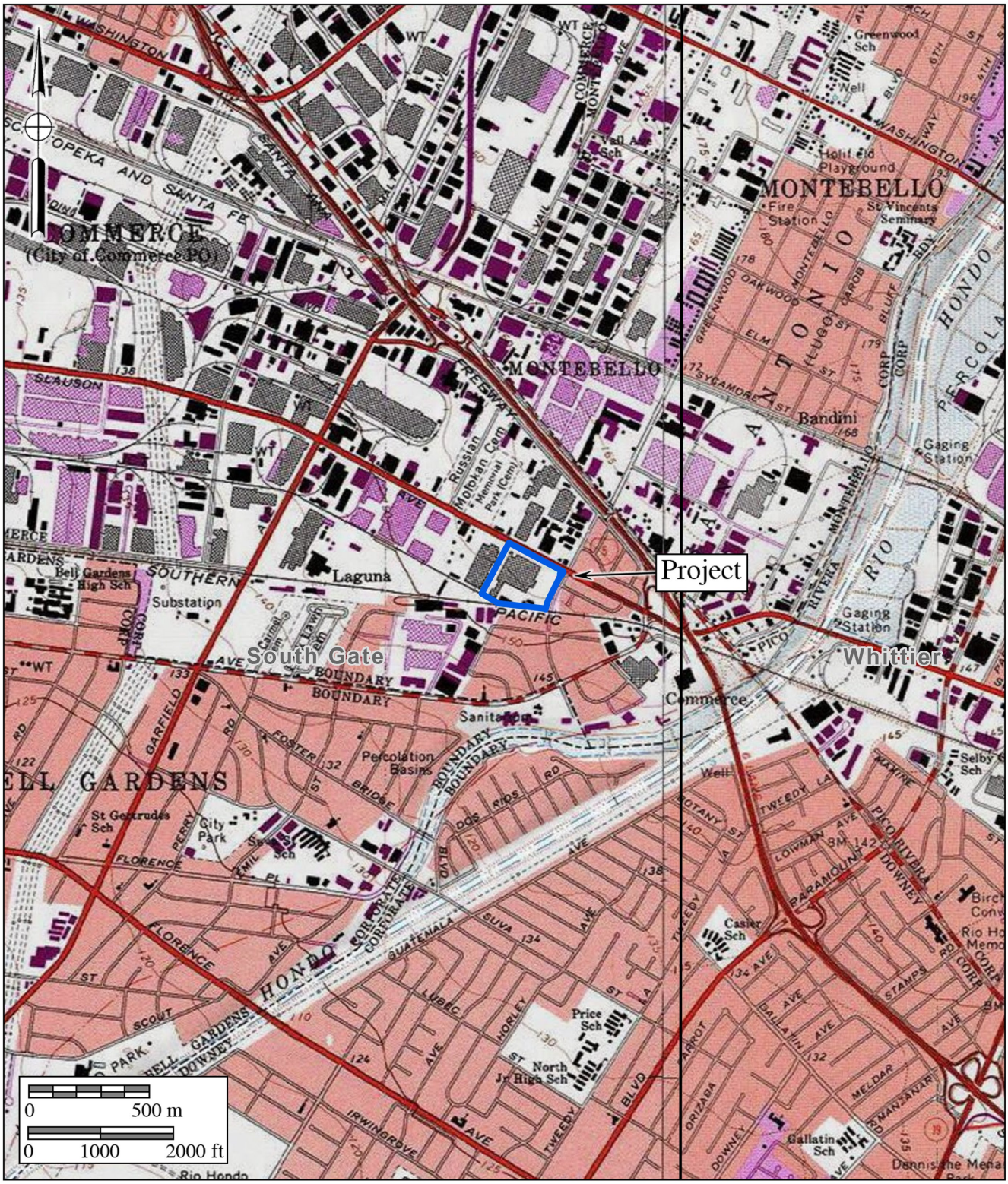


Figure 2

Project Location Map

The 7400 East Slauson Avenue Project

USGS *South Gate* and *Whittier* Quadrangles (7.5-minute series)

a) A person shall not 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, rock art, 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.
b) As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.
c) A violation of this section is a misdemeanor.

City of Commerce

Sections 6 ("Resource Management Element") and 9 ("Implementation Element") of the City of Commerce 2020 General Plan include language addressing paleontological resources (City of Commerce 2020). Section 6 identifies the State of California's requirements and natural resources under consideration by the City, while Section 9 serves as a guide for implementation of the General Plan. Both sections use the same text regarding paleontology:

> *Cultural Resource Management.* Should archaeological or paleontological resources be encountered during excavation and grading activities, all work would cease until appropriate salvage measures are established. Appendix K of the California Environmental Quality Act (CEQA) Guidelines shall be followed for excavation monitoring and salvage work that may be necessary. Salvage and preservation efforts will be undertaken pursuant to Appendix K requirements outlined in CEQA. (City of Commerce 2020:151, 183)

III. GEOLOGY

The project is located within the Central Basin of the larger Los Angeles Basin, a large structural sedimentary basin bounded and cut through by several active fault systems in the Los Angeles metropolitan area (Hillhouse et al. 2002). The concrete-lined Rio Hondo Channel is less than one mile~~s~~ to the east (see Figure 2). As mapped by Saucedo et al. (2016), the project is underlain by undivided late to middle Pleistocene old alluvial fan deposits, consisting of moderately to well consolidated, moderately sorted sand, clay, and silt (light tan area labeled as "Qof" and "Qof_4" on Figure 3, after Saucedo et al. [2016] and Campbell et al. [2014]). Campbell et al. (2014) assign a late Pleistocene age for these deposits.

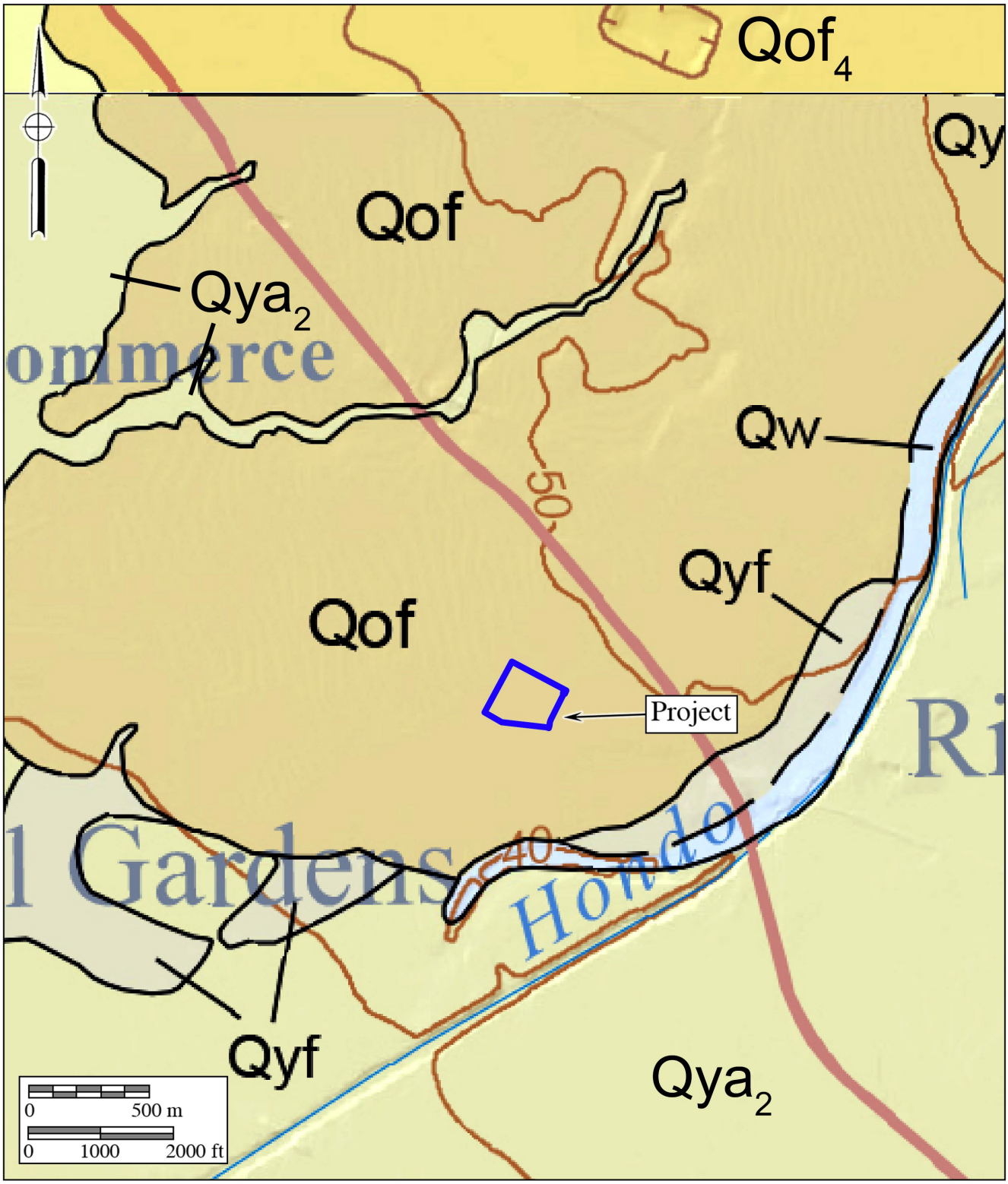


Figure 3

Geologic Map

The 7400 East Slauson Avenue Project

Geology after Campbell et al. 2014 and Saucedo et al. 2016

A project-specific geotechnical investigation was performed by Southern California Geotechnical in 2020 (Leon and Trazo 2020). Drilling and soil sampling activities indicate the project is underlain by artificial fill materials ranging in thickness from 2.5 to 6.5 feet. The fill soils are in turn underlain by alluvium and reportedly consist of clayey fine sands, fine sandy silts, silty fine sands with varying amounts of medium sand, and clayey silts and silty clays with varying fine sand content to a depth of approximately 17 feet. Between 17 feet and the maximum achieved depth of 30 feet, the sediments generally consisted of fine sands and silts.

Based on their findings, Leon and Trazo (2020) recommended that the proposed building area "be overexcavated to a depth of at least 3 feet below existing grades and to a depth of at least 3 feet below proposed building pad subgrade elevation, whichever is greater." They further conclude that "[t]he overexcavation should also extend to a sufficient depth to remove all of the artificial fill materials. Overexcavation within the foundation areas is recommended to extend to a depth of at least 3 feet below proposed foundation bearing grade" (Leon and Trazo 2020).

IV. PALEONTOLOGICAL RESOURCES

Definition

Paleontological resources are the remains of prehistoric life that have been preserved in geologic strata. These remains are called fossils and include bones, shells, teeth, and plant remains (including their impressions, casts, and molds) in the sedimentary matrix, as well as trace fossils such as footprints and burrows. Fossils are considered older than 5,000 years of age (Society of Vertebrate Paleontology 2010) but may include younger remains (subfossils), for example, when viewed in the context of local extinction of the organism or habitat. Fossils are considered a nonrenewable resource under state, county, and local guidelines (see Section II of this report).

Fossil Locality Search

A paleontological locality and records search was performed for the project by the Natural History Museum of Los Angeles County (LACM) (Bell 2021 [Appendix B]). The records search indicates that while no fossil localities were identified within the project boundaries, six localities consisting of Pleistocene vertebrate remains were identified within eight miles of the project. The closest locality, LACM VP 7702, is located approximately two and a half miles northwest of the project, consisting of fossil fish, snake, rodent, and rabbit remains. The other localities are summarized in the records search in Appendix B.

A review of published and unpublished literature was conducted for potential paleontological resources that are known in the vicinity of the project. The sources reviewed did not indicate the presence of any known fossil localities within the project. From Miller (1971) and Jefferson (1991), two nearby localities of late Pleistocene age were identified, approximately six miles northwest of the project, consisting of a tooth from a mastodon (LACM VP 1157) and a

partial jaw from a mammoth with a vertebra from a bison (LACM VP 2029).

The localities discussed above and in the records search in Appendix B (Bell 2021) that are west of the project are located in areas mapped as Holocene and late Pleistocene young alluvium, Unit 2 ("Qya_2" on Figure 3), and when known, were recovered from depths ranging from 15 to 43 feet deep below a cover of surficial Holocene sediments.

V. PALEONTOLOGICAL SENSITIVITY

Overview

The degree of paleontological sensitivity of any particular area is based on a number of factors, including the documented presence of fossiliferous resources on a site or in nearby areas, the presence of documented fossils within a particular geologic formation or lithostratigraphic unit, and whether or not the original depositional environment of the sediments is one that might have been conducive to the accumulation of organic remains that might have become fossilized over time. Holocene alluvium is generally considered to be geologically too young to contain significant nonrenewable paleontological resources (*i.e.,* fossils), and is therefore typically assigned a Low paleontological sensitivity. Pleistocene (more than 12,700 years old) alluvial and alluvial fan deposits in the Los Angeles Basin, however, often yield important Ice Age terrestrial vertebrate fossils, such as extinct mammoths, mastodons, giant ground sloths, extinct species of horse, bison, and camel, saber-toothed cats, and others (Jefferson 1991). These Pleistocene sediments are accorded a High paleontological resource sensitivity.

Professional Standards

The Society of Vertebrate Paleontology has drafted guidelines that include four categories of paleontological sensitivity for geologic units (formations) that might be impacted by a proposed project, as listed below:

- *High Potential:* Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered.
- *Undetermined Potential:* Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment; further study is needed to determine the potential of the rock unit.
- *Low Potential:* Rock units that are poorly represented by fossil specimens in institutional collections or based on a general scientific consensus that only preserve fossils in rare circumstances.
- *No Potential:* Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks and plutonic igneous rocks.

VI. CONCLUSIONS AND RECOMMENDATIONS

Research has confirmed the existence of potentially fossiliferous Pleistocene old alluvial fan deposits ("Qof" and "Qof_4" on Figure 3) that are mapped at the surface of the project. This, combined with the known occurrence of significant terrestrial vertebrate fossils from Pleistocene-aged deposits in the Los Angeles Basin and the High paleontological sensitivity rating assigned to alluvial fan deposits for yielding paleontological resources, it is recommended that paleontological monitoring be implemented during mass grading and excavation activities in undisturbed Pleistocene-aged alluvial fan deposits in order to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. Full-time monitoring of undisturbed Pleistocene alluvial fan deposits at the project is warranted starting at depth of five feet from the surface. Monitoring of disturbed soils and artificial fill is not warranted.

The following Mitigation Monitoring and Reporting Program (MMRP) guidelines, outlined below, are based on the conclusions stated above. Paleontological monitoring may be reduced upon the observations and recommendations of the qualified, professional-level project paleontologist, as defined by the Society of Vertebrate Paleontology (2010:10). The following MMRP, when implemented, would reduce potential impacts of paleontological resources to a level below significant:

1. Prior to initiation of any grading, drilling, and/or excavation activities, a preconstruction meeting will be held and attended by the paleontologist of record, representatives of the grading contractor and subcontractors, the project owner or developer, and a representative of the lead agency. The nature of potential paleontological resources shall be discussed, as well as the protocol that is to be implemented following the discovery of any fossiliferous materials.
2. Monitoring of mass grading and excavation activities in areas identified as likely to contain paleontological resources shall be performed by a qualified paleontologist, as defined by the Society of Vertebrate Paleontology (2010:10) or paleontological monitor. Starting at a depth of five feet, monitoring will be conducted full-time in areas of grading or excavation in undisturbed sediments of Pleistocene alluvial fan deposits.
3. Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid construction delays. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or, if present, are determined upon exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources. The monitor shall notify the project paleontologist, who will then notify the concerned parties of the discovery.

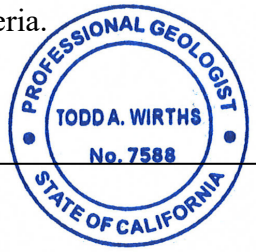
4. Paleontological salvage during trenching and boring activities is typically from the generated spoils and does not delay the trenching or drilling activities. Fossils are collected and placed in cardboard flats or plastic buckets and identified by field number, collector, and date collected. Notes are taken on the map location and stratigraphy of the site, which is photographed before it is vacated, and the fossils are removed to a safe place. On mass grading projects, discovered fossil sites are protected by flagging to prevent them from being overrun by earthmovers (scrapers) before salvage begins. Fossils are collected in a similar manner, with notes and photographs being taken before removing the fossils. Precise location of the site is determined with the use of handheld GPS units. If the site involves remains from a large terrestrial vertebrate, such as large bone(s) or a mammoth tusk, that is/are too large to be easily removed by a single monitor, a fossil recovery crew shall excavate around the find, encase the find within a plaster and burlap jacket, and remove it after the plaster is set. For large fossils, use of the contractor's construction equipment may be solicited to help remove the jacket to a safe location.
5. Isolated fossils are collected by hand, wrapped in paper, and placed in temporary collecting flats or five-gallon buckets. Notes are taken on the map location and stratigraphy of the site, which is photographed before it is vacated, and the fossils are removed to a safe place.
6. Particularly small invertebrate fossils typically represent multiple specimens of a limited number of organisms, and a scientifically suitable sample can be obtained from one to several five-gallon buckets of fossiliferous sediment. If it is possible to dry screen the sediment in the field, a concentrated sample may consist of one or two buckets of material. For vertebrate fossils, the test is usually the observed presence of small pieces of bones within the sediments. If present, as many as 20 to 40 five-gallon buckets of sediment can be collected and returned to a separate facility to wet-screen the sediment.
7. In the laboratory, individual fossils are cleaned of extraneous matrix, any breaks are repaired, and the specimen, if needed, is stabilized by soaking in an archivally approved acrylic hardener (*e.g.,* a solution of acetone and Paraloid B-72).
8. Recovered specimens are prepared to a point of identification and permanent preservation (not display), including screen-washing sediments to recover small invertebrates and vertebrates. Preparation of individual vertebrate fossils is often more time-consuming than for accumulations of invertebrate fossils.
9. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage (*e.g.,* LACM) shall be conducted. The paleontological program should include a written repository agreement prior to the initiation of mitigation activities. Prior to curation, the lead agency (*e.g.,* the City of Commerce) will be

consulted on the repository/museum to receive the fossil material.

10. A final monitoring and mitigation report of findings and significance will be prepared, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location(s). The report, when submitted to, and accepted by, the appropriate lead agency, will signify satisfactory completion of the project program to mitigate impacts to any potential nonrenewable paleontological resources (*i.e.,* fossils) that might have been lost or otherwise adversely affected without such a program in place.

VII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this paleontological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief, and have been compiled in accordance with CEQA criteria.



February 17, 2023

Todd A. Wirths
Senior Paleontologist
California Professional Geologist No. 7588

Date

VIII. REFERENCES

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Miller, W.E. 1971. Pleistocene vertebrates of the Los Angeles Basin and vicinity (exclusive of Rancho La Brea). *Bulletin of the Los Angeles County Museum of Natural History; Science* (Number 10, 124 pp.).

Saucedo, G.J., Greene, H.G., Kennedy, M.P., and Bezore, S.P. 2016. Geologic map of the Long Beach 30' x 60' quadrangle, California. California Department of Conservation, California Geological Survey Regional Map Series, v. 2.0, scale 1:100,000.

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APPENDIX A

Qualifications of Key Personnel

Todd A. Wirths, MS, PG No. 7588

Senior Paleontologist

Brian F. Smith and Associates, Inc.
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Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: twirths@bfsa-ca.com

Education

Master of Science, Geological Sciences, San Diego State University, California **1995**

Bachelor of Arts, Earth Sciences, University of California, Santa Cruz **1992**

Professional Certifications

California Professional Geologist #7588, 2003
Riverside County Approved Paleontologist
San Diego County Qualified Paleontologist
Orange County Certified Paleontologist
OSHA HAZWOPER 40-hour trained; current 8-hour annual refresher

Professional Memberships

Board member, San Diego Geological Society
San Diego Association of Geologists; past President (2012) and Vice President (2011)
South Coast Geological Society
Southern California Paleontological Society

Experience

Mr. Wirths has more than a dozen years of professional experience as a senior-level paleontologist throughout southern California. He is also a certified California Professional Geologist. At BFSA, Mr. Wirths conducts on-site paleontological monitoring, trains and supervises junior staff, and performs all research and reporting duties for locations throughout Los Angeles, Ventura, San Bernardino, Riverside, Orange, San Diego, and Imperial Counties. Mr. Wirths was formerly a senior project manager conducting environmental investigations and remediation projects for petroleum hydrocarbon-impacted sites across southern California.

Selected Recent Reports

2019 *Paleontological Assessment for the 10575 Foothill Boulevard Project, City of Rancho Cucamonga, San Bernardino County, California*. Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Assessment for the MorningStar Marguerite Project, Mission Viejo, Orange County, California.* Prepared for T&B Planning. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Monitoring Report for the Nimitz Crossing Project, City of San Diego.* Prepared for Voltaire 24, LP. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Jack Rabbit Trail Logistics Center Project, City of Beaumont, Riverside County, California.* Prepared for JRT BP 1, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Monitoring Report for the Oceanside Beachfront Resort Project, Oceanside, San California.* Prepared for S.D. Malkin Properties. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Impact Mitigation Program for the Nakase Project, Lake Forest, Orange County, San California.* Prepared for Glenn Lukos Associates, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Impact Mitigation Program for the Sunset Crossroads Project, Banning, Riverside County*. Prepared for NP Banning Industrial, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Assessment for the Ortega Plaza Project, Lake Elsinore, Riverside County*. Prepared for Empire Design Group. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Record Search Update for the Green River Ranch III Project, Green River Ranch Specific Plan SP00-001, City of Corona, California*. Prepared for Western Realco. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Assessment for the Cypress/Slover Industrial Center Project, City of Fontana, San Bernardino County, California*. Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Monitoring Report for the Imperial Landfill Expansion Project (Phase VI, Segment C-2), Imperial County, California*. Prepared for Republic Services, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Assessment for the Manitou Court Logistics Center Project, City of Jurupa Valley, Riverside County, California*. Prepared for Link Industrial. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Resource Impact Mitigation Program for the Del Oro (Tract 36852) Project, Menifee, Riverside County*. Prepared for D.R. Horton. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Assessment for the Alessandro Corporate Center Project (Planning Case PR-2020-000519), City of Riverside, Riverside County, California*. Prepared for OZI Alessandro, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Monitoring Report for the Boardwalk Project, La Jolla, City of San Diego*. Prepared for Project Management Advisors, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

APPENDIX B

Paleontological Records Search

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

May 28, 2021

BFSA
Attn: Todd Wirths

re: Paleontological resources for the 7400 Slauson Avenue Project

Dear Todd:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the 7400 Slauson Avenue project area as outlined on the portion of the South Gate USGS topographic quadrangle map that you sent to me via e-mail on May 27, 2021. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

Locality Number	Location	Formation	Taxa	Depth
LACM VP 7702	Intersection of 26th St and Atlantic Blvd, Bell Gardens	Unknown Formation (Pleistocene; silt)	Fish (*Gasterosteus*); Snake (Colubridae), Rodents (*Thomomys, Microtus)*; Rabbit (*Sylvilagus*)	30 ft bgs
LACM VP 3363	W of Monterey Pass Road in Coyote Pass; E of the Long Beach Freeway & S of the N boundary of Section 32	Unknown Formation (Pleistocene; sand and silt)	Horse (*Equus*)	Unknown
LACM VP 3347	11204 Bluefield; Whittier	La Habra Formation (lacustrine silt with caliche and plant detritus)	Horse (*Equus*)	2 feet bgs
LACM VP 1755	Near 12th & Hill Sts	Unknown Formation (Pleistocene)	Horse (*Equus*)	43 ft bgs
LACM VP 1225	354 W 99th St., Los Angeles	Unknown formation (Pleistocene)	Mammoth (*Mammuthus*)	15-20 ft bgs
LACM VP 3365	Athens on the Hill, Los Angeles (more precise information	Unnamed formation (Pleistocene)	Mammoth (*Mammuthus*)	Unknown

	not available)

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the Natural History Museum of Los Angeles County ("NHMLA"). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice