

# PALEONTOLOGICAL ASSESSMENT FOR THE SIERRA BUSINESS CENTER PROJECT

CITY OF FONTANA  
SAN BERNARDINO COUNTY, CALIFORNIA

APNs 0239-151-09, -19, -25, -26, -36, and -38

*Prepared for:*

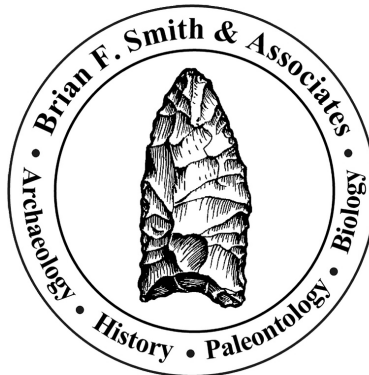
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3200 El Camino Real, Suite 100  
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*Submitted to:*

City of Fontana  
Community Development Department  
8353 Sierra Avenue  
Fontana, California 92335

*Prepared by:*

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*January 31, 2022*

## **Paleontological Database Information**

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***Report Date:*** January 31, 2022

***Report Title:*** Paleontological Assessment for the Sierra Business Center  
Project, City of Fontana, San Bernardino County, California  
(APNs 0239-151-09, -19, -25, -26, -036, and -38)

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***USGS Quadrangle:*** USGS *Devore, California* (7.5-minute); Section 20, Township 1  
North, Range 5 West, San Bernardino Baseline and Meridian.

***Study Area:*** 31.5 acres

***Key Words:*** Paleontological assessment; Holocene alluvial fan deposits; low  
sensitivity; no monitoring recommended; City of Fontana.

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## **I. INTRODUCTION AND LOCATION**

A paleontological resource assessment has been completed for the Sierra Business Center Project (“project”), located southeast of the intersection of Sierra Avenue and Duncan Canyon Road in the city of Fontana, San Bernardino County, California (Figures 1 and 2). The study includes two distinct, but contiguous, project locations identified as the Acacia property (Assessor’s Parcel Numbers [APNs] 0239-151-19, -25, -26, and -36) and the Shea property (APNs 0239-151-09 and -38) that total approximately 31.5 acres. On the U.S. Geological Survey 7.5-minute, 1:24,000-scale *Devore, California* topographic quadrangle map, the project is located in Section 20, Township 1 North, Range 5 West, of the San Bernardino Baseline and Meridian (Figure 2). The project parcels are currently disturbed, having previously been utilized for agricultural and residential purposes throughout the latter half of the twentieth century, and most of the project is vacant except for a single-family residence located at the very southern portion of the project within APN 0239-151-09. The project proposes to develop the property for industrial purposes.

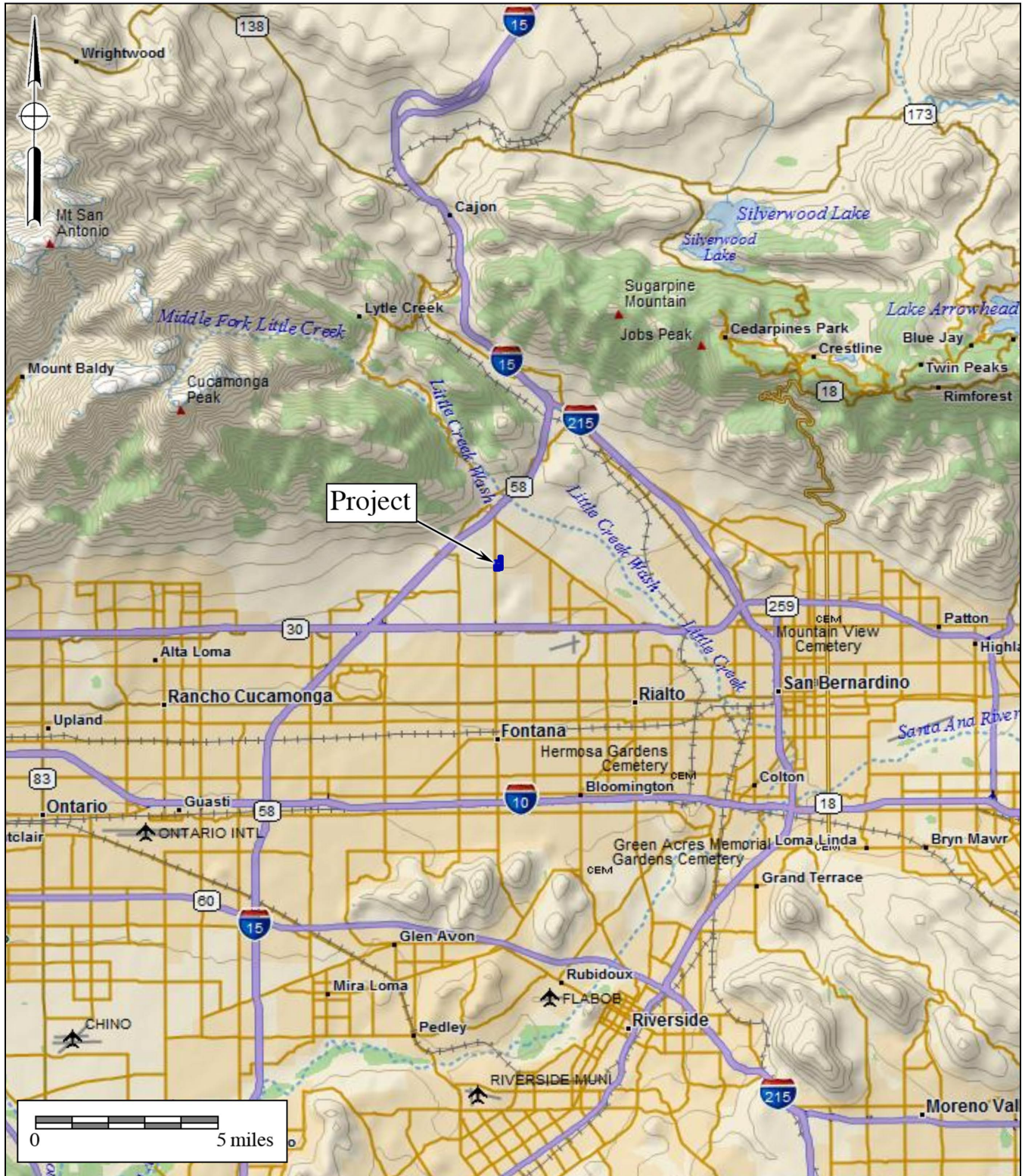
As the lead agency, the City of Fontana has required the preparation of a paleontological assessment to evaluate the project’s potential to yield paleontological resources. The paleontological assessment of the project included a review of paleontological literature and fossil locality records for a previous project in the area; a review of the underlying geology; and recommendations to mitigate impacts to potential paleontological resources.

## **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**

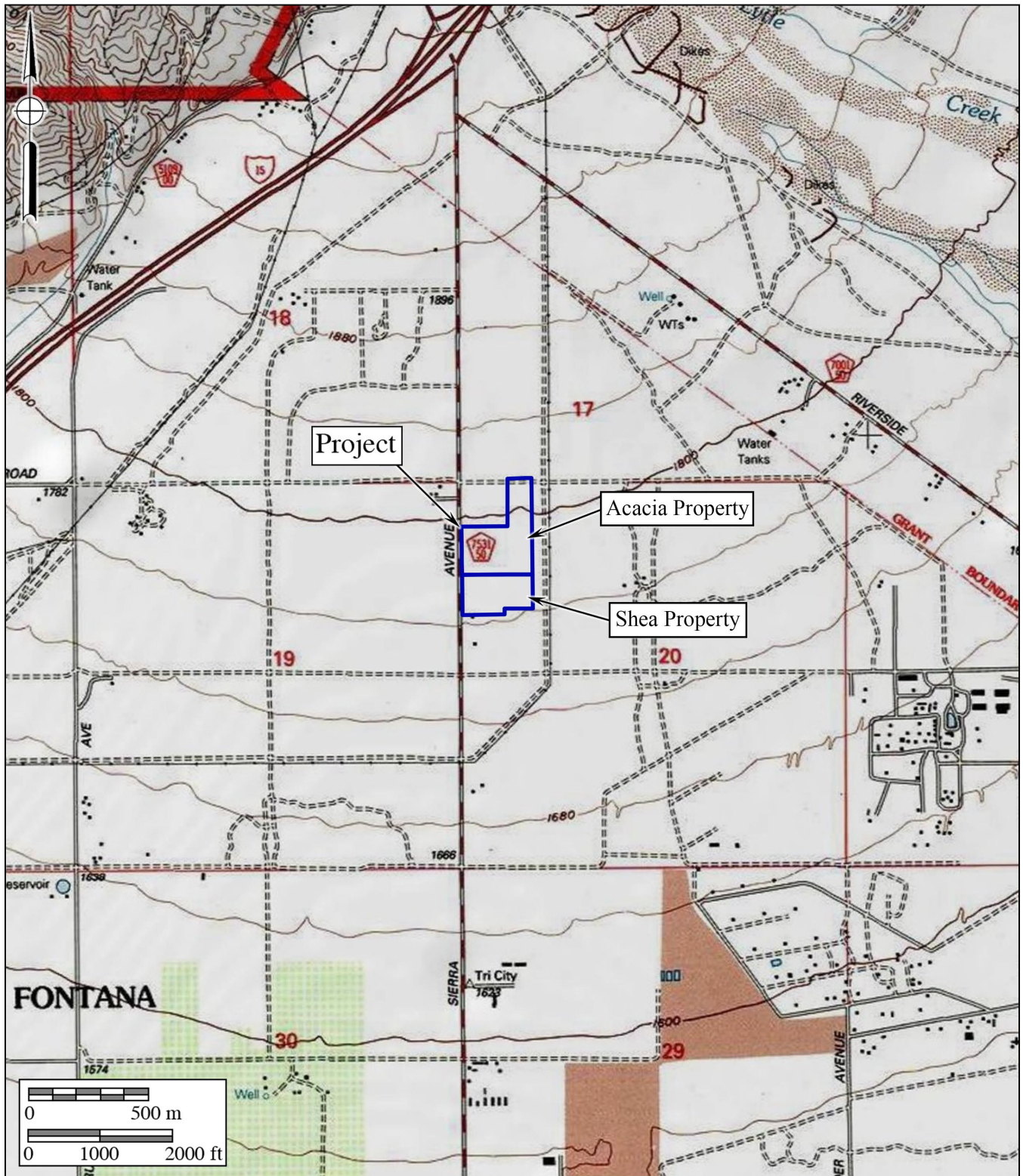
Under “Guidelines for Implementation of the California Environmental Quality Act,” as amended in December 2018 (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3, Sections 15000 et seq.), procedures define the types of activities, persons, and public agencies required to comply with 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.



**Figure 1**  
**General Location Map**  
 The Sierra Business Center Project  
 DeLorme (1:250,000)







**Figure 2**

**Project Location Map**

The Sierra Business Center Project

USGS Devore Quadrangle (7.5-minute series)



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:

- 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 Fontana**

In the final environmental impact report (EIR) of the City of Fontana General Plan Update 2015–2035, two paleontological resource mitigation measures are specified, MM-CUL-4 and MM-CUL-5. MM-CUL-4 must be implemented before construction starts, while MM-CUL-5 must be implemented before, during, and after construction (City of Fontana 2018a). The measures are as follows:

**MM-CUL-4** A qualified paleontologist shall conduct a pre-construction field survey of any project site within the Specific Plan Update area that is underlain by older alluvium. The paleontologist shall submit a report of findings that provide specific recommendations regarding further mitigation measures (*i.e.*, paleontological monitoring) that may be appropriate.

**MM-CUL-5** Should mitigation monitoring of paleontological resources be recommended for a specific project within the project site, the program shall include, but not be limited to, the following measures:

- Assign a paleontological monitor, trained and equipped to allow the rapid removal of fossils with minimal construction delay, to the site full-time during the interval of earth-disturbing activities.
- Should fossils be found within an area being cleared or graded, earth-disturbing activities shall be diverted elsewhere until the monitor has completed salvage. If construction personnel make the discovery, the

grading contractor shall immediately divert construction and notify the monitor of the find.

- All recovered fossils shall be prepared, identified, and curated for documentation in the summary report and transferred to an appropriate depository (*i.e.*, San Bernardino County Museum).

A summary report shall be submitted to City of Fontana. Collected specimens shall be transferred with [a] copy of [the] report to [the] San Bernardino County Museum. (City of Fontana 2018a)

### **III. GEOLOGY**

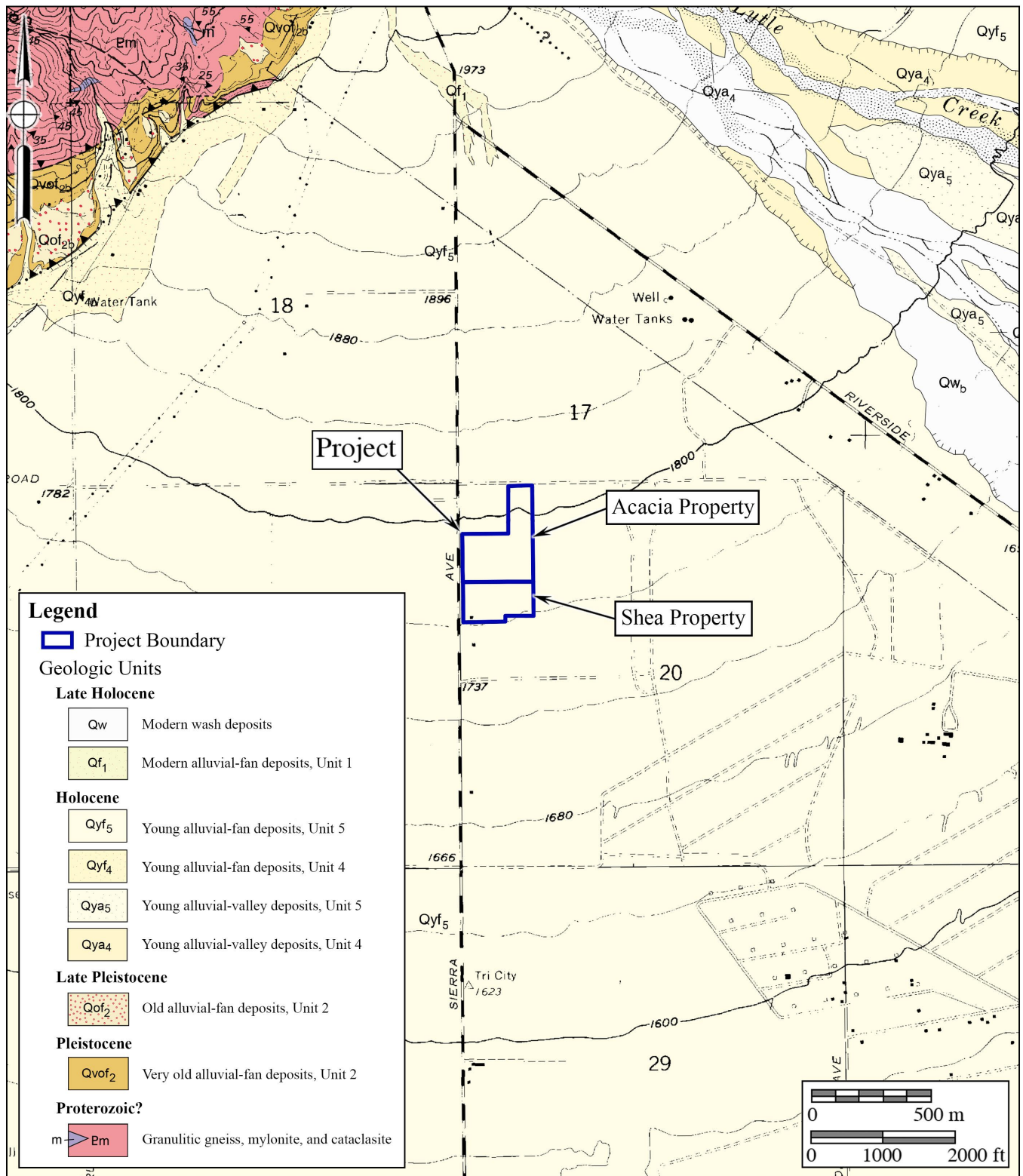
On the geologic map of the 7.5-minute Devore quadrangle (Figure 3, after Morton and Matti 2001), the project is located near the proximal terminus (northern end) of the broad alluvial fan derived from outwash from Lytle Creek Wash draining the southern San Bernardino Mountains to the north. The project is mapped as being underlain by Holocene-aged young alluvial fan deposits (area colored pale yellow and labeled “Qyf<sub>s</sub>” on Figure 3) consisting of unconsolidated to moderately consolidated, coarse-grained sand to bouldery alluvial-fan deposits having slightly to moderately dissected surfaces. Younger surficial units have upper surfaces that are capped by slight to moderately developed pedogenic-soil profiles (Morton and Matti 2001).

### **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) when viewed in the context of local extinction of the organism or habitat, for example. Fossils are considered a nonrenewable resource under state and local guidelines (Section II of this report).





**Figure 3**  
**Geologic Map**

The Sierra Business Center Project  
Geology after Morton and Matti (2001)



### **Fossil Locality Search**

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 (San Bernardino County Museum [SBCM] records and Los Angeles County Natural History Museum [LACM] records in BFSA files; Jefferson 1986, 1991, 2009). The nearest known fossil localities are indicated by the City of Fontana's draft EIR for the general plan (City of Fontana 2018b), found near the intersection of Interstate 15 and Interstate 210 in the western area of the city, less than three miles to the southwest, and the southern area of the city near Jurupa Avenue and Declezville, about seven to eight miles to the south. The fossil localities include the remains of Pleistocene rodents (three species), cottontail rabbit, bison, western camel, horse, Pacific mastodon, saber-tooth cat, and other unidentified large mammal remains (SBCM locs. 5.1.11, 5.1.14 – 5.1.17, and 5.1.19 – 5.1.21). Near Cajon Summit, located approximately 12 miles north of the project along Interstate 15, a locality yielding four Pleistocene rodent species is documented (SBCM loc. 01.103.80; Jefferson 1986, 2009). The closest known locality held by the LACM is located in Eastvale in Riverside County, consisting of the remains of a Pleistocene snake (LACM loc. 7811).

## **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 thus typically assigned a low paleontological sensitivity. Pleistocene (over 11,700 years old) alluvial and alluvial fan deposits in the Inland Empire, however, often yield important terrestrial vertebrate fossils, such as extinct mammoths, mastodons, giant ground sloths, extinct species of horse, bison, camel, saber-toothed cats, and others (Jefferson 1986, 1991, 2009). These Pleistocene sediments are thus 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, and that 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.

Using these criteria, based on the Holocene age of the coarse surface deposits mapped at the project, a low paleontological potential may be considered for the project.

#### **City Assessment of Paleontological Sensitivity at the Project**

Section 5.4.1.5 of the City of Fontana’s draft EIR for the general plan (City of Fontana 2018b) describes the paleontological sensitivity of the strata underlying the city. Based on Pleistocene vertebrate fossils recovered from the city’s western and southwestern areas, subsurface “older fan” Pleistocene deposits are considered by the city to have a high potential for yielding fossils. The overlying “younger fan” deposits at the surface are considered by the city as having no potential to yield significant paleontological resources. These “younger fan” deposits identified by the city include those mapped at the surface of the project. The depth to the underlying Pleistocene deposits at the project is not known.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

The existence of coarse, Holocene alluvial fan deposits at the project, and the lack of any known fossil specimens or fossil localities from within a several-mile radius encompassing the subject property support the recommendation that paleontological monitoring need *not* be required during earth disturbance activities at the project. However, if fossils of any sort are discovered during grading and earthmoving activities, a paleontologist must be retained to develop a paleontological Mitigation Monitoring and Reporting Program (MMRP) consistent with the provisions of CEQA, the City of Fontana, and those of the guidelines of the Society of Vertebrate Paleontology (2010). Implementation of the paleontological MMRP would mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources, if present, to a level below significant.

#### **Paleontological MMRP**

The following MMRP guidelines, outlined below, are based on the findings stated above. Paleontological monitoring may be reduced on the observations and recommendations of the

professional-level project paleontologist. The following MMRP, when implemented, would reduce potential impacts of paleontological resources to a level below significant:

1. If paleontological resources are discovered during earth disturbance activities, the discovery shall be cordoned off with a 100-foot radius buffer so as to protect the discovery from further potential damage, and a county or city-qualified paleontologist shall be consulted to assess the discovery.

If the discovery is determined to be significant by the paleontologist, an MMRP shall be initiated, which will include notification of appropriate personnel involved and monitoring of earth disturbance activities:

1. Monitoring of mass grading and excavation activities in areas identified as likely to contain paleontological resources shall be performed by a qualified paleontologist or paleontological monitor. Monitoring will be conducted full-time in areas of grading or excavation in undisturbed sedimentary deposits.
2. 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 on 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.
3. Paleontological salvage during trenching and boring activities is typically from the generated spoils and does not delay the trenching or drilling activities. Fossils will be collected and placed in cardboard flats or plastic buckets and identified by field number, collector, and date collected. Notes will be 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 will be 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.



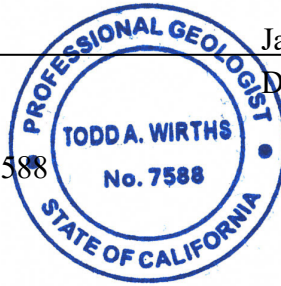
4. Isolated fossils will be collected by hand, wrapped in paper, and placed in temporary collecting flats or five-gallon buckets. Notes will be taken on the map location and stratigraphy of the site, which is photographed before it is vacated, and the fossils are removed to a safe place.
5. Particularly 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.
6. In accordance with the “Microfossil Salvage” section of the Society of Vertebrate Paleontology guidelines (2010:7), bulk sampling and screening of fine-grained sedimentary deposits (including carbonate-rich paleosols) must be performed if the deposits are identified to possess indications of producing fossil “microvertebrates” to test the feasibility of the deposit to yield fossil bones and teeth.
7. In the laboratory, individual fossils will be cleaned of extraneous matrix, any breaks will be repaired, and the specimen, if needed, will be 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.*, the San Bernardino County Museum) 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 Fontana) will be consulted on the repository/museum to receive the fossil material.
10. A final 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.



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



January 31, 2022

Date

## **VIII. REFERENCES**

City of Fontana. 2018a. Final Environmental Impact Report. Cultural Resources, Fontana Forward General Plan Update 2015-2035. State Clearinghouse #2016021099. <https://www.fontana.org/DocumentCenter/View/29525/Final-Environmental-Impact-Report-for-the-General-Plan-Update>.

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**APPENDIX A**

**Qualifications of Key Personnel**



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## Senior Paleontologist

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## Education

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

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

## Professional Certifications

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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

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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

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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

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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.