PALEONTOLOGICAL ASSESSMENT FOR THE BRIDGE POINT RANCHO CUCAMONGA PROJECT

RANCHO CUCAMONGA, CALIFORNIA

APNs 0229-283-50 and 0229-283-51

Prepared for:

Bridge Development
11100 Santa Monica Boulevard, Suite 700
Los Angeles, California 90025

Submitted to:

City of Rancho Cucamonga
10500 Civic Center Drive
Rancho Cucamonga, California 91730

Prepared by:

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April 20, 2020; Revised September 16, 2020

Paleontological Database Information

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Report Date:	April 20, 2020; Revised September 16, 2020
Report Title:	Paleontological Assessment for the Bridge Point Rancho Cucamonga Project, Rancho Cucamonga, California (APNs 0229-283-50 and 0229-283-51)
Prepared for:	Bridge Development 11100 Santa Monica Boulevard, Suite 700 Los Angeles, California 90025
Submitted to:	City of Rancho Cucamonga 10500 Civic Center Drive Rancho Cucamonga, California 91730
Prepared by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064
USGS Quadrangle:	*Guasti, California* (7.5 minute)
Study Area:	91.4 acres and a 0.1-acre off-site improvement area
Key Words*:*	Paleontological assessment; High Paleontological resource sensitivity; City of Rancho Cucamonga.

I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the Bridge Point Rancho Cucamonga Project (Assessor's Parcel Numbers [APNs] 0229-283-50 and 0229-283-51), located in the city of Rancho Cucamonga. The 91.4-acre project is positioned northeast of the Interstates 15 and 10 freeway intersection in the southeastern area of the city of Rancho Cucamonga in San Bernardino County (Figures 1 and 2). On the U.S. Geological Survey 7.5-minute, 1:24,000-scale *Guasti, California* topographic quadrangle map, the project is located within Section 17 of Township 1 South, Range 6 West, San Bernardino Base and Meridian. The project proposes to redevelop the parcels by removing the current warehouse structure, office space and associated infrastructure as well as constructing two new warehouse buildings along with associated office space, tractor-trailer loading docks, parking, infrastructure, and landscaping. The depth of the proposed excavation for the construction of these improvements is as deep as 26 feet, specifically for the installation of stormwater runoff infiltration vaults. The project also includes the creation of one new public street and an off-site 0.1-acre, at-grade rail crossing at 6th Street. The property currently consists of an approximately 79-acre industrial/commercial warehouse and distribution center developed during the late twentieth century. The remaining portion of the property is undeveloped and contains the remnants of a former vineyard.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), patterned after the National Environmental Policy Act (NEPA), is the overriding environmental document that sets the requirement for protecting California's cultural and paleontological resources. The document does not establish specific rules that must be followed, but 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 the Implementation of CEQA, as amended March 29, 1999 (Title 1, Chapter 3, California Code of Regulations: 15000 et seq.), procedures define the type of activities, persons, and public agencies required to comply with CEQA. In the Environmental Checklist, one of the questions to answer is, "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (Section 15023, Appendix G, Section XIV, Part a). The California Public Resources Code (PRC) Section 5097.5 states:

a) 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, 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. Violation of this section is a misdemeanor.

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.

City of Rancho Cucamonga

A search for paleontological resource mitigation measures or guidelines was performed via the City of Rancho Cucamonga's Services webpage (City of Rancho Cucamonga n.d.). On the Construction and Development webpage, under Environmental Studies in the Project Approval Process header, it states:

> All projects are reviewed for compliance with the California Environmental Quality Act (CEQA). CEQA requires state and local agencies to identify the significant environmental impacts of their actions to avoid or mitigate those impacts, if feasible. Most proposals for physical development in California are subject to the provisions of CEQA. Every development project which requires a discretionary government approval, such as, an approval from the City of Rancho Cucamonga's Planning Department, will require at least some environmental review pursuant to CEQA, unless an exemption applies. (City of Rancho Cucamonga n.d.)

Additionally, the City's 2010 General Plan Update identified potential significant impacts to non-renewable paleontological resources, if implemented (BonTerra Consulting 2010). Mitigation Measure MM 4.6-4, stated below, is proposed to reduce potential impacts to a level below significant (BonTerra Consulting 2010):

MM 4.6-4 If paleontological resource (i.e. plant or animal fossils) are encountered before or during grading, the developer will retain a qualified paleontologist to monitor construction activities, to take appropriate measures to protect or preserve them for study. The paleontologist shall submit a report of findings that will also provide specific recommendations regarding further mitigation measures (i.e., paleontological monitoring) that may be appropriate. Where mitigation monitoring is appropriate, the program must 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, divert earth-disturbing activities elsewhere until the monitor has completed salvage. If construction personnel make the discovery, the grading contractor should immediately divert construction and notify the monitor of the find.
- Prepare, identify, and curate all recovered fossils for documentation in the summary report and transfer to an appropriate depository (i.e., the San Bernardino County Museum [SBCM]).
- Submit a summary report to the City of Rancho Cucamonga. Transfer collected specimens with a copy of the report to the SBCM.

III. GEOLOGY

The project is located at the western margin and near the distal southern end of the broad Lytle Creek alluvial fan that emanates from the San Gabriel Mountains approximately seven to eight miles to the north as a result of uplift and dissection of the eastern San Gabriel Mountains. The main source of these sediments is from the Lytle Creek drainage, near where the northwest-southeast trending San Andreas fault zone cuts across and separates the San Gabriel and San Bernardino mountain ranges. Geomorphically, the project is relatively flat-lying, with a gentle slope to the south.

The area's subsurface is mostly underlain by late Pleistocene and early Holocene young alluvial fan deposits (pale amber areas labeled Qyf_1, Morton and Miller 2006) on Figure 3A that occur as slightly raised areas protruding through the surrounding surficial Quaternary (late Holocene) very young alluvial-fan sediments (light yellow areas labeled Qf_2) (Figures 3A and 3B). Areas to the west of the project also consist of geologically young sediments, represented by young (Holocene and late Pleistocene) eolian sediments (areas in green labeled Qye). Dutcher and Garrett (1963, Pl. 7, cross-section G-G') indicate that young alluvial fan deposits may exceed 100 feet thick in some areas, but show that young alluvial fan deposits are approximately 15 feet thick for a broad area in the Fontana Plain about five miles east-northeast of the Bridge Point Rancho Cucamonga Project.

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 [SVP] 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).

Fossil Records Search

A paleontological literature review and collections and records search for another project approximately one mile southeast of the Bridge Point Rancho Cucamonga Project (the Slover Avenue Distribution Center) was conducted by the Division of Geological Sciences at the SBCM in Redlands (attached; Scott 2014). The resulting report did not identify any previously recorded fossil localities from within the boundaries of that project, but did discuss the presence of Ice Age vertebrate fossils, mainly larger terrestrial mammals, recovered from sediments to the south and southeast of the Bridge Point Rancho Cucamonga Project, probably from the late Pleistocene to early Holocene old alluvial-fan deposits (Qyf_1, Morton and Miller 2006). These sediments were accorded a High paleontological resource sensitivity by Scott (2014) in his literature review and records search report, and are present at an undetermined depth below the surficial alluvial fan sediments across the current project. The Pleistocene fossils recorded from approximately two miles southeast of the Bridge Point Rancho Cucamonga Project included extinct species of mastodon, bison, and camel at depths as shallow as five feet below the surface (SBCM locs. 5.1.14 to 5.1.21). Another locality a little over two miles south of the Bridge Point Rancho Cucamonga property consisted of mammoth remains at a depth of about 20 feet below the surface (SBCM loc. 5.1.8).

According to Reynolds (*in* Aron et al. 2018), the remains of a saber-toothed cat were recovered from Pleistocene sediments about five feet deep from the Fontana neighborhood of Declezville on the north side of the Jurupa Hills. This locality is roughly four miles southeast of the current project.

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. Late Quaternary (Holocene, or "modern") 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. Older, Pleistocene (greater than 11,700 years old), alluvial and alluvial fan deposits in the Inland Empire, 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 (Scott

2014, attached). These Pleistocene sediments are thus accorded a High paleontological resource sensitivity.

Professional Standards

The Society of Vertebrate Paleontology (SVP) drafted guidelines outlining procedures that include:

> [E]valuating the potential for impacts of a proposed action on paleontological resources and for mitigating those impacts. Impact mitigation includes pre-project survey and salvage, monitoring and screen washing during excavation to salvage fossils, conservation and inventory, and final reports and specimen curation. The objective of these procedures is to offer standard methods for assessing potential impacts to fossils and mitigating these impacts. (SVP 2010)

The guidelines 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 upon 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. RECOMMENDATIONS

The City's 2010 General Plan proposes mitigation measures to lessen impacts to paleontological resources to levels below significant. However, the findings of this report on the relative proximity of known fossil localities and fossil-bearing strata to the project necessitate an amendment to the General Plan's stated mitigation measures. The existence of Quaternary (i.e., early Holocene and late Pleistocene) alluvial fan deposits (Qyf_1) beneath the project, along with the High paleontological resource sensitivity assigned to these sediments locally (Scott 2014), and the presence of previously recorded fossil specimens from the unit about two miles south and southeast of the subject property all support the recommendation that full-time paleontological monitoring be required starting at a depth of 12 feet below the surface during grading, excavation,

or utility trenching activities at the Bridge Point Rancho Cucamonga construction project. For grading and other earth disturbance activities at depths between five and 12 feet below the surface, periodic "spot checks" for potential paleontological resources is warranted. Periodic monitoring will consist of approximately one to three scheduled site visits per week by a paleontological monitor during construction ground disturbance. If significant fossils are discovered during a spot check, full-time monitoring should be initiated. Monitoring of the Holocene very young alluvial-fan deposits (Qf_2) is not warranted, but the older alluvial-fan deposits that underlie these deposits, at an unknown depth, should be monitored as specified above, when they are identified by the monitor. No paleontological monitoring is necessary at the off-site 6th Street railroad crossing improvement, as all work will be conducted at-grade.

A paleontological Mitigation Monitoring and Reporting Program (MMRP) is proposed and must be consistent with the provisions of CEQA, Scott 2014, attached, and those of the guidelines of the SVP (2010). If implemented, the MMRP report would mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources (fossils), if present, to a level below significant. A proposed paleontological mitigation plan follows.

Proposed Paleontological MMRP

1. Monitoring of mass grading and excavation activities in areas identified as likely to contain paleontological resources by a qualified paleontologist or paleontological monitor. Monitoring will be conducted full-time in areas of grading, excavation, or drilling activities occur in undisturbed exposures of Quaternary (i.e., early Holocene and late Pleistocene) alluvial-fan deposits (Qyf_1, Figures 3A and 3B) at a depth of 12 feet and below, in order to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. Periodic spot checks (one to three visits per week) will be performed in areas with earth disturbance ranging from five to 12 feet deep. If significant fossils are discovered during a spot check, full-time monitoring should be initiated.

2. Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediment that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow for the 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 they are present, are determined upon exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources.

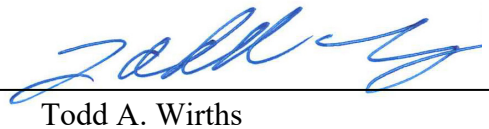
3. Preparation of recovered specimens to a point of identification and permanent preservation, including screen-washing sediments to recover small invertebrates and vertebrates if indicated by the results of test sampling. Preparation of individual vertebrate fossils is often more time-consuming than for accumulations of invertebrate fossils.

4. All fossils must be deposited in an accredited institution, such as the SBCM, that maintains collections of paleontological materials. All costs of the paleontological monitoring and mitigation program, including any one-time charges by the receiving institution, are the responsibility of the developer.

5. Preparation of a final monitoring and mitigation report of findings and significance, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location(s). A letter documenting receipt and acceptance of all fossil collections by the receiving institution must be included in the final report. The report, when submitted to (and accepted by) the appropriate lead agency (i.e., the City of Rancho Cucamonga), will signify satisfactory completion of the project program to mitigate impacts to any nonrenewable paleontological resources.

VIII. 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.



September 16, 2020

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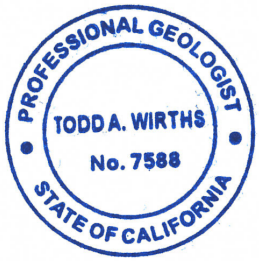
Date



VIII. ATTACHMENT A

References
Resume

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Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources; by the SVP Impact Mitigation Guidelines Revision Committee: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx.

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Education

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

Bachelor of Arts, Earth Sciences, University of California, Santa Cruz **1993**

Associate of Arts, Geological Sciences, Santa Barbara City College **1992**

Professional Certifications

Professional Geologist, California (#7588), 2003
Riverside County Approved Paleontologist
San Diego County Qualified Paleontologist
Orange County Certified Paleontologist (applied, 2019)
OSHA HAZWOPER 40-hour trained; current 8-hour annual refresher

Professional Memberships

Board member, San Diego Geological Society
San Diego Association of Geologists (President, 2012; Vice President, 2011)
South Coast Geological Society

Publications

Picacho and the Cargo Muchachos: Guns, Gold, and Geology of Eastern Imperial County, California: San Diego Associations of Geologists/Sunbelt Publications, 2012 (1st ed.), 2014 (2nd ed.).
"*Picacho, the Golden Road*," Dezert Magazine, Winter, 2013.

Experience

Senior Paleontologist **October 2012–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Mr. Wirths serves as the director of the paleontology department at BFSA. Mr. Wirths oversees all phases of project-related paleontology, including management of field and junior staff, planning, organizing, and implementing monitoring projects, research, report drafting, regulatory compliance, and laboratory oversight. Mr. Wirths directs or performs resource mitigation monitoring of construction sites, fossil salvage activities, paleontological field surveys and assessments, laboratory fossil preparation and curation. He has drafted dozens of technical reports, including paleontological assessments, site reports, and paleontological resource impact mitigation program (PRIMP) reports. Mr. Wirths created and implemented BFSA-specific fossil-recovery data sheets for field use by monitoring staff. The field

experience of Mr. Wirths includes the use of Trimble GPS data recording, burlap and plaster techniques, collection of microfossils, and wet and dry-screening techniques. Mr. Wirths provides expert identification of fossil marine invertebrates.

Lead Geological/Paleontological Consultant **November 2011–February 2009**
Cogstone Resource Management **San Diego and Orange, California**

Mr. Wirths conducted on-site paleontological monitoring, drafted/evaluated RFP responses, work plans, and reports; planned, organized, and implemented projects, and trained and supervised junior staff. Field localities include projects in Calaveras, Merced, Tulare, San Joaquin, Kern, San Bernardino, Los Angeles, and Riverside Counties. At the Highway 99 Caltrans expansion project near Merced, Mr. Wirths recovered dozens of Rancholabrean-age vertebrate fossils using plaster and burlap casting techniques.

Paleontological/Geological Monitor **February 2011–November 2011**
San Diego Natural History Museum **San Diego, California**

Oversaw construction and development sites for fossil resources and logged and interpreted geology during drilling and trenching activities/recovery of fossils. Monitoring projects include the SDG&E Sunrise Powerlink, several SDG&E Wood to Steel projects, San Diego City College expansion, The Bishops School, and the Prebys Cardiovascular Institute.

Project Manager/Geologist **March 2010–February 2011**
Wirths Consulting **San Diego, California**

Provided environmental consulting services for Apex Companies, H.M. Pitt Labs, Ninyo & Moore, and TRC Solutions, providing project management, reporting, and certified professional field oversight, designing/budgeting an *in situ* chemical oxidation project, and obtaining a City of San Diego business license.

Senior Project Manager **April 2007–August 2009**
ETIC Engineering, Inc. **Santa Diego, California**

Operated as senior project manager for 10 ExxonMobil retail sites, designed and implemented assessment and remediation projects (including project forecasting/budgeting, managing subcontractors, and composing work plans), composed work plans, assessment reports, and corrective action plans, and managed/mentored staff-level associates.

Project Manager **January 2000–April 2007**
TRC Solution, Inc./TRC Alton Geoscience **San Diego and Imperial Counties, California**

Operated as project manager for various projects throughout San Diego County, including ExxonMobil Oil Corporation and Unocal Corporation remediation activities, BNSF Railway Company groundwater assessment and remediation, and Ultramar/Valero, Inc., which involved supervising/managing on-site personnel, collecting/managing soils, groundwater, and wood samples, writing reports, and conducting remediation feasibility testing and remedial planning.

Staff Geologist **May 1997–September 2000**
IT Corp./Pacific Environmental Group **San Diego, Orange, and Los Angeles Counties, California**

Tracked progress of excavation and delineation of impact, sampled/managed soil, and conducted drilling and groundwater monitoring/well installation activities.

Selected Technical Reports

Glover, Amy, Todd **Wirths**, and Sherri Gust

2012 *Paleontological assessment for the Paradise Creek Housing Development, National City, San Diego County, California.* Prepared for The Related Companies of California, Irvine, CA, by Cogstone Resource Mgt., Inc.

Gust, Sherri, Kim Scott, and Todd **Wirths**

2012 *Paleontological resources assessment for the WECC Path 42 Project in Riverside County, California.* Prepared for Southern California Edison, Monrovia, CA, by Cogstone Resource Mgt., Inc.

Horne, Melinda, Todd **Wirths**, and Amy Glover

2012 *Paleontological and cultural resources assessment for the town of Yucca Valley General Plan update, San Bernardino County, California.* Prepared for The Planning Center – DC&E, Santa Ana, CA, by Cogstone Resource Mgt., Inc.

Wirths, Todd A., and Sherri Gust

2012 *Paleontological resources assessment for the Truckhaven geothermal expansion project, Imperial County, California.* Prepared for NGP Truckhaven, LLC, Reno, NV, by Cogstone Resource Mgt., Inc.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Aztec Court Apartments, 6237 Montezuma Road, San Diego, San Diego County, California.* Prepared for Warmington Residential California, Inc., Southern California Division. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Monitoring Report, Citywide Sewer Pump Station Upgrades, Group II, Pump Station 60A, Scripps Ranch neighborhood, City of San Diego, San Diego County, California (PTS No. 31233 and WBS No. S-00304).* Prepared for Ortiz Corporation General Engineering Contractors. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Resource Impact Mitigation Program (PRIMP), Rancho Paseo de Valencia, City of Corona and unincorporated Riverside County, California (Tentative Tract Map 34760; APNs 114-040-019, 114-040-020, 275-100-003, and 275-100-004).* Prepared for Rancho Paseo de Valencia. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological monitoring report, Casa Aldea Phase II, University City Village Apartments, 6112, 6122, and 6132 Gullstrand Street, University City, San Diego, San Diego County (LDR No. 98-0408, PTS No. 303550).* Prepared for Wise River Builders, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Resource Assessment, Ballpark Village Development, East Village, San Diego, San Diego County, California.* Prepared for Ballpark Village, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *An Updated Phase I Paleontological Resources Assessment for Tentative Tract Maps 36484 and 36485, Audie Murphy Ranch, City of Menifee, County of Riverside, California.* Prepared for Brookfield Residential. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2013 *Paleontological Resource Impact Mitigation Program (PRIMP), Ridge Park project, city of Temecula, Riverside County, California (APNs 922-210-049; 940-310-013, 940-310-015, and 940-310-016; 940-310-044 through 940-310-048; and 940-320-001 through 940-320-007).* Prepared for Ambient Communities. Report on file at Brian F. Smith and Associates, Inc., Poway, CA.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, Chino Desalter Phase III Expansion Project, 11301 Harrel Street, City of Jurupa Valley, Riverside County, California.* Prepared for W.M. Lyles Co. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological resource and monitoring assessment, proposed Avanti North housing development, Lancaster, Los Angeles County, California (Tentative Tract Map No. 53229).* Prepared for Avanti North, LP. Report on file at Brian F. Smith and Associates, Inc., Poway, CA.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological monitoring report for the Montezuma Trunk Sewer project, College and Mid-Cities Community Plan Areas, San Diego, San Diego County, California (Project No. 240104).* Prepared for Ortiz Corporation General Engineering Contractors. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological resource impact assessment for the Lake Ranch project site, unincorporated Riverside County, California (APNs 270-060-010, 270-160-001, 270-170-010, 270-170-011, and 270-180-010; TR 36730).* Prepared for Christopher Development Group. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Menifee Heights Development, City of Menifee, Riverside County, California (Tract No. 32277).* Prepared for CV Communities, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Assessment, Shoshone Valley Road solar array project, Twentynine Palms, San Bernardino County, California (APNs 613-233-01, -02, -03, -04, -27, -28, -29, and -30).* Prepared for Ecos Energy, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, CA.

Kennedy, George L., and Todd A. **Wirths**

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Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, San Diego Community College District, César Chávez Campus, Barrio Logan, San Diego, California.* Prepared for San Diego Community College District. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Monitoring Report, Sewer and Water Group 761, Uptown Community Plan Area, San Diego, San Diego County, California.* Prepared for Burtech Pipeline. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

2014 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Blessed Teresa of Calcutta Catholic Parish project site, French Valley, unincorporated Riverside County, California (APN 480-040-044; Project No. PP24903).* Prepared for Blessed Teresa of Calcutta Catholic Parish, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Kennedy, George L., and Todd A. **Wirths**

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Kennedy, George L., Todd A. **Wirths,** and Brian F. Smith

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Kennedy, George L., and Todd A. **Wirths**

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Wirths, Todd A., and George L. Kennedy

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Wirths, Todd A., and George L. Kennedy

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Kennedy, George L., and Todd A. **Wirths**

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Kennedy, George L., and Todd A. **Wirths**

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Kennedy, George L., Todd A. **Wirths,** and N. Scott Rugh

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Wirths, Todd A., and George L. Kennedy

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Kennedy, George L., Todd A. **Wirths,** and N. Scott Rugh

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IX. ATTACHMENT B

Project Maps:
General Location Map
USGS Project Location Map
Geologic Map
Geologic Map Key

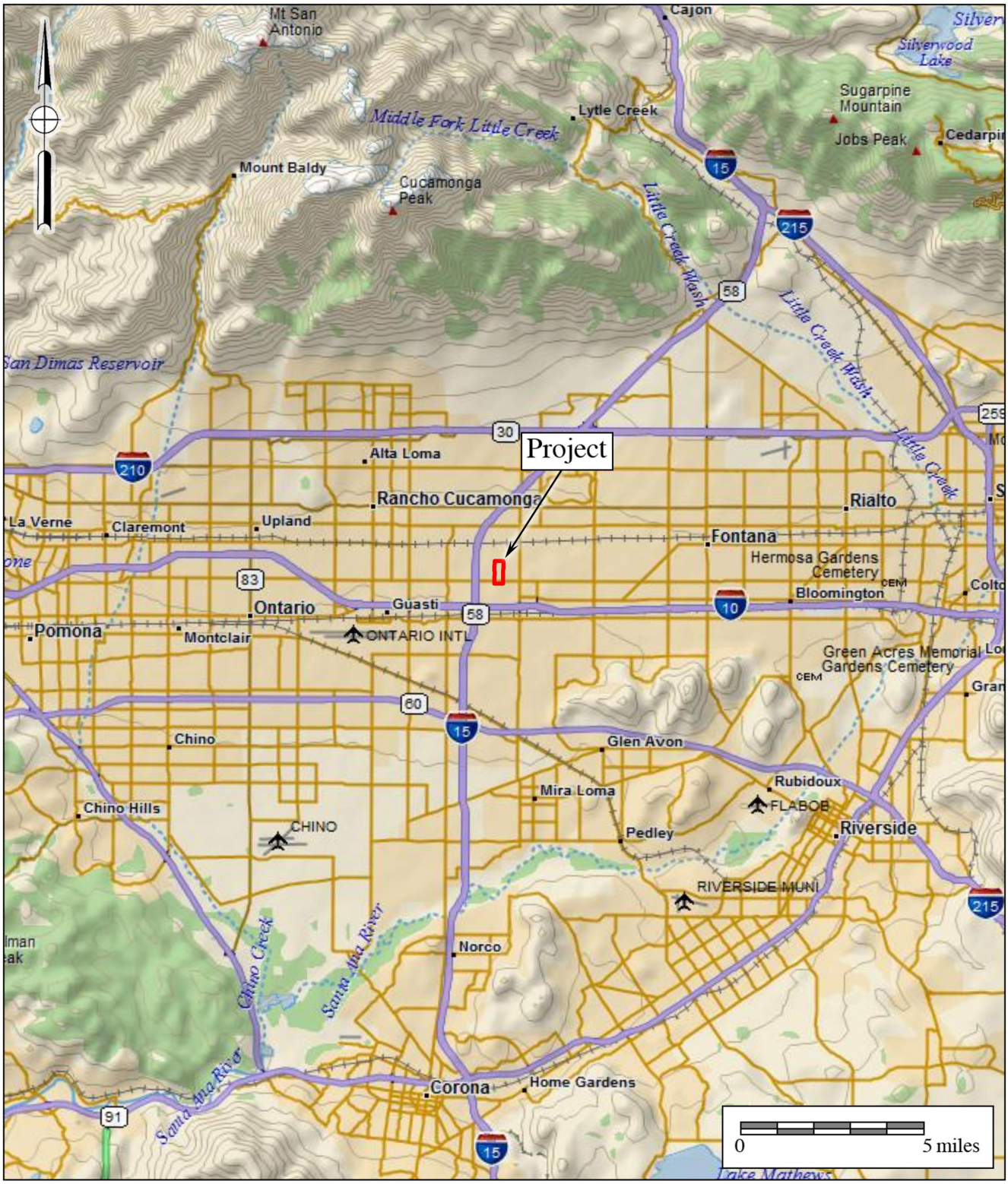

Figure 1

General Location Map

The Bridge Point Rancho Cucamonga Project

DeLorme (1:250,000)

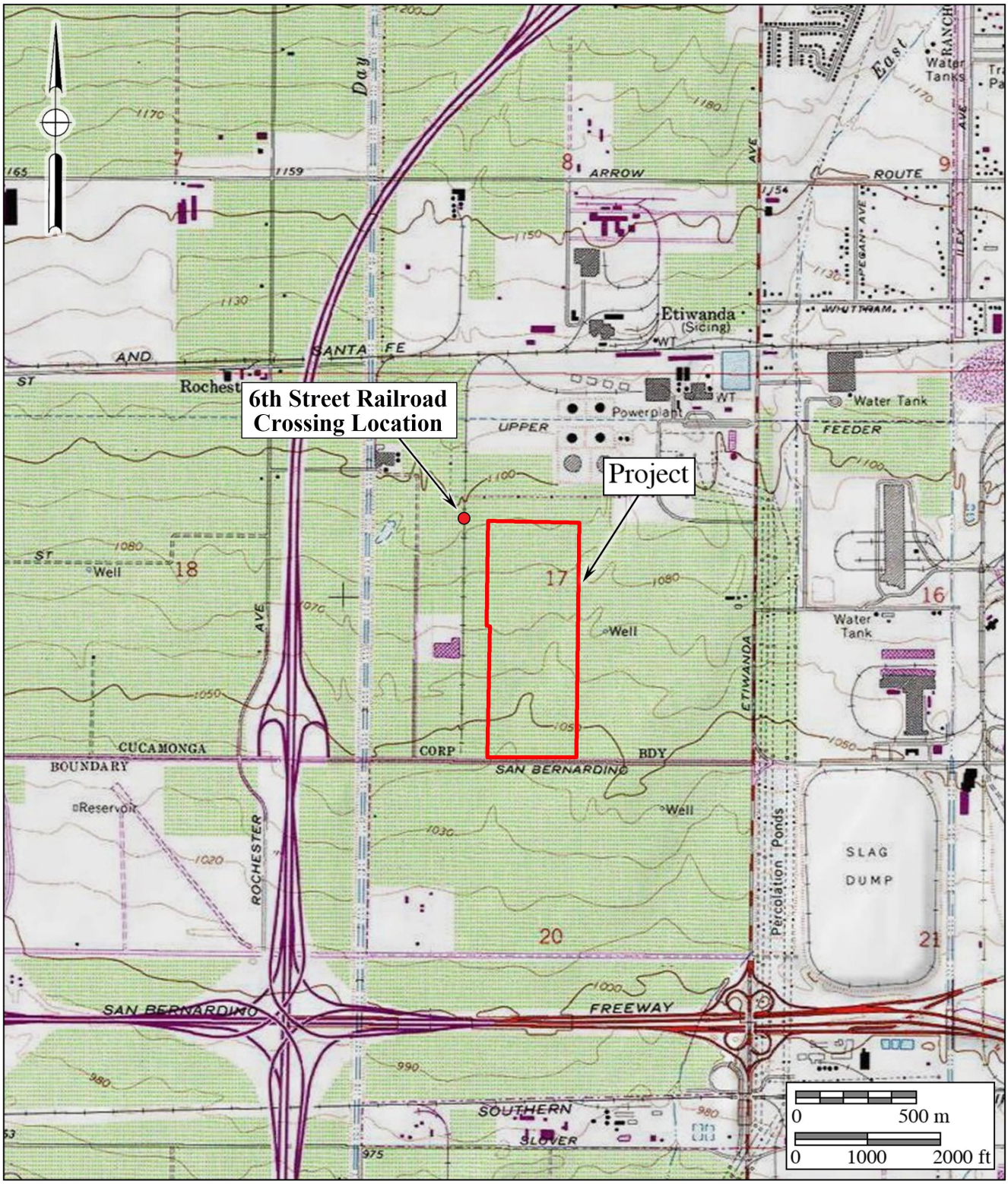

Figure 2

Project Location Map

The Bridge Point Rancho Cucamonga Project

USGS *Guasti* Quadrangle (7.5-minute series)

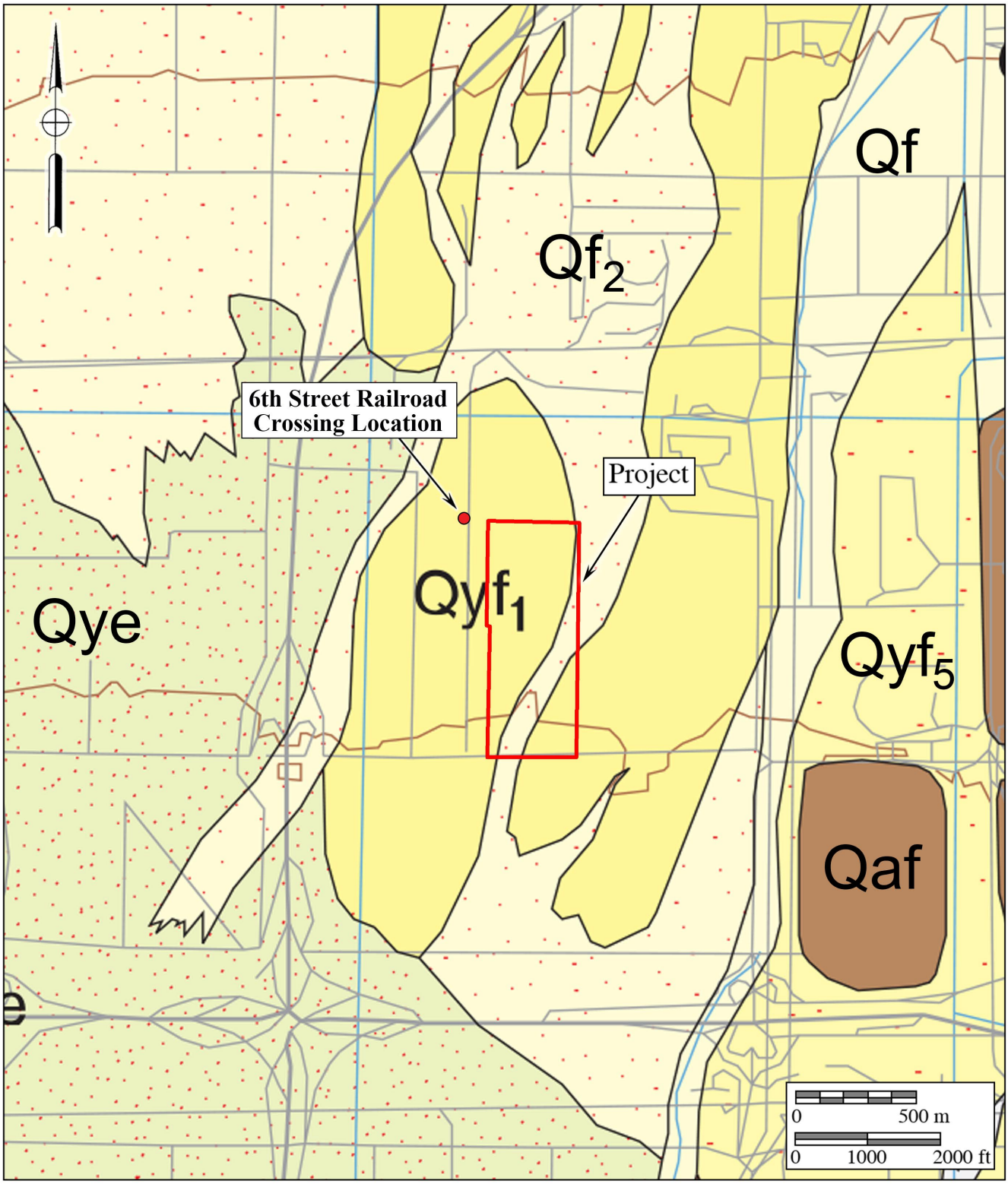

Figure 3A

Geologic Map

The Bridge Point Rancho Cucamonga Project

Geology after Morton and Miller (2006)

DESCRIPTION OF MAP UNITS

Qaf	Artificial fill
Qf	Late Holocene, very young alluvial fan deposits, undif.
Qf_2	Late Holocene very young alluvial fan deposits, Unit 2
Qyf_5	Late Holocene young alluvial fan deposits, Unit 5
Qye	Holocene and late Pleistocene young eolian deposits
Qyf_1	Early Holocene and late Pleistocene young alluvial fan deposits, Unit 1

Figure 3B

Geologic Key

The Bridge Point Rancho Cucamonga Project

Geology after Morton and Miller (2006)

X. ATTACHMENT C

Paleontological Records Search Results

2024 Orange Tree Lane, Redlands, California 92374 | Phone: 909.792.1462
www.SBCounty.gov

SAN BERNARDINO COUNTY

Museum

Leonard X. Hernandez
Interim Museum Director

21 October 2014

Brian F. Smith and Associates
attn: George L. Kennedy, Ph.D., Senior Paleontologist
14010 Poway Road, Suite A
Poway, CA 92064

re: **PALEONTOLOGY LITERATURE AND RECORDS REVIEW, SLOVER AVENUE DISTRIBUTION CENTER PROJECT, CITY OF FONTANA, SAN BERNARDINO COUNTY, CALIFORNIA**

Dear Dr. Kennedy,

The Division of Geological Sciences of the San Bernardino County Museum (SBCM) has completed a literature review and records search for the above-named development in the City of Fontana, San Bernardino County. Specifically, the proposed project property is located in the southwestern quadrant of section 21, Township 1 South, Range 6 West, San Bernardino Base and Meridian, as seen on the Guasti, California 7.5' United States Geological Survey topographic quadrangle map (1966 edition, photorevised 1981).

Previous geologic mapping (Bortugno and Spittler, 1986; Morton and Miller, 2003) indicates that the proposed project property is situated upon late Holocene fan deposits (= unit **Qyf_5**). Because these sediments are geologically very young, they have low potential to contain significant nonrenewable paleontologic resources subject to adverse impact by development-related excavation, and are therefore assigned low paleontologic sensitivity. However, these sediments likely overlie older Pleistocene alluvial sediments present in the subsurface that have high potential to contain significant nonrenewable paleontologic resources, and so where present are assigned high paleontologic sensitivity. Pleistocene alluvial sediments elsewhere throughout San Bernardino and Riverside Counties and the Inland Empire have been previously reported to yield significant fossils of extinct animals from the Ice Age (Jefferson, 1991; Reynolds and Reynolds, 1991; Pajak and others, 1996; Anderson and others, 2002; Scott and Cox, 2008; Springer and others, 2009, 2010; Scott, 2010). Fossils recovered from these Pleistocene sediments represent extinct taxa including mammoths, mastodons, ground sloths, dire wolves, sabre-toothed cats, large and small horses, large and small camels, and bison, as well as plant macro- and microfossils (Jefferson, 1991; Reynolds and Reynolds, 1991; Pajak and others, 1996; Anderson and others, 2002; Scott and Cox, 2008; Springer and others, 2009, 2010; Scott, 2010). If present in the subsurface, and depending upon the lithology exhibited, Pleistocene older alluvium within the boundaries of the study areas has high paleontologic sensitivity.

For this review, I conducted a search of the Regional Paleontologic Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no previously-recorded paleontologic resource localities are present within the boundaries of the proposed development property. However, localities SBCM 5.1.14 - 5.1.21, situated within one mile to the southeast of the proposed project property, yielded remains of extinct mastodon, bison, and camel from as little as 5 feet below the existing ground surface. Additionally, locality SBCM 5.1.8, situated roughly 2 miles southwest of the project, yielded fossil remains of extinct mammoth from depths of approximately 20' below the existing ground surface. The proximity of all of these localities to the study area demonstrates the high potential of Pleistocene older alluvium in this area to contain significant vertebrate fossils.

Recommendations

The results of the literature review and the search of the RPLI at the SBCM demonstrate that the proposed property may be situated upon Pleistocene older alluvial deposits present at depth that, if not previously disturbed by development, have high potential to contain paleontologic resources. Excavation into this older alluvium therefore has high potential to impact paleontologic resources. If the proposed depth of excavation is sufficient to encounter these Pleistocene sediments, a qualified vertebrate paleontologist must develop a program to mitigate impacts to nonrenewable paleontologic resources, including full curation of recovered resources (see Scott and others, 2004). This mitigation program must be consistent with the provisions of the California Environmental Quality Act (Scott and Springer, 2003), as well as with regulations currently implemented by the County of San Bernardino.

The County of San Bernardino (Development Code §82.20.040) defines a qualified vertebrate paleontologist as meeting the following criteria:

Education: An advanced degree (Masters or higher) in geology, paleontology, biology or related disciplines (exclusive of archaeology).

Professional experience: At least five years professional experience with paleontologic (not including cultural) resources, including the collection, identification and curation of the resources.

The County of San Bernardino (Development Code §82.20.030) requires that paleontologic mitigation programs include, but not be limited to:

(a) Field survey before grading. In areas of potential but unknown sensitivity, field surveys before grading shall be required to establish the need for paleontologic monitoring.

(b) Monitoring during grading. A project that requires grading plans and is located in an area of known fossil occurrence, or that has been demonstrated to have fossils present in a field survey, shall have all grading monitored by trained paleontologic crews working under the direction of a qualified professional, so that fossils exposed during grading can be recovered and preserved. Paleontologic monitors shall be equipped to salvage fossils as they are unearthed, to avoid construction delays, and

to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring is not necessary if the potentially-fossiliferous units described for the property in question are not present, or if present are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources.

(c) Recovered specimens. Qualified paleontologic personnel shall prepare recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Preparation and stabilization of all recovered fossils is essential in order to fully mitigate adverse impacts to the resources.

(d) Identification and curation of specimens. Qualified paleontologic personnel shall identify and curate specimens into the collections of the Division of Geological Sciences, San Bernardino County Museum, an established, accredited museum repository with permanent retrievable paleontologic storage. These procedures are also essential steps in effective paleontologic mitigation and CEQA compliance. The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontologic resources is not considered complete until curation into an established museum repository has been fully completed and documented.

(e) Report of findings. Qualified paleontologic personnel shall prepare a report of findings with an appended itemized of specimens. A preliminary report shall be submitted and approved before granting of building permits, and a final report shall be submitted and approved before granting of occupancy permits. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into the collections of the San Bernardino County Museum, will signify completion of the program to mitigate impacts to paleontologic resources.

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Please do not hesitate to contact us with any additional questions you may have.

Sincerely,

Eric Scott, Curator of Paleontology
Division of Geological Sciences
San Bernardino County Museum