APPENDIX D-2

PALEONTOLOGICAL RESOURCES ASSESSMENT

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MEMORANDUM

DATE: June 26, 2025

TO: Mr. Larry Chiu, Managing Director, LPA, Inc.

FROM: Kelly Vreeland, MSc., Senior Paleontologist, LSA

SUBJECT: Victorville Police Department and Civic Park Project, Paleontological Resources Assessment

INTRODUCTION

This memorandum documents the results of the paleontological analysis conducted for the proposed Victorville Police Department and Civic Park Project (project) in Victorville, San Bernardino, California. This analysis was conducted to determine the potential for the project to impact paleontological resources in compliance with all applicable State and City of Victorville (City) regulations and requirements regarding paleontological resources, as well as the standards of the Society of Vertebrate Paleontology (SVP, 2010). The applicable regulations and requirements include the California Environmental Quality Act (CEQA): Public Resources Code (PRC) Division 13, Chapter 2.6; the *State CEQA Guidelines*: California Code of Regulations, Title 14, Chapter 3, Appendix G; PRC Section 5097.5; and the Resource Element from the City's General Plan (City of Victorville, 2008).

GEOLOGY AND SOILS

To assess the impacts of the project with respect to paleontological resources, LSA reviewed geologic maps of the project site and relevant geological and paleontological literature to determine which geologic units are present within the project site and whether fossils have been recovered within the project site or from those or similar geologic units elsewhere in the region. In addition, a fossil locality search was conducted through the Natural History Museum of Los Angeles County (NHMLAC) to determine the status and extent of previously recorded paleontological resources within and surrounding the project site. On December 29, 2024, LSA conducted a pedestrian field survey of the project area. The purpose of the field survey was to document and collect any paleontological resources that may have been present, as well as to note the sediments at the surface.

Setting

Results of the literature review indicate that the project area is within the Mojave Desert Geomorphic Province, which forms an elevated alluvial plain with large expanses of desert punctuated by isolated mountain ranges (California Geological Survey, 2002; Norris and Webb, 1976). This province is located on a wedge-shaped fault block bounded by the San Andreas Fault

Zone and Transverse Ranges to the southwest and the Garlock Fault Zone and Tehachapi Mountains to the north (California Geological Survey, 2002; Norris and Webb, 1976).

Geologic mapping by Hernandez et. al. (2008) shows that the entire project area is underlain by Older Alluvial Fan Deposits, Unit 2, which is Pleistocene in age (2.58 million years ago to 11,700 years ago). These deposits consist predominantly of loose to moderately consolidated light yellowish-brown sand and gravel. These sediments were eroded from higher elevations, carried by flooding streams and debris flows, and deposited in a fan or lobe shape at the base of the hills (Hernandez et al. 2008; Morton and Miller, 2006). They show deep dissection to varying depths by small to large washes (Hernandez et al., 2008). The upper surfaces of these deposits exhibit moderately developed pavement and varnish (Hernandez et al., 2008). Dates for the geologic time intervals referenced in this report are derived from the *International Chronostratigraphic Chart* published by the *International Commission on Stratigraphy* (Cohen et al., 2024).

The Pleistocene Older Alluvial Fan Deposits, Unit 2, formed as deposits of the ancestral Mojave River. Scientifically important fossils have been collected in similar Pleistocene deposits from excavations for roads, housing developments, and quarries within California (Jefferson, 1991a, 1991b; Miller, 1971), and the potential exists to encounter similar fossils in all Pleistocene alluvium. Therefore, these deposits are considered to have high paleontological sensitivity.

Fossil Locality Search

According to the locality search conducted by the NHMLAC, there are no known fossil localities within the boundaries of the project. However, this search noted five fossil localities located nearby within 6 miles of the project area. The closest locality, LACM VP 1224, located approximately 1.95 miles southeast of the project area, produced remains of camel (Camelidae). The next closest localities, LACM VP 3353 (from approximately 2.64 miles northeast of the project area) and LACM VP 3352 (approximately 3 miles northeast), both produced remains of horse (*Equus*). Approximately 3.1 miles northeast of the project area, locality LACM 3498 produced remains of horse (*Equus*), deer (Cervidae), and antelope (Antilocapridae). Locality LACM VP 7786, located 6 miles northwest of the project, produced remains of vole (*Microtus mexicanus*). A copy of the NHMLAC fossil locality search results letter is included in Attachment B.

Field Survey

Visibility was good during the survey (approximately 70 percent), with the majority of the surface visible and unobstructed by vegetation or other forms of ground cover (gravel, pavement, etc.). Limitations to the survey included a small portion in the northwest corner of the project area, where an encampment of unhoused individuals had settled. The project has been moderately to severely disturbed by off road vehicles and/or grading activities. Soils are silty alluvium, consistent with geologic mapping by Hernandez et. al. (2008). No paleontological resources were identified.

Impact Analysis

The project area contains Artificial Fill, which has no paleontological sensitivity, and Older Alluvial Fan Deposits, Unit 2, which has high sensitivity. Therefore, there is a potential for the project to impact scientifically significant paleontological resources.

Mitigation

To ensure that potential impacts to undiscovered paleontological resources remain less than significant, preparation of a Paleontological Resources Impact Mitigation Program (PRIMP), paleontological monitoring of construction activities, appropriate treatment of newly discovered resources, and preparation of a final paleontological monitoring report would be required, as outlined in the following Mitigation Measure (MM) PALEO-1.

MM PALEO-1 **Paleontological Resources.** Prior to the commencement of ground-disturbing activities, a qualified, professional paleontologist who meets the standards set by the Society of Vertebrate Paleontology (SVP) shall be retained to develop a Paleontological Resources Impact Mitigation Program (PRIMP) for this project. The PRIMP shall be consistent with the guidelines of the SVP and shall include the methods that will be used to protect paleontological resources that may exist within the project limits, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of ground disturbance.

If ground-disturbing activities occur in deposits with high paleontological sensitivity (i.e., Older Alluvial Fan Deposits, Unit 2), those activities shall be monitored by a qualified paleontological monitor following the PRIMP. If paleontological resources are encountered during the course of ground disturbance, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. Once soils have been monitored during the excavation stage and determined to lack the presence of paleontological resources, monitoring of these soils would no longer be necessary for the remainder of grading activities. Paleontological monitoring can be reduced at the discretion of the qualified Project Paleontologist. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected and the paleontologist or paleontological monitor shall be contacted to assess the find for scientific significance. If determined to be scientifically significant, the fossil shall be collected from the field.

Scientifically significant paleontological resources that are collected shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of the monitoring program, a report of findings shall be prepared to document the results of the monitoring program.

Attachments: A: References
B: Figure 1: Project Location and Vicinity Map
C: Results of the Fossil Locality Search at the Natural History Museum of Los Angeles County

ATTACHMENT A

REFERENCES

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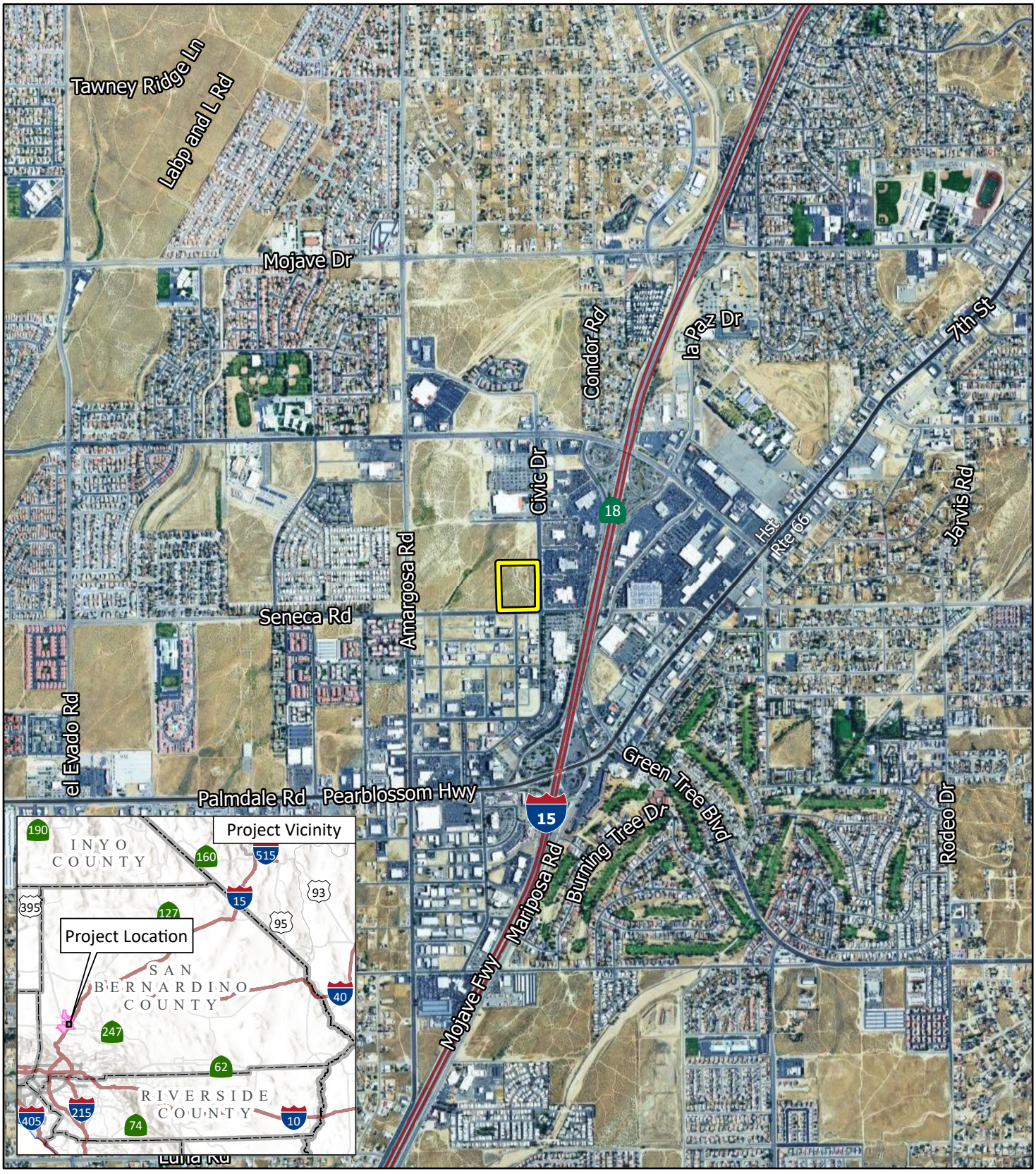
ATTACHMENT B

FIGURE 1: PROJECT LOCATION AND VICINITY MAP



LSA

FIGURE 1

SOURCE: Google Maps (2024)

Victorville Police Department and Civic Park Project

Project Location and Regional Vicinity

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ATTACHMENT C

RESULTS OF THE FOSSIL LOCALITY SEARCH AT THE NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY