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April 3, 2017 **Job No. 3-416-0714**

Ms. Josie Molina
J&T Management, Inc.
139 Radio Road
Corona, CA 92878-1958

Subject: **REVISED PALEONTOLOGICAL RESOURCES SURVEY**
Vacant Land
A portion of Assessor Parcel Number 432-130-004 (6.28 Acres)
NWC Cottonwood & Sanderson Avenue
San Jacinto, California

Dear Ms. Molina

At your request and authorization, a Paleontological Survey for the above-referenced project (a portion of Riverside County Assessor Parcel Number [APN] 432-130-004) located on the northwest corner of Cottonwood & Sanderson Avenue in San Jacinto, California (subject property) was conducted. The Paleontological Survey included a on-site reconnaissance and records searches. The Cultural Resources Survey was revised to address comments received from Ms. Diane Jenkins and Ms. Mary Lanier on behalf of the City of San Jacinto, letter dated September 20, 2016 and email dated March 28, 2016

During the course of this assessment, no evidence of paleontological resources was observed. However, the subject site many contain Paleontological Resources from Pleistocene sedimentary units considered to be of high sensitively and biological monitoring may be recommended during construction activities at the site.

We appreciate the opportunity to assist you with this project. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (909) 980-6455.

Respectfully submitted,

SALEM Engineering Group, Inc.

Maria G. Ruvalcaba, EP
Project Manager

PRE-CONSTRUCTION PALEONTOLOGICAL ASSESSMENT OF A 6.28-ACRE RETAIL AND ARCO AM/PM PROJECT SITE LOCATED IMMEDIATELY NORTHWEST OF THE INTERSECTION OF COTTONWOOD AND NORTH SANDERSON AVENUES, CITY OF SAN JACINTO, RIVERSIDE COUNTY

by

John A. Minch, Ph.D.
Robert S. White

Archaeological Associates
P.O. Box 180
Sun City, CA, 92586

Tel: (951) 244-1783
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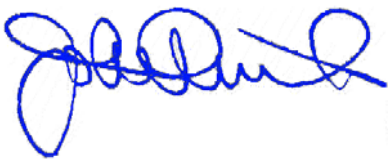
for

Maria G. Ruvalcaba
Branch Manager, Project Manager
Salem Engineering Group, Inc.
13355 Noel Road, Suite 1100
Dallas, Texas 75240

APN 432-130-00-3

Revised
March, 2017

The undersigned certifies that the attached report is a true and accurate description of the results of a PALEONTOLOGICAL assessment described herein.



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John A. Minch, PhD.
Principal Paleontologist

TABLE OF CONTENTS

FIGURES

PLATES

EXECUTIVE SUMMARY

This Pre-construction Paleontological Survey Report documents the findings of a paleontological site investigation conducted by Archaeological Associates for the Salem Engineering Group, Inc. The study area comprises 6.28 acres of vacant land identified as APN 432-130-00-3 located northwest of the intersection of Cottonwood and North Sanderson Avenues in San Jacinto, Riverside County. Presently, it is desired to construct an ARCO AM/PM-Fast Food complex on the property.

The paleontological assessment included records searches, a field reconnaissance, and report. The survey was completed using currently accepted paleontologic methods that satisfy mitigation requirements for paleontological resources. The on-site field reconnaissance was performed in order to: 1) evaluate existing paleontological resources, 2) determine the impact to identified and/or anticipated paleontological resources resulting from the proposed development project, and 3) to determine appropriate mitigation measures necessary to minimize anticipated adverse impacts to paleontological resources resulting from construction (if any).

Although no paleontologic resources were encountered during the field reconnaissance, the study area may contain Paleontological Resources from Pleistocene sedimentary units considered to be of high paleontologic sensitivity. Consequently, full-time monitoring for paleontological resources is recommended for future earth-disturbing activities connected with the project. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution such as the Western Science center in Hemet.

I. INTRODUCTION

At the request of the Salem Engineering Group, Inc., Archaeological Associates has undertaken a Pre-construction Paleontological survey for a proposed ARCO AM/PM-Fast Food project located in the City of San Jacinto, Riverside County, California (fig. 1). The survey was performed in order to: (1) evaluate existing paleontological resources at the site and surrounding area, (2) determine if the proposed development poses any significant adverse impact to existing paleontological resources, and (3) to outline appropriate mitigation measures in order to minimize adverse impacts to the paleontological resources (if any).

The study area is irregular in shape comprising 6.28-acres of fallow farm land identified as APN 432-130-00-3. It is located at the northwest corner of Cottonwood Avenue and North Sanderson Avenue. Legally, the subject property lies within the South ½ of the Southwest ¼ of the Southwest ¼ of the Southwest ¼ of Section 29, Township 4 South, Range 1 West, SBBM as shown on a portion of the *Lakeview* USGS 7.5' Topographic Quadrangle (fig. 2).

The project site is situated on a flat valley floor (San Jacinto Valley) and is essentially flat and devoid of any topographic relief (fig 3). Elevations average 1506 feet above mean sea level throughout the parcel. A scant cover of exotic weeds and forbes presently cover the study area. Primary access to the property is from Cottonwood Avenue (fig. 4).

II. METHODOLOGY

Tasks completed during field survey:

1. A walkover and inspection of each geologic unit mapped and/or exposed on-site, by a Certified Vertebrate Paleontologist/State Professional Geologist (No. 3269).

2. Review of records searches procured from the Natural History Museum of Los Angeles County and the Western Science Center in Hemet (Appendix A).

3. Review the available geologic and paleontologic literature pertinent to the site, including existing lists of fossils and fossil localities.

4. Knowledge of the significance of paleontological localities on or near the site.

5. Review of available environmental impact and/or geotechnical reports pertinent to development of the site.

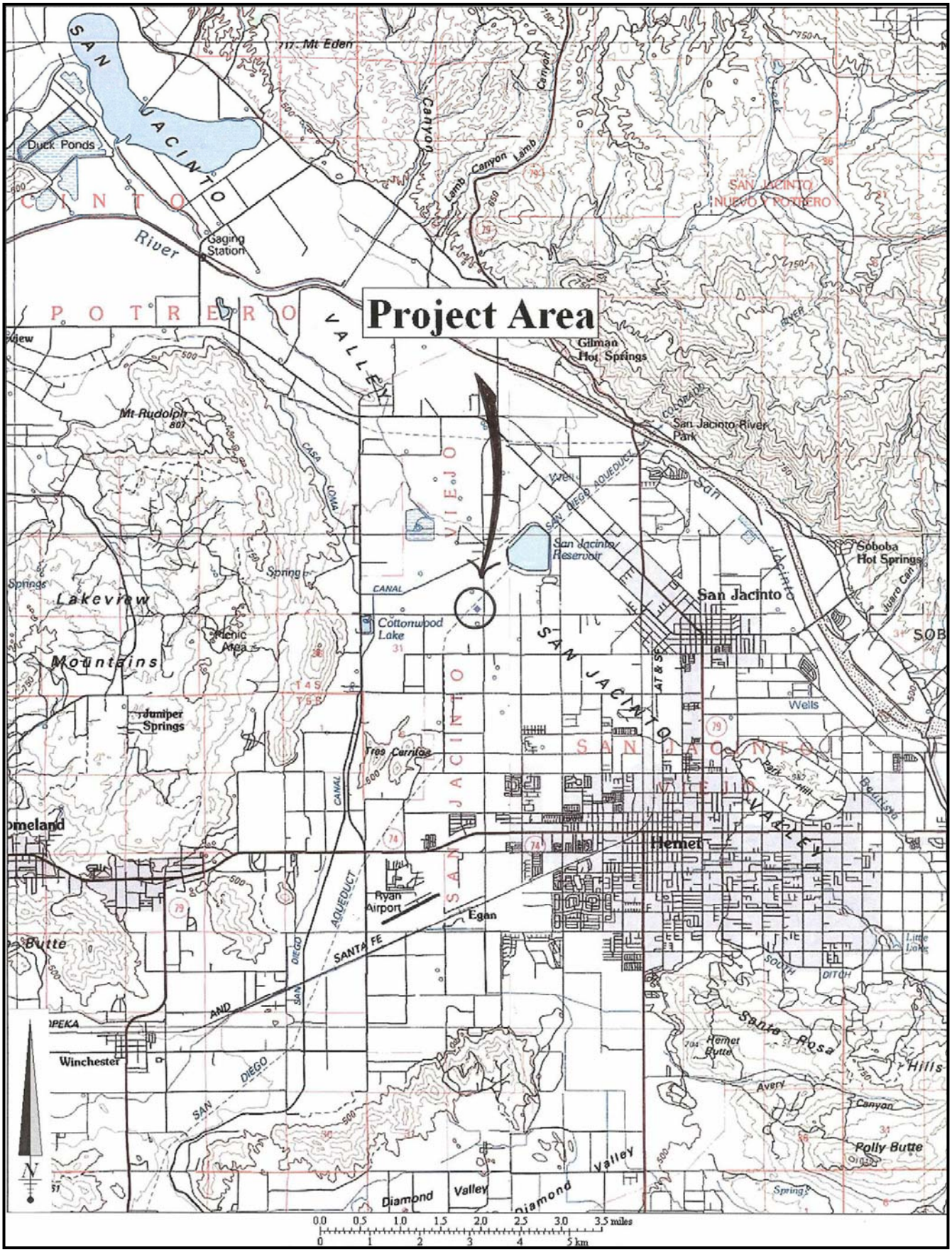


Figure 1. Regional location of the project area as indicated on a portion of the *Santa Ana* USGS 1:100,000 scale Topographic Map Sheet (1983).

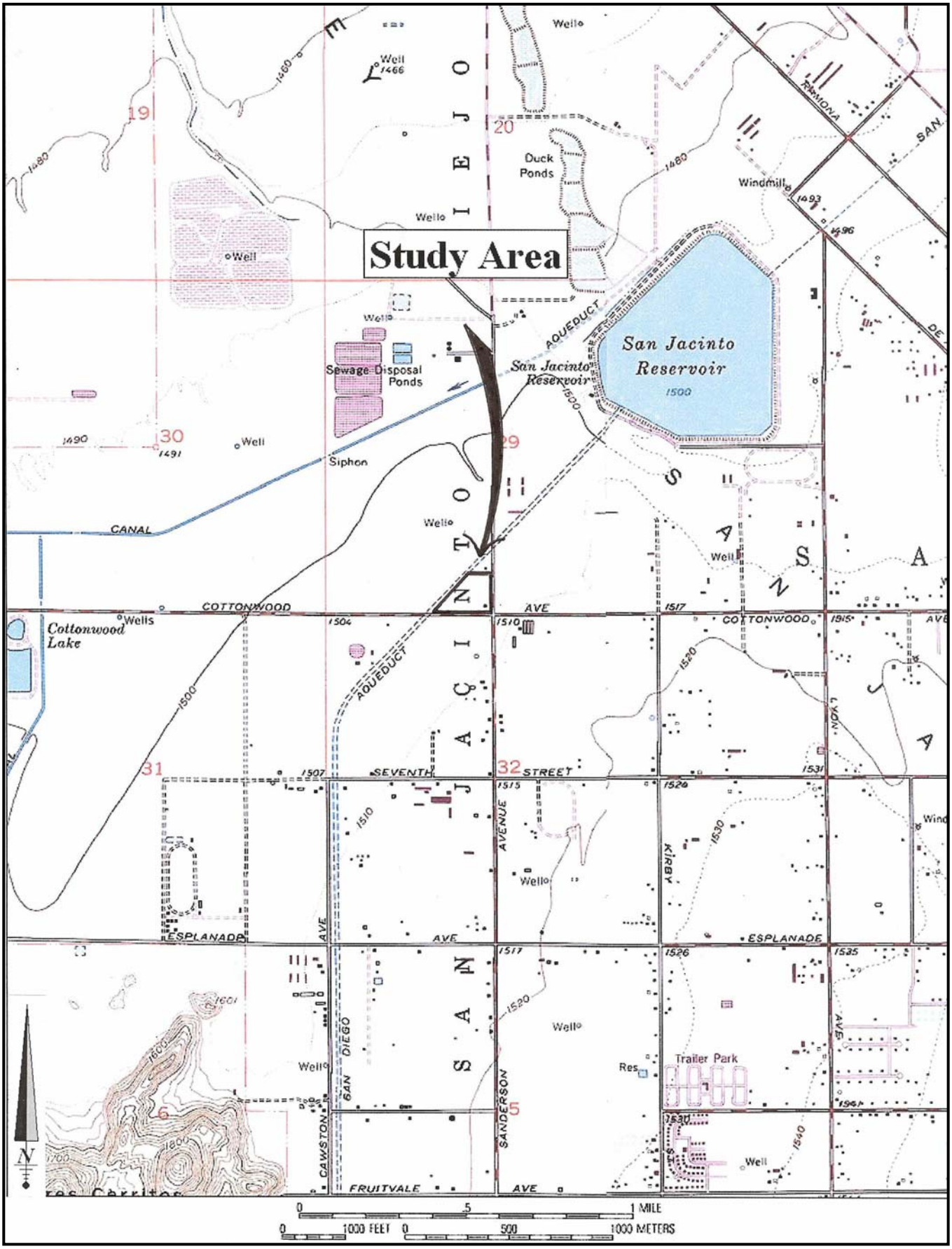


Figure 2. Study area plotted on a portion of the *Lakeview* USGS 7.5' Topographic Quadrangle (1976/79).

III. LITERATURE SEARCH

All available literature considered pertinent to the site, including previously recorded lists of fossils and paleontological fossil localities recorded for the general site vicinity, was reviewed. The purpose of the literature searches conducted by the Natural History Museum of Los Angeles County (LACM) and the Western Science Center was to determine: (1) pertinent geologic and paleontologic site information, and (2) the paleontologic sensitivity of identified and/or anticipated geologic units underlying the site. In addition, other pertinent data consulted included environmental reports, professional geological publications, paleontological consultant reports, and other unpublished documents related to regional and/or detailed geologic studies.

IV. FOSSILS ON OR ADJACENT TO THE SITE

The Western Science Center indicated that they do not have localities within the project location or within a 1-mile radius, however, they do have numerous fossil localities within 6 miles that represent significant paleontological finds, including those associated with the Diamond Valley Lake Project and San Diego Canal Project (Radford 2016).

LACM indicated that their closest fossil vertebrate localities are from older Quaternary Alluvium deposits on the western side of Mt. Eden to the north-northwest (fossil horse, Equus) and to the southwest at Skinner Reservoir (mammoth, Mammuthus, and bison, Bison). There are no other recorded fossil localities in the immediate vicinity in the LACM database (McLeod 2016).

V. GEOLOGY/BIOSTRATIGRAPHY

The site is situated on the flat alluvial surface that forms the broad area of the Perris Plain that covers much of the San Jacinto-Hemet area. The general area of the site consists of the flat part of the surface near Mystic Lake. The geologic units underlying the site have been mapped as young early Holocene and late Pleistocene alluvial deposits (Dibblee, 2004). Alluvium (Pleistocene to Recent) generally consists of brown to yellowish brown poorly graded sand, silty sand, and sandy silt with varying amounts of gravel. The sediments on site are largely fine sand and silty sand which may be distally related to Mystic Lake sediments. Older parts of this unit are known to be locally fossiliferous in other parts of the Basin and in southern California. Deposits near Pleistocene lakes frequently contain fossil vertebrate faunas.

VI. FIELD RECONNAISSANCE

A pedestrian survey of the study area was conducted by Dr. John A. Minch, Robert S. White and Richard Guttenberg, M.A. on July 20, 2016. Dr. Minch is a Certified Vertebrate Paleontologist and a State of California Professional Geologist (No. 3269). The field survey was conducted to investigate and make visual observations of each geologic unit present on the surface of the site. No paleontologic resources were encountered during the field reconnaissance. The walkover and inspection of the geologic units on the site did not uncover any vertebrate fossil remains.

VII. CONCLUSIONS

The geologic units underlying the site have been mapped as young early Holocene and late Pleistocene alluvial deposits. However, it is difficult to assess the age of Pleistocene alluvial deposits as these alluviated surfaces can lie at or near the surface for, literally, tens of thousands of years if there are no younger sediments deposited on them. The finding of vertebrate fossils, in close-by sediments, near the surface during the San Diego Canal Project demonstrates the antiquity of surface and near surface deposits. There is also a possibility of the occurrence of Mystic Lake sediments at shallow depths on the project.

The study area may contain Paleontological Resources from Pleistocene sedimentary units, therefore the site is considered to be of high paleontologic sensitivity and will require full-time monitoring for paleontological resources. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution.

Careful development of this area may increase our knowledge and collections of the fossil assemblages and environment of deposition of the rock units in this area. Fossils contained in this unit have proven to be of significant scientific value elsewhere is southern California. We know very little about the fauna of the late Pleistocene and any new localities need to be carefully collected. The site can be developed and still protect the paleontological resources of the area if the following mitigation measures are followed.

Figure 3. Study area as shown on aerial photograph

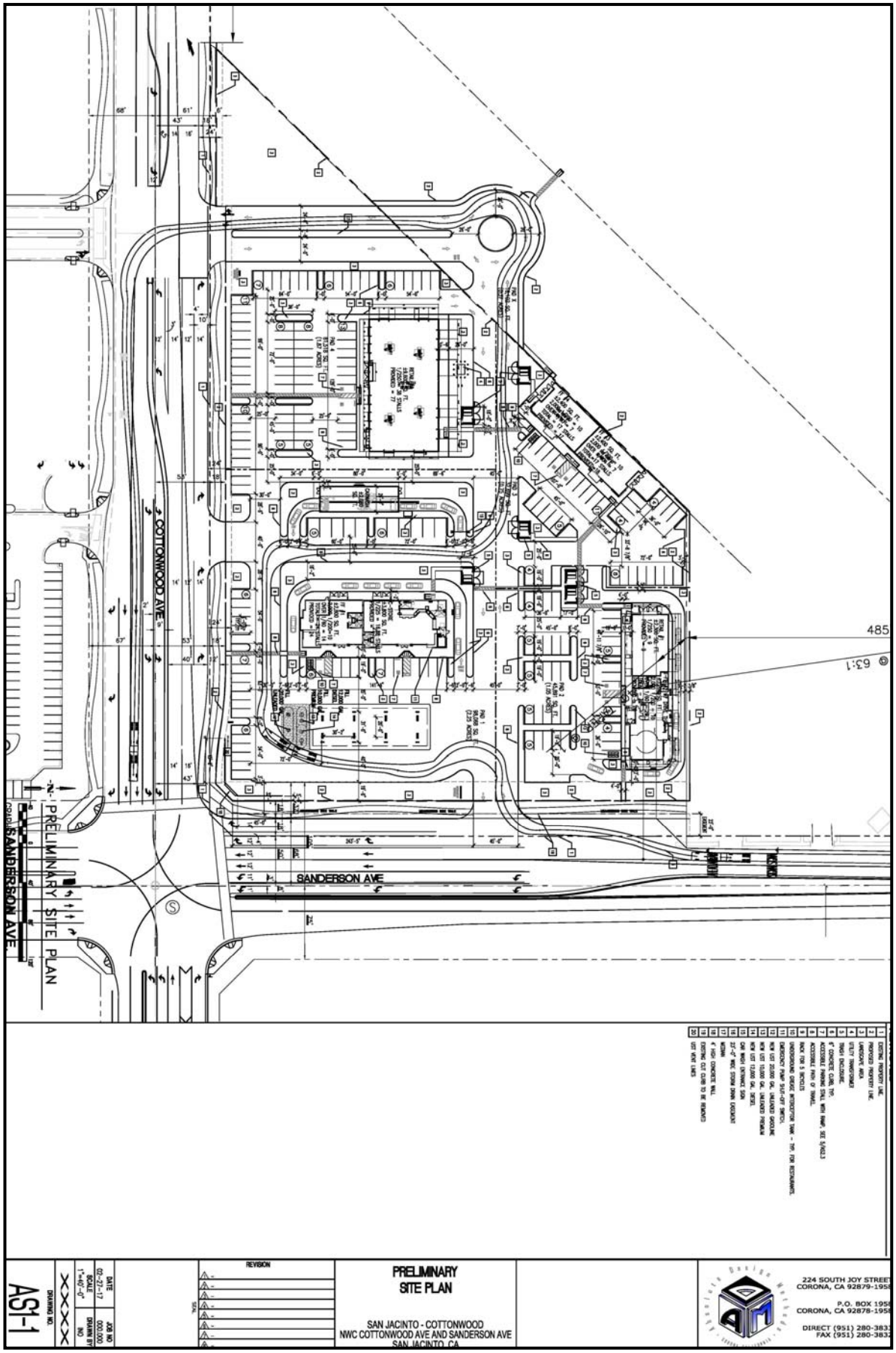


Figure 4. Study area as shown on ***Revised*** Preliminary Site Plan

VIII. MITIGATION RECOMMENDATIONS

1. No additional mitigation measures are necessary prior to the initiation of grading operations.
2. A full-time paleontological grading observation schedule shall be developed by a Certified Paleontologist and should be maintained during grading to further evaluate the fossil resources of the site.
3. Salvage operations should be initiated and coordinated with the developer if significant concentrations of fossils are encountered.
4. Sediment samples should be collected and processed to determine the small fossil potential in the proposed project area.
5. Fossils recovered during mitigation should be identified, curated, and accessioned into an accredited and permanent scientific institution.

REFERENCES CITED

DIBLEE, T.W.

2004 *Geologic Map of the Lakeview Quadrangle, Riverside County, California*: Minch, J.A., ed., Dibblee Geological Foundation, Dibblee Foundation Map DF-115, scale 1:24,000.

MCLEOD, SAM

2016 Written Communication, Los Angeles County Museum, Los Angeles

RADFORD, DARLA

2016 Written Communication, Western Science Center, Hemet

Plate I. Top: Looking west along Cottonwood Ave. from the southeast project corner. **Bottom:** Looking north along N. Sanderson Ave. from the southeast project corner.

Plate II. Top: Looking southeast across study area from the northwest property corner. **Bottom:** Looking northeast along the northwest project boundary (San Diego Aqueduct) from the southwest property corner.

APPENDIX A

PALEONTOLOGICAL RECORDS SEARCHES

WESTERN SCIENCE CENTER

July 8, 2016

Archaeological Associates
Robert S. White
P.O. Box 180
Sun City, CA 92586

Dear Mr. White,

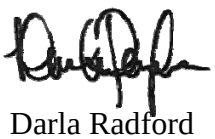
This letter presents the results of a record search conducted for the San Jacinto Retail ARCO AM/PM Project site in the city of San Jacinto, Riverside County, California. The project site is located at the northwest corner of Cottonwood Avenue and North Sanderson Avenue in Section 29 of Township 4 South, Range 1 West of the Lakeview USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped entirely as young alluvial valley deposits dating to the early Holocene and late Pleistocene period (Morton, 1969, 1996 and Matti, 1996). Pleistocene alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project location or within a 1 mile radius. The Western Science Center does however, have numerous fossil localities within a 2-6 mile radius that presented significant paleontological finds, including those associated with the Diamond Valley Lake Project and San Diego Canal Project. The Diamond Valley Lake and San Diego Canal Projects are mapped in similar alluvial units and consisted of thousands of fossil localities, and over 250,000 Pleistocene fossil specimens.

Any fossils recovered from the project area would be scientifically significant. Excavation activity associated with development of the project area would impact the paleontologically sensitive Pleistocene units, and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

If you have any questions, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,



Darla Radford
Collections Manager

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NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325
Fax: (213) 746-7431
e-mail: smcleod@nhm.org

27 July 2016

Archaeological Associates
P.O. Box 180
Sun City, CA 9258

Attn: Robert S. White, Principal

re: Paleontological resources for the proposed 6.28-acre Retail and ARCO AM/PM Project, APN 432-130-00-3, in the City of San Jacinto, Riverside County, project are

Dear Robert:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed 6.28-acre Retail and ARCO AM/PM Project, APN 432-130-00-3, in the City of San Jacinto, Riverside County, project area as outlined on the portion of the Lakeview USGS topographic quadrangle map that you sent to me via e-mail on 6 July 2016. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have localities nearby from sedimentary deposits similar to those that probably occur at depth in the proposed project area.

Surface deposits in the entire proposed project area consist of younger Quaternary Alluvium, derived as alluvial fan deposits from the Lakeview Mountains to the west, the Santa Rosa Hills to the southeast and the San Jacinto Mountains to the east. These types of deposits typically do not produce significant vertebrate fossils, at least in the uppermost layers, but they may be underlain by older Quaternary sediments that may well contain significant vertebrate fossils. Our closest vertebrate fossil locality from somewhat similar older Quaternary deposits is LACM 4540, from the gravel pits just west of Jack Rabbit Trail on the western side of Mt. Eden north-northwest of the proposed project area, that produced a specimen of fossil horse, *Equus*. Our next closest fossil vertebrate locality in somewhat similar older Quaternary sediments is LACM 7261, west of south of the proposed project area at Skinner Reservoir, that produced fossil specimens of mammoth, *Mammuthus*, and bison, *Bison*.

Surface grading or shallow excavations in the surficial younger Quaternary Alluvium exposed throughout the proposed project area probably will not encounter any significant vertebrate fossils. Deeper excavations that extend down into the underlying older Quaternary deposits, however, may well uncover significant vertebrate fossil remains. Any substantial excavations below the uppermost layers, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should also be collected from the older deposits in the proposed project area and processed to determine their small fossil potential. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice