

**PHASE 1 PALEONTOLOGICAL RESOURCES INVENTORY
FOR THE ORANGE HEIGHTS TRACT, GARRETSON AVENUE
CITY OF CORONA, RIVERSIDE COUNTY CALIFORNIA**

±9.32 Acre Property, ±9.36 Acres Surveyed

APN 120-020-022, City of Corona, Section 1, Township 4 South, Range 7 West,
USGS Corona South 7.5' Topographic Quadrangle

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Report Summary:

Results of a 2023 Record search by the San Bernadino County Museum indicates that the entire project area is located atop recent alluvial fan deposits (Qyf). These sediments are comprised of unconsolidated mixed sand, silt, and gravel, often covered by soil. Qyf is unlikely to be fossiliferous but may overlie ~1.8 million to ~11,700-year-old Pleistocene alluvial deposits (Qoa) that commonly are. Qoa often underlies Holocene age sediments by as little as 5 ft in northwestern Riverside County (Reynolds and Reynolds, 1991). Such older alluvial deposits have yielded the remains of †Mammut, †Mammuthus, †Smilodon, Camelidae, Equus, Bison, and ground sloths, as well as microfossils including rodents. Due to the possibility of sensitive fossils being found within the lithologic units underlying the recent alluvial fan deposits the project site sits upon project area and the recent alluvial fan deposits (Qyf) (namely the Pleistocene alluvial deposits common to northwestern Riverside County) under normal or surficial earthmoving activities associated with construction, it is recommended that if excavations exceed 3 feet in depth a qualified paleontologist be present to monitor these activities according to the included PRIMP.

Report Date: December 22, 2023

Field Survey Date: December 8, 2023,

Report Date: January 19, 2024 Revised May 2024

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MANAGEMENT SUMMARY

At the request of Warmington Residential., L&L Environmental, Inc. (L&L) has conducted a Phase I paleontological records review and survey on a ±9.32 -acre property located in Riverside County, California.

The study is intended to identify paleontological resources that may be located within the property and to determine, if present, which resources will be impacted by development. This information will be used to support the development of the Paleontological Resource Impact Mitigation Plan (PRIMP).

The paleontological resource studies involved a comprehensive records search, literature review and field reconnaissance within the study area. Geologic mapping of the region done by Morton and Miller (2008) indicates that the entire project area is located atop recent alluvial fan deposits (Qyf). These sediments are comprised of unconsolidated mixed sand, silt, and gravel, often covered by soil. Qyf is unlikely to be fossiliferous but may overlie ~1.8 million to ~11,700-year-old Pleistocene alluvial deposits (Qoa) that commonly are. Qoa often underlies Holocene age sediments by as little as 5 ft in northwestern Riverside County (Reynolds and Reynolds, 1991). Such older alluvial deposits have yielded the remains of †Mammut, †Mammuthus, †Smilodon, Camelidae, Equus, Bison, and ground sloths, as well as microfossils including rodents.

For this review, I conducted a search of the Regional Paleontological Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no paleontological resources have been discovered within the proposed project site, nor within a 1-mile radius of the project's perimeter. The nearest paleontological locality, SBCM 5.5.33, is approximately 2.3 miles north of the project site. Permineralized bone fragments and sediment samples were collected from Qoa underlying Qyf at this locality the exact depth below surface at which samples were taken is unspecified. Based on SBCM field practice at the time, it is probable that SBCM 5.5.33 represents sediment samples taken from a construction spoil pile during paleontological monitoring, which were later screened and picked for microfossils

Potential for destruction of paleontological resources during surficial earthmoving during mining is low near the surface within the project area, but potential exists at depth within older alluvial deposits (Table 2).

1.0) INTRODUCTION AND SETTING

1.1) Introduction

The following report has been prepared for Warmington Residential. by L&L Environmental, Inc. (L&L). This report describes the results of a Phase I paleontological records review and site survey. The property includes Assessor's Parcel Numbers (APNs) 120-020-022. The study area, herein referred to as "the property," is part of a proposed industrial project, entitled the Orange Heights Tract located on the east side of Garretson Avenue about 550 feet southwest of the intersection of Garretson Avenue and Santana Way.

1.2) Project Goals

The goal of this study was to identify all paleontological resources situated within the boundaries of the project area. This information is required, since construction of the project could adversely affect such resources.

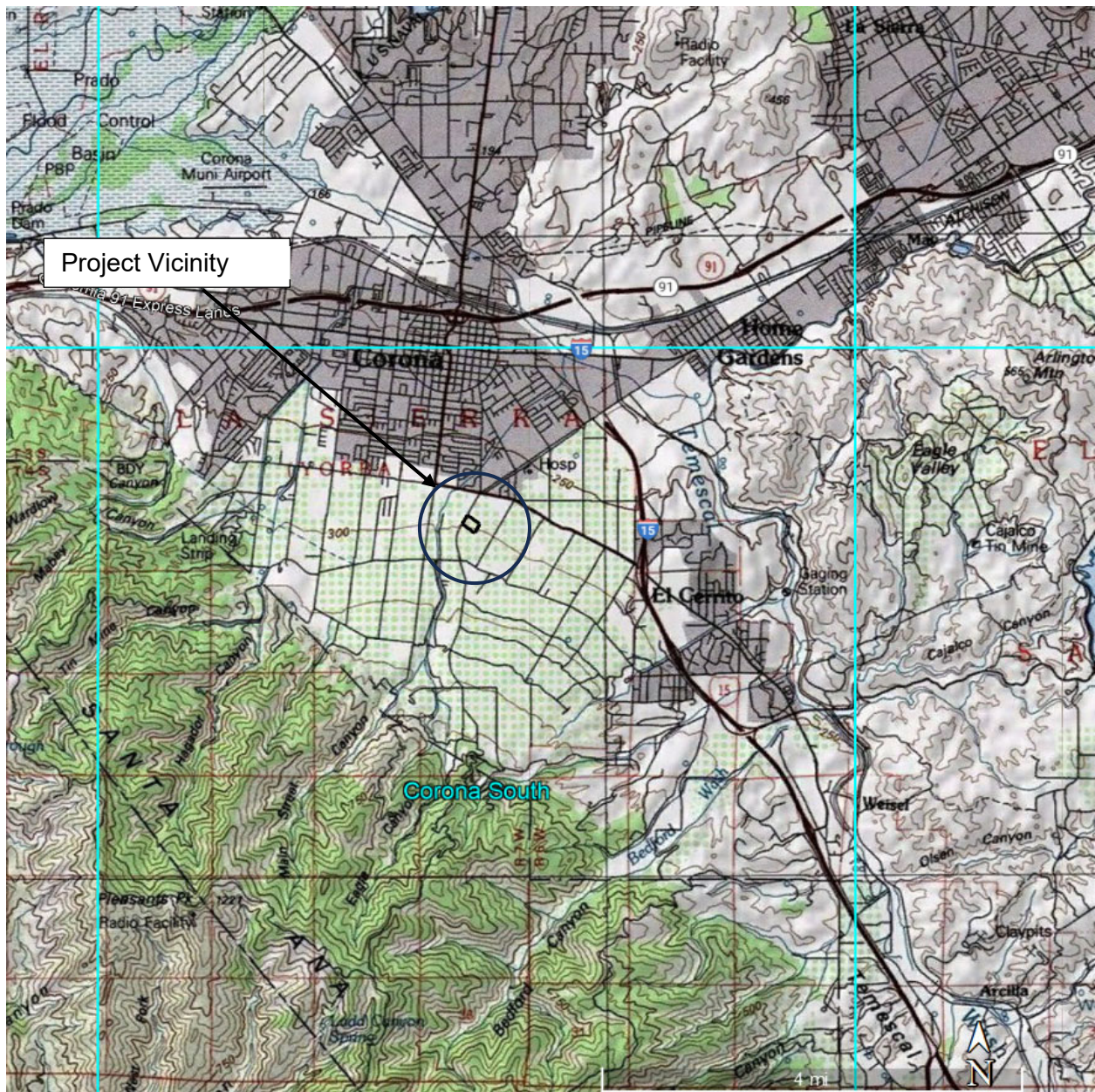
The paleontological resource study consisted of:

- 1) A literature review, conducted to determine what geologic formations underlie the subject parcel.
- 2) A paleontological records search, conducted to determine whether any previously recorded significant fossil bearing formations underlie the subject parcel.
- 3) A field visit to the site in order to determine if any fossil material is currently exposed.

1.3) Location

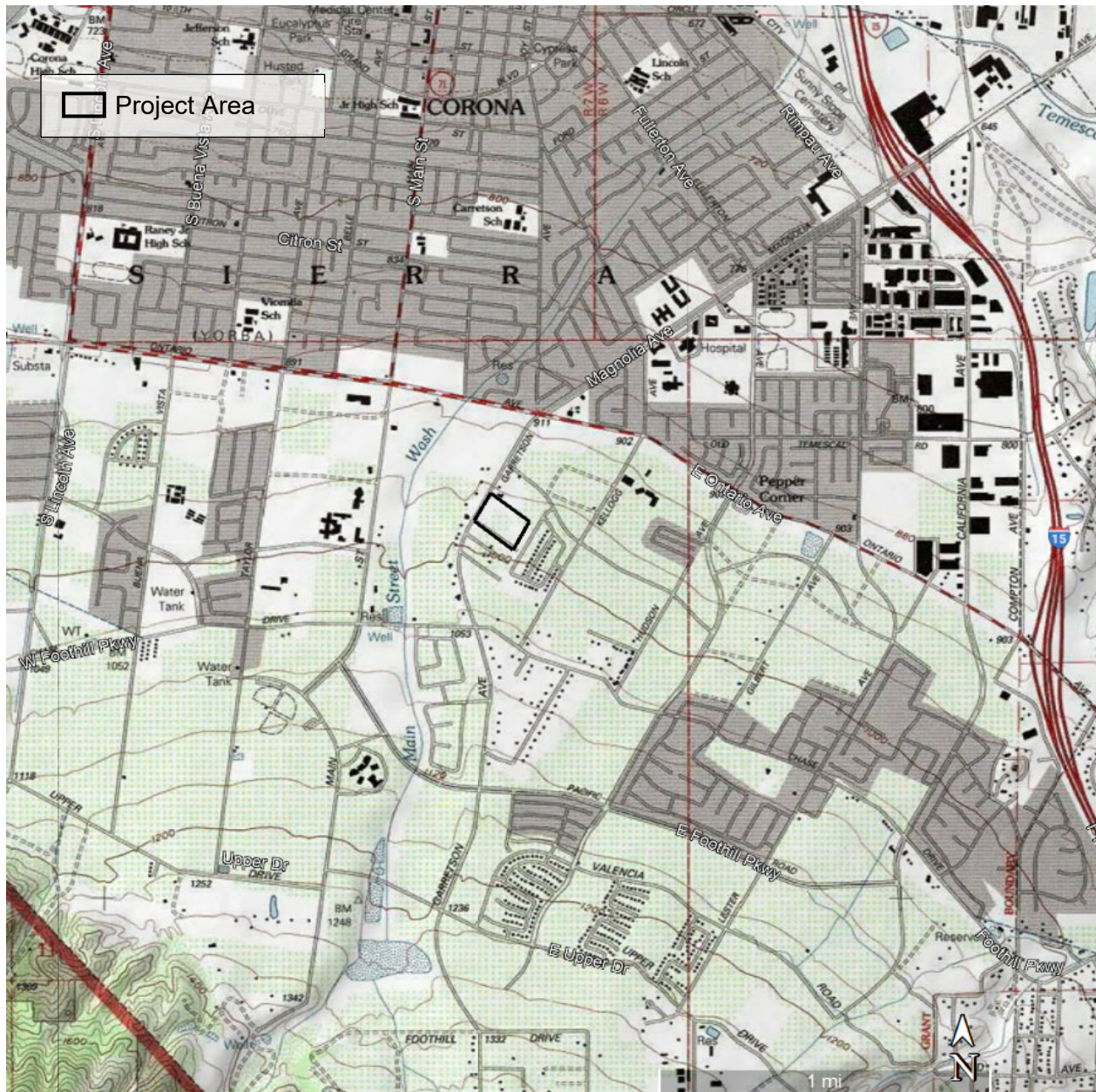
The property is located in the Orange Heights area of the City of Corona in Riverside County, California (Figure 1). It is on the east side of Garretson Avenue about 550 feet southwest of the intersection of Garretson Avenue and Santana Way. The site is located in Section 1, Township 4 South, Range 7 West on the USGS Corona South topographic quadrangle (Figure 2).

The project site is bounded on the northwest by Garretson Avenue and residential developments with additional residential developments and Magnolia Avenue beyond; to the northeast by a large residence and former citrus grove with a religious complex, Santana Way, and Santana Regional Park beyond; and to the southeast and southwest by residential developments with Fullerton Avenue and Foothill Parkway beyond (Figure 3).



(USGS Quad, Section 1 of Township 4 South, Range 7 West)

Orange Heights Tract
City of Corona,
Riverside County
Project Vicinity
Figure 1



(USGS Quad, Section 1 of Township 4 South, Range 7 West)

Orange Heights Tract
City of Corona,
Riverside County
Project Area
Figure 2



(Aerial Obtained from Google Earth September 2023)

Orange Heights Tract
City of Corona,
Riverside County
Aerial Photograph
Figure 3

2.0) REGULATORY BACKGROUND

The paleontological resource of a rock encompasses any evidence preserved in the rock of once living organisms. As recognized here, this pertains to fossils preserved either as impressions of soft or hard parts, mineralized remains of hard parts, tracks, burrows, or other trace fossils, coprolites, seeds or pollen, and other microfossils. These organisms may have been terrestrial, aquatic, or aerial in life habit.

Fossils are an important resource to science, as they are useful in demonstrating and documenting the evolution of particular groups of organisms. Fossil remains enable geologists to reconstruct the environment in which the organisms lived and hence the environment during deposition of the rock. Fossils are also extremely useful in determining the age of the rock in which they are preserved. Paleontological resources include fossil remains, fossil localities, and formations that have produced fossil material in other nearby areas. The paleontological resource is a limited, nonrenewable, sensitive scientific and educational resource afforded protection under federal, state, and local legislation and policies.

2.1) Paleontological Resource Requirements Under CEQA

The California Environmental Quality Act (CEQA) requires a lead agency to determine whether a project may have a significant effect on paleontological resources. State of California environmental regulations (California Environmental Quality Act [CEQA], Section 15064.5, Appendix G) address construction activities that may impact paleontological resources. Appendix G provides a checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts. A relevant section of Appendix G that addresses an analysis of Geology and Paleontology is Section (V) (c), which asks if the project will directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

2.2) Lead Agency Requirements

On October 25, 2011 the Riverside County Board of Supervisors voted to approve the SABER Policy (Safeguard Artifacts Being Excavated in Riverside County). The policy mandates preferential transfer of paleontological fossils to the Western Science Center located in the City of Hemet. The policy also directs that the following condition be implemented when applicable: "The property owner and/or applicant on whose land the paleontological fossils are discovered shall provide appropriate funding for monitoring, reporting, delivery and curating the fossils at the institution where the fossils will be placed and will provide confirmation to the County that such funding has been paid to the institution."

The city of Corona may choose to implement their own policies regarding assessment of recovered resources.

The City of Corona's current General Plan (City of Corona 2020) and Environmental Impact Report (EIR; City of Corona 2019) include the following specific measures to identify, protect, and preserve paleontological resources during the planning and environmental review process:

1. Recognize the importance of archaeological and paleontological resources and ensure the identification and protection of those resources within the City of Corona.
2. Require that development proposals incorporate specific measures to identify, protect, and preserve cultural resources in the planning, environmental review, and development process.
3. Any project that involves earth-disturbing activities in soil or rock units known or reasonably suspected to be fossil-bearing shall require monitoring by a qualified paleontologist retained by the project applicant for the duration of excavation or trenching.
4. Paleontological resources found prior to or during construction shall be evaluated by a qualified paleontologist, and appropriate mitigation measures applied, pursuant to § 21083.2 of CEQA [California Environmental Quality Act], before the resumption of development activities. Any measures applied shall include the preparation of a report meeting professional standards.

2.3) Professional Standards

Within the Society of Vertebrate Paleontology (SVP) are guidelines titled, "The Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontological Resources." They are a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources (SVP 2010).

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources" the SVP (2010) defines three (3) categories of paleontological sensitivity (potential) for sedimentary rock units: high, low, and undetermined:

- **High Potential:** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontological resources anywhere within their geographical

extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical, and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant.

- **Low Potential:** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential:** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.

Note that highly metamorphosed rocks and granitic rock units generally do not yield fossils and therefore have low potential to yield significant nonrenewable fossiliferous resources.

In general terms, for geologic units with high potential, full-time monitoring typically is recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts typically are not required. For geologic units with undetermined potential, field surveys by a qualified paleontologist are usually recommended to specifically determine the paleontological potential of the rock units present within the study area.

2.3) City of Corona General Plan

The Corona area is known to contain fossil localities within the city limits as well as geological formations that are known to contain fossils in other locations within the vicinity of the city. Marine-related habitats have also been recorded in Corona, in particular near the I-15/SR-91 interchange. Data provided by the Los Angeles County Museum indicates there are multiple known fossil localities within Corona city limits, and other fossil localities from similar formations in the vicinity.

The following classifications of geologic formations are used to indicate the potential for the presence of fossils and assign appropriate mitigations.

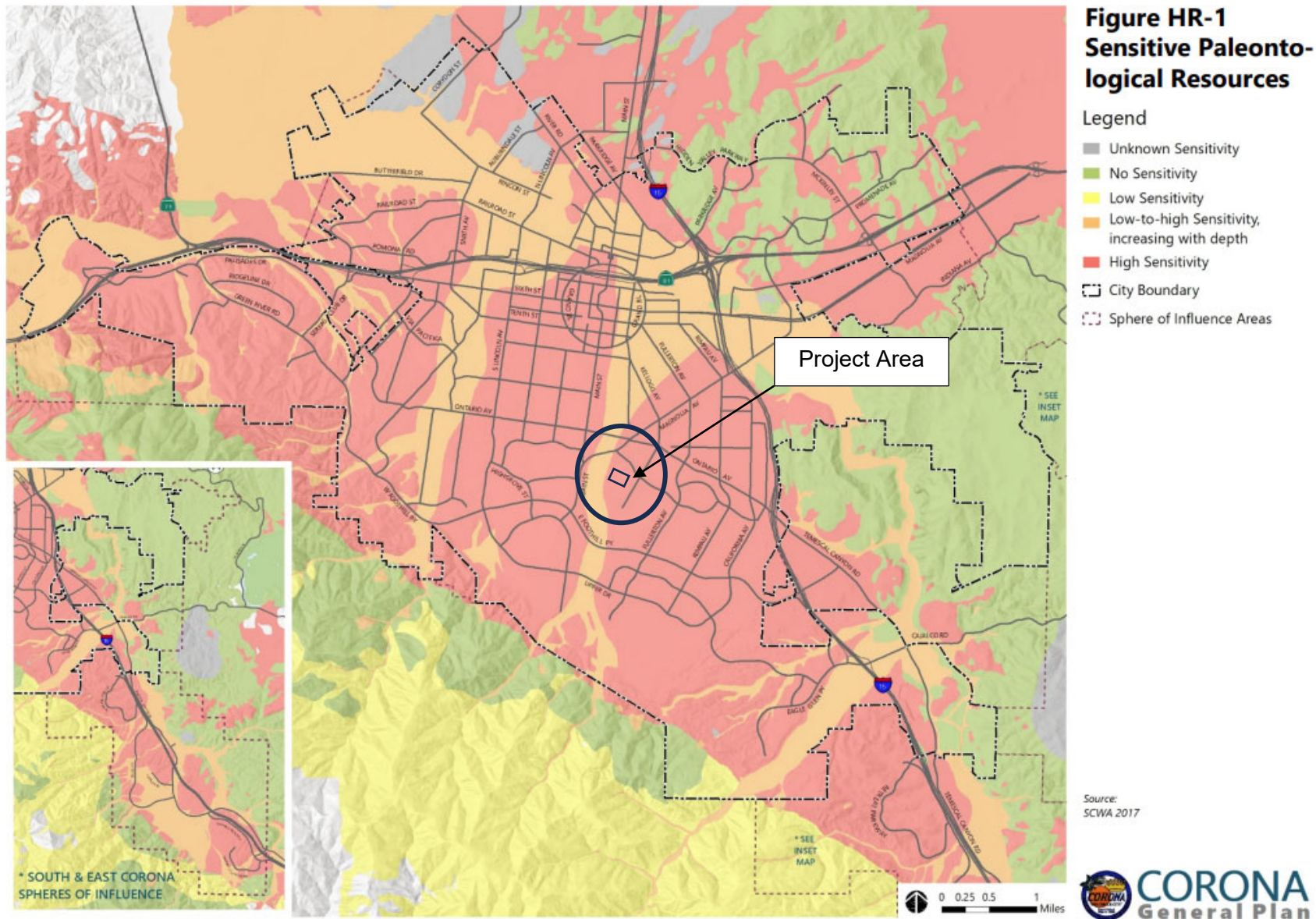
» No Sensitivity. This refers to igneous and metamorphic rocks, which generally have no paleontological sensitivity because the ways these rocks form are not conducive to the preservation of fossils.

» Low Sensitivity. Some rock units are of an age to preserve fossil resources, but specimens are poorly represented in the literature and in museums, and the presence of fossils is the exception and not the rule.

» Low-to-High Sensitivity. Some sedimentary deposits are too young to preserve fossils at the surface or shallow subsurface but may preserve fossils at greater depth or overlie older units that have high paleontological sensitivity.

» High Sensitivity. These areas refer to geologic formations that are known to preserve abundant or scientifically significant fossils, therefore giving them high sensitivity to paleontological resources.

» Undetermined Sensitivity. This designation refers to areas where paleontological sensitivities cannot be determined because there is little to no record in scientific literature. Most of central Corona is underlain by an area designated as having high sensitivity or a low-to-high sensitivity (depending on the depth of the soil) for paleontological resources. Rock units surrounding the city in the adjacent foothills are classified as having low or no sensitivity for paleontological resources.



3.0) RESEARCH DESIGN AND METHODS

3.1) Paleontological Research Design and Goals

The paleontological resource of a rock encompasses any evidence preserved of once living organisms in the rock. As recognized here, this pertains to fossils preserved either as impressions of soft or hard parts, mineralized remains of hard parts, tracks, burrows, or other trace fossils, coprolites, seeds or pollen, and other microfossils. These organisms may have been terrestrial, aquatic, or aerial in life habit.

Fossils are an important resource to science as they are useful in demonstrating and documenting the evolution of particular groups of organisms. Fossils also enable geologists to reconstruct the environment in which organisms lived and the environment during deposition of the rock. Fossils are also extremely useful in determining the age of the rock in which they are preserved. Paleontological resources include fossil remains, fossil localities, and formations that have produced fossil material in other nearby areas. The paleontological resource is a limited, nonrenewable, sensitive scientific educational resource afforded protection under federal laws and regulations designed to preserve environmental quality. In California, paleontological resources are offered protection under CEQA.

Potential adverse environmental impacts that could result from excavation on the parcel and that might affect paleontological resources (unrecorded fossil sites and remains) were assessed. Mitigation measures were then developed to reduce these impacts to an insignificant level. The assessment and mitigation measures are in compliance with 1995 Society of Vertebrate Paleontology (SVP) standard guidelines for reducing potential adverse impact of construction on paleontological resources.

3.2) Assessment Criteria

Paleontological sensitivity of a formation or unnamed sedimentary unit described as high, low, unknown, or none is the measurement most conducive to assessing sensitivity of paleontological resources and reflects potential productivity and importance of fossils that might be found within a study area. Procedures utilized in this study to evaluate the paleontological resource of a rock unit are similar to those utilized by the Society of Vertebrate Paleontology guidelines (2010).

Potential productivity of a formation is measured as high, low, unknown, or none, based upon densities of fossil specimens or localities within or near the study area. Exposures of a particular formation within a study area most likely will yield fossils similar in number and kind to those

previously recorded from the formation in the surrounding area and may contain a similar density of fossil sites. Criteria for establishing potential productivity of a formation exposed within a study area are described in the table below:

Table 1. Potential Paleontological Sensitivity Criteria

Paleontological Sensitivity	Criteria
High potential	Formation contains a high density of fossil sites and/or has produced numerous remains locally and is very likely to yield additional remains.
Low potential	Poorly exposed or studied formation that contains a very low density of recorded fossil localities and has produced little remains locally.
Unknown potential	Formations for which no data, or insufficient data is available from the immediate vicinity to allow an accurate assessment of its potential for yielding important fossil remains within the study area.
No potential	Unfossiliferous igneous and metamorphic rock units with no potential for yielding any fossil remains or Recent to sub-Recent sedimentary deposits that are too young to yield organic remains greater than 10,000 years old.

3.3) Literature Review

The literature review for this study included an examination of geologic maps for the Project area and encompassed the entire Project footprint and a one-mile buffer. The review included previous geologic mapping of the area. In addition to the reviewed published geologic maps, technical reports provided the basis from which regional and Project-specific geology was derived for this Project.

Pertinent published literature and unpublished manuscripts regarding the geology and paleontology of Riverside County were also reviewed for this Project. In the process of conducting the background literature review, existing paleontological resource data including such published resources as books, journals, and geologic maps, as well as information available via the internet on government websites were consulted. Furthermore, an online database search was conducted to identify previous paleontological resource assessments conducted within the Project boundaries and in the surrounding area.

3.4) Paleontological Records and Collections Search

Due to the unknown nature of the fossil record, paleontologists cannot ascertain either the quality or the quantity of fossils present in a given geologic unit prior to exposure by natural erosion or human-caused disturbance. Therefore, in the absence of surface fossils it is necessary to assess the sensitivity of rock units based on their known potential to yield scientifically significant paleontological resources elsewhere in the same geologic units (both within and outside of the study area) or a unit representative of the same depositional environment.

The paleontological impacts of the proposed project are discussed below under subheadings corresponding to each of the significance criterion presented in the preceding section. The analysis describes the impacts of the proposed project related to paleontological resources for each criterion and determines whether implementation of the proposed project would result in significant impacts by evaluating effects of earthmoving for the proposed project against the affected environment.

To evaluate potential paleontological impacts due to earthmoving associated with construction, a paleontological records and literature search was conducted at institutions and museums (San Bernardino County Museum that houses paleontological collections from the study area. Pertinent published literature and unpublished manuscripts on the geology and paleontology of the vicinity were reviewed.

The geologic rock unit in the proposed project area was rated for paleontological resources that may be present on the surface or would be exposed during ground disturbing mining activities based on SVP Guidelines (SVP 2010).

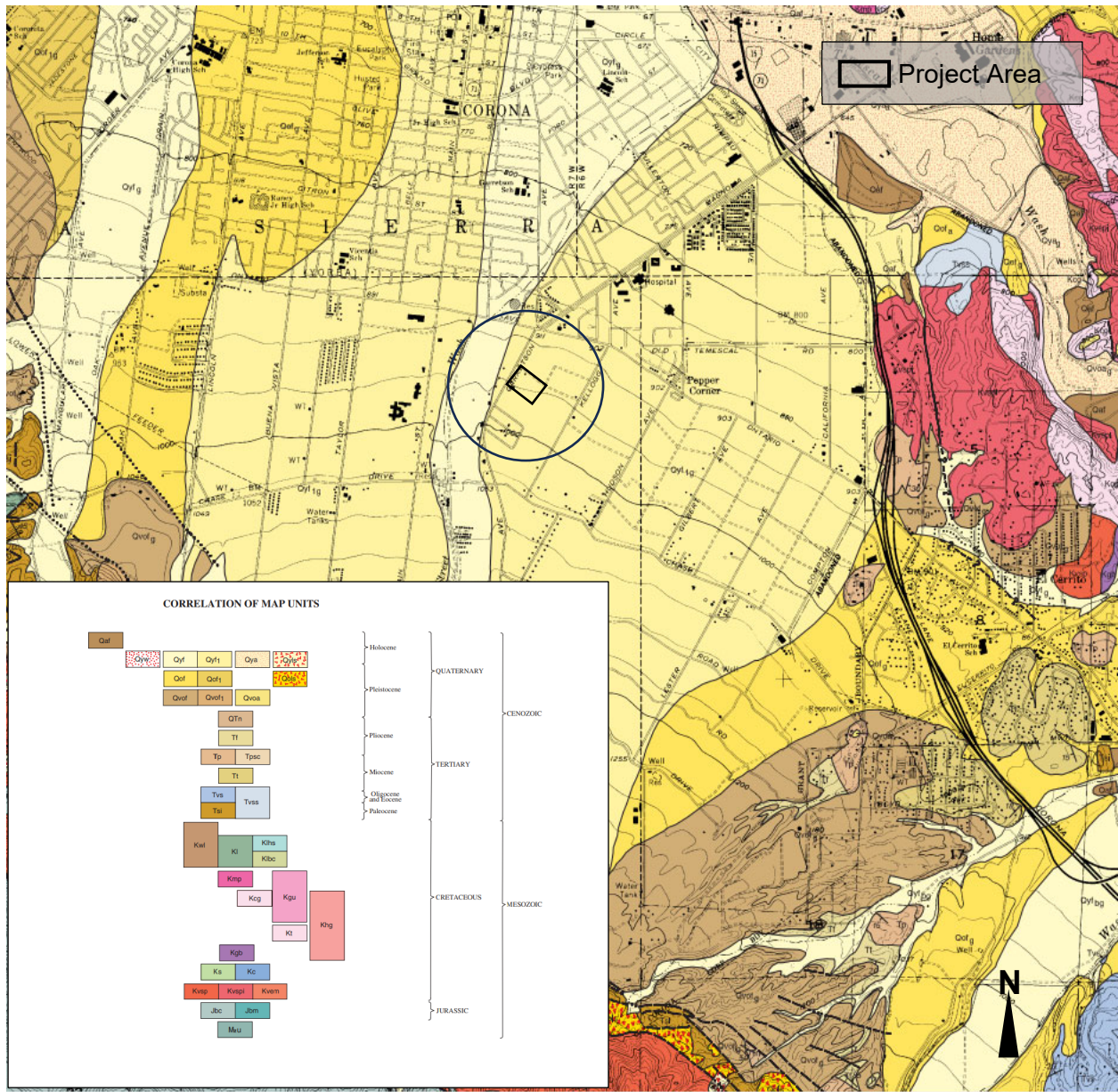
4.0) RESULTS

4.1) Paleontological Records Search

The Division of Earth Science of the San Bernardino County Museum (SBCM) has completed a records search (November 2023) for the above-named project in the City of Corona, Riverside County, California.

The results indicate that geologic mapping of the region done by Morton and Miller (2008) indicates that the entire project area is located atop recent alluvial fan deposits (Qyf). These sediments are comprised of unconsolidated mixed sand, silt, and gravel, often covered by soil. Qyf is unlikely to be fossiliferous but may overlie ~1.8 million to ~11,700-year-old Pleistocene alluvial deposits (Qoa) that commonly are. Qoa often underlies Holocene age sediments by as little as 5 ft in northwestern Riverside County (Reynolds and Reynolds, 1991). Such older alluvial deposits have yielded the remains of †Mammut, †Mammuthus, †Smilodon, Camelidae, Equus, Bison, and ground sloths, as well as microfossils including rodents.

The Regional Paleontological Locality Inventory (RPLI) at the SBCM results indicate that no paleontological resources have been discovered within the proposed project site, nor within a 1-mile radius of the project's perimeter. The nearest paleontological locality, SBCM 5.5.33, is approximately 2.3 miles north of the project site. Permineralized bone fragments and sediment samples were collected from Qoa underlying Qyf at this locality – the exact depth below surface at which samples were taken is unspecified. Based on SBCM field practice at the time, it is probable that SBCM 5.5.33 represents sediment samples taken from a construction spoil pile during paleontological monitoring, which were later screened and picked for microfossils.



4.2) Literature Review and Field Survey Results

The study area is underlain by rock units that span the Holocene and late Pleistocene but may overlie ~1.8 million to ~11,700-year-old Pleistocene alluvial deposits that occur commonly in northwestern Riverside County.

Young alluvial fan deposits (Qyf)

Gray-hued gravel and boulder deposits derived largely from volcanic and sedimentary units of Santa Ana Mountains. Fans consisting mainly of gravel emanate and coalesce from Tin Mine, Hagador, Main Street, and Eagle Canyons. Fan emanating from Bedford Canyon is coarser grained, containing a large component of boulders. All fans coarsen toward mountains. Locally, young alluvial fan deposits are divided into subunits based on sequential terrace development and other factors.

Young Alluvial Fan Deposits Unit 1 (Qyf1)

Consists of pale-gray, unconsolidated, cobble- to granule- sized gravel. Restricted to single fan bisected by younger Qyf fan emanating from Main Street and Eagle Canyons. Forms older part of Qyf unit. The precise distance this unit may have been displaced from its source area by young faults terminating upper part of fan is unknown, but estimated to be small.

The field survey was conducted on December 8, 2023, by Joshua Ball under the direction of by L&L Senior Paleontologist Hugh M. Wagner, PhD to determine if any fossils were present on the surface or in exposures of the subsurface deposits to determine what potential, if any, there was for the preservation of fossils within the expansion boundaries.

5.0) PROJECT SUMMARY WITH MITIGATION RECOMMENDATIONS

5.1) Paleontological Summary and Potential Adverse Effects

One Lithologic unit is located on the project site and is mapped as recent alluvial fan deposits (Qyf) and is unlikely to be fossiliferous. One possible important lithologic deposit that has potential for yielding scientifically significant specimens and is considered to be paleontologically sensitive could underlie the ground surface of the study area at possible depths of 5 feet. These lithologic units are: Pleistocene alluvial deposits (Qoa).

Paleontological resources, including fossil remains and associated scientific data, fossil sites, and fossiliferous rocks, could be adversely affected by the environmental impacts accompanying the grading and excavation activities needed for the development of the property.

The project engineer indicates that grading and utility trenching could extend to depths of 6-12 feet below the existing ground surface.

Direct impacts would result from the ground-disturbing activities associated with the clearing of the vegetation and soil, excavation of aggregate and increased development of the associated facilities. If a significant paleontological resource is identified within the boundaries of the proposed project ground disturbance could result in the loss of paleontological resources, including scientifically important fossil remains, associated geologic data, fossil sites, and fossiliferous rocks, by disturbing fossil-bearing and potentially fossiliferous rocks. Although construction would be a short-term activity, the loss of some fossil remains and the fossil-bearing rocks would be a permanent adverse environmental impact.

Easier access to fossil sites and the accompanying potential for unauthorized fossil collecting by construction personnel, rockhounds, and amateur and commercial fossil collectors would not disturb fossiliferous rocks to a significant degree, but could result in the loss of additional fossil remains, associated scientific data, and fossil sites.

The level of potential significance (high, low, unknown, or none) of these adverse impacts in a particular area to be affected is based on the paleontological importance of the formation underlying the area, and the potential for disturbing fossil localities and remains therein. The adverse impacts on any fossil locality containing identifiable remains, as well as on the fossiliferous bed that produced them, depends on the paleontological importance of the formation in which the locality and bed occur, the extent of the impact and the occurrence of other

comparable remains nearby. Additionally, the feasibility of reducing impacts by scientific collection of data must also be considered.

Table 2. Paleontological sensitivity potential of lithologic unit(s) present.

Lithologic Unit	Paleontological Sensitivity
Recent Alluvial Fan Deposit (Qyf)	Low
*Pleistocene alluvial deposits (Qoa)	High

***Possibility to occur**

5.2) Paleontological Mitigation Recommendations

The recommended mitigation measures presented below comprise a paleontological monitoring program that is in compliance within compliance with CEQA and NEPA guidelines and with SVP (1995, 1996) standard measures for reducing the potential adverse environmental impacts of construction on palaeontologic resources to an insignificant level and for the acceptance by a museum repository of a monitoring program fossil collection. With appropriate mitigation, earth-moving activities associated with development of the study area where underlain by the four lithologic units described above could result in beneficial effects, including the recovery of scientifically highly important fossil remains that would not even have been exposed without these activities.

Recommendations

- 1) Prior to any earth moving in the parcel, a vertebrate paleontologist retained by the developer and approved by the City of Corona will develop a storage agreement with the LACM Vertebrate Paleontology Section, San Bernardino County Museum, or another acceptable museum repository to allow for the permanent storage and maintenance of any fossil remains recovered in the project area as a result of the monitoring program, and for the archiving of associated specimen data and corresponding geologic and geographic site data at the museum repository.
- 2) The paleontologist will develop a mitigation plan and a discovery clause/treatment plan that, when implemented during earthmoving activities in the project area, will allow for the recovery and subsequent treatment of any fossil remains and associated specimen and site data uncovered by these activities.
- 3) The paleontologist and a paleontological construction monitor will attend a pre-grade meeting to explain the monitoring program to grading contractor staff and to develop procedures and lines of communication to be implemented if fossil remains are uncovered by earthmoving activities, particularly when a monitor may not be on-site.
- 4) Paleontological monitoring of earthmoving activities will be conducted on a full-time

basis by the monitor during all earthmoving activities due to the exposure of sensitive strata. Earthmoving activities in areas of the project area where previously undisturbed strata will be buried but not otherwise disturbed will not be monitored. The Supervising Paleontologist will have the authority to reduce monitoring once he determines the probability of encountering fossils has dropped below an acceptable level.

- 5) If the monitor finds fossil remains, earthmoving activities will be diverted temporarily around the fossil site until the remains have been recovered and these activities allowed to proceed through the site by the monitor.
- 6) If fossil remains are encountered by earthmoving activities when the monitor is not on site, these activities will be diverted around the fossil site and the monitor called to the site immediately to recover the remains.
- 7) If fossil remains are found, approximately 2,000 pounds (1 ton) of fossiliferous rock will be recovered from the fossil site and processed to allow for the recovery of smaller fossil remains. Test samples may be recovered from other sampling sites in the rock unit.
- 8) Any recovered fossil remains will be prepared to the point of identification and identified to the lowest taxonomic level possible by knowledgeable paleontologists. The remains then will be curated (assigned and labeled with museum repository fossil specimen numbers and corresponding fossil site numbers, as appropriate; placed in specimen trays and, if necessary, vials with completed specimen data cards) and catalogued, and associated specimen data and corresponding geologic and geographic site data will be archived (specimen and site numbers and corresponding data entered into appropriate museum repository catalogs and computerized data bases) at the museum repository by a laboratory technician. The remains then will be accessioned into the museum repository fossil collection, where they will be permanently stored, maintained, and, along with associated specimen and site data, made available for future study by qualified scientific investigators.

A final report of results and findings will be prepared by the paleontologist for submission to the City of Corona and the museum repository following accessioning of the fossil collection into the museum repository fossil collection. The report will describe the geology and stratigraphy parcel, summarize field and laboratory methods used, include a faunal list and an inventory of catalogued fossil specimens, evaluate the scientific importance of the specimens and discuss the relationship of any newly recorded fossil site in the parcel to relevant fossil sites previously recorded from the fossil-bearing rock unit in the parcel vicinity and from correlative rock units in other regions.

There is unknown potential for locating significant paleontological resources during work at depth within the project area. Because of this potential, any excavation below 3 feet in depth should be monitored by a qualified paleontologist, as outlined in the recommended Paleontological Resource Impact Mitigation Plan (PRIMP) for the project included in Appendix B.

6.0) REFERENCES

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University of California Museum of Paleontology. 2022. <http://paleoportal.org/portal/>

Literature Cited within Record Search


Morton, D.M., and F.K. Miller. 2006. Geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California. United States Geological Survey. USGS Open-File Report OF-2006-1217. Scale 1:100,000. Available at: https://ngmdb.usgs.gov/Prodesc/proddesc_78686.htm (accessed November 9th, 2023)

Reynolds, R. E., and Reynolds, R. L. 1991. The Pleistocene Beneath our Feet: Near-surface Pleistocene Fossils from Inland Southern California Basins. San Bernardino County Museum Association Quarterly 38(3 & 4): 41-43.

7.0) CERTIFICATION

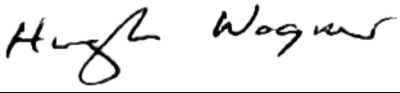
Certification: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this paleontological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: December 22, 2023

SIGNED: 

Leslie Irish, Principal, L&L Environmental, Inc.
909-335-9897


DATE: December 22, 2023

SIGNED: 

Hugh M. Wagner, Sr. Paleontologist, L&L Environmental, Inc.
909-335-9897

APPENDICES

Appendix A – Record Search Results



**SAN BERNARDINO
COUNTY**

Museum
Division of Earth Science

2024 Orange Tree Lane, Redlands, California 92374 | Phone: 909.798.8608
www.SBCounty.gov

Scott Kottkamp
Curator of Earth Science

15 November, 2023

L&L Environmental Biological and Cultural Investigations and Monitoring Inc.
Attn: Joshua Ball
721 Nevada Street, Suite 307
Redlands, CA, 92373

PALEONTOLOGY RECORDS REVIEW for site of Garretson Avenue Project,
Riverside County, California

Dear Mr. Ball,

The Division of Earth Science of the San Bernardino County Museum (SBCM) has completed a records search for the above-named project in Riverside County, California. The proposed project site (Garretson Avenue) is in the city of Corona, California as shown on the United States Geological Survey (USGS) 7.5-minute Corona South, California quadrangle.

Geologic mapping of the region done by Morton and Miller (2008) indicates that the entire project area is located atop recent alluvial fan deposits (Qyf). These sediments are comprised of unconsolidated mixed sand, silt, and gravel, often covered by soil. Qyf is unlikely to be fossiliferous, but may overlie ~1.8 million to ~11,700 year old Pleistocene alluvial deposits (Qoa) that commonly are. Qoa often underlies Holocene age sediments by as little as 5 ft in northwestern Riverside County (Reynolds and Reynolds, 1991). Such older alluvial deposits have yielded the remains of †*Mammut*, †*Mammuthus*, †*Smilodon*, Camelidae, *Equus*, *Bison*, and ground sloths, as well as microfossils including rodents.

For this review, I conducted a search of the Regional Paleontological Locality Inventory (RPLI) at the SBCM. The results of this search indicate that no paleontological resources have been discovered within the proposed project site, nor within a 1-mile radius of the project's perimeter. The nearest paleontological locality, SBCM 5.5.33, is approximately 2.3 miles north of

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Garretson Avenue, Corona, CA
November 15th, 2023
PAGE 2 of 2

the project site. Permineralized bone fragments and sediment samples were collected from Qoa underlying Qyf at this locality – the exact depth below surface at which samples were taken is unspecified. Based on SBCM field practice at the time, it is probable that SBCM 5.5.33 represents sediment samples taken from a construction spoil pile during paleontological monitoring, which were later screened and picked for microfossils.

This records search covers only the paleontological records of the San Bernardino County Museum. 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. Please do not hesitate to contact us with any further questions that you may have.

Sincerely,



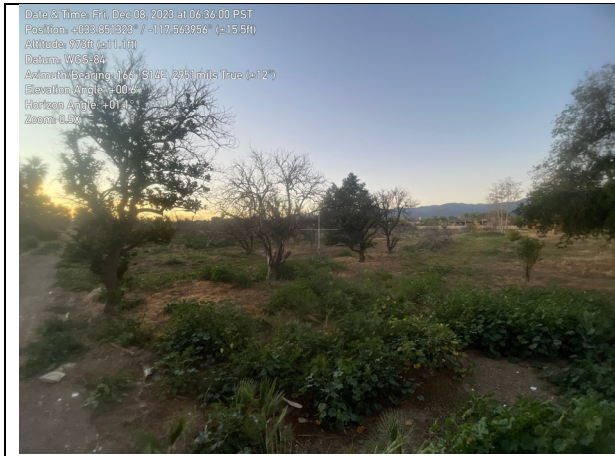
Scott Kottkamp, Curator of Earth Science
Division of Earth Science
San Bernardino County Museum

Literature Cited

Morton, D.M., and F.K. Miller. 2006. Geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California. United States Geological Survey. USGS Open-File Report OF-2006-1217. Scale 1:100,000. Available at: https://ngmdb.usgs.gov/Prodesc/proddesc_78686.htm (accessed November 9th, 2023)

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Appendix B – Site Photos



Project site facing southeast



Project site facing southwest towards
Garretson Ave.



Project site and citrus groves facing
southwest



Project site facing northwest



Project site eastern boundary facing northeast



Project site southern boundary facing west



Project site facing southwest



Project site facing northeast



Project site facing southwest towards
 Garretson Ave.



Project site facing Northeast along Garretson
 Ave.



Project site facing northeast



Soil onsite



Disturbed tilled soils onsite

Appendix C – Paleontological Resource Impact Mitigation Plan (PRIMP)