



Appendix G

Paleontological Resources Assessment

Kimley»»Horn



MEMORANDUM

To: City of Inglewood Planning Division
One W. Manchester Boulevard, 4th Floor, Planning Division, Inglewood, CA 90301

From: Jamie Nord, MA, RPA
Kimley-Horn and Associates, Inc.
3801 University Avenue, Suite 300, Riverside, CA 92501

Date: August 26, 2024

Subject: Paleontological Resources Assessment for the Morningside School Site Residential Project in the City of Inglewood, Los Angeles County, California

Kimley-Horn and Associates, Inc. (Kimley-Horn) conducted a Paleontological Resources Assessment of the Morningside School Site Residential Project (Project) area located in the City of Inglewood (City), Los Angeles County, California. This study was completed to support the City's review of potential impacts to paleontological resources as a result of the proposed Project. A literature review and records search were conducted for the Project Site to identify the likelihood of present paleontological resources that would be adversely impacted by the Project.

Project Description

The Project Site is located in the City of Inglewood on portions of Morningside High School, on the grass fields and former playing fields between the Morningside High School and Woodworth-Monroe TK-8 Academy and the Inglewood Unified School District (IUSD) - Child Development Center.

The Project would include the development of 571 total residential units on the Project Site, including 403 row townhomes with one to four bedrooms and 168 interlocking townhomes with three to four bedrooms. Approximately 10 percent of the housing units would be designated for Very Low Income affordable housing. Additionally, the Project would include various amenities to serve the residents, including two clubhouses (8,232 total square feet), two swimming pools, two pocket parks, a dog park, and common and private open space throughout the Project Site. The Project would also include 998 residential parking spaces in enclosed garages and 124 guest parking spaces.

Project Location

The Project area is located in the southeastern portion of the City of Inglewood within Los Angeles County, California (Figure 1). Specifically, the Project area is located just south of the community of Morningside Park on the south side of West 104th Street between Yukon Avenue South and South 10th Avenue (Figure 2).

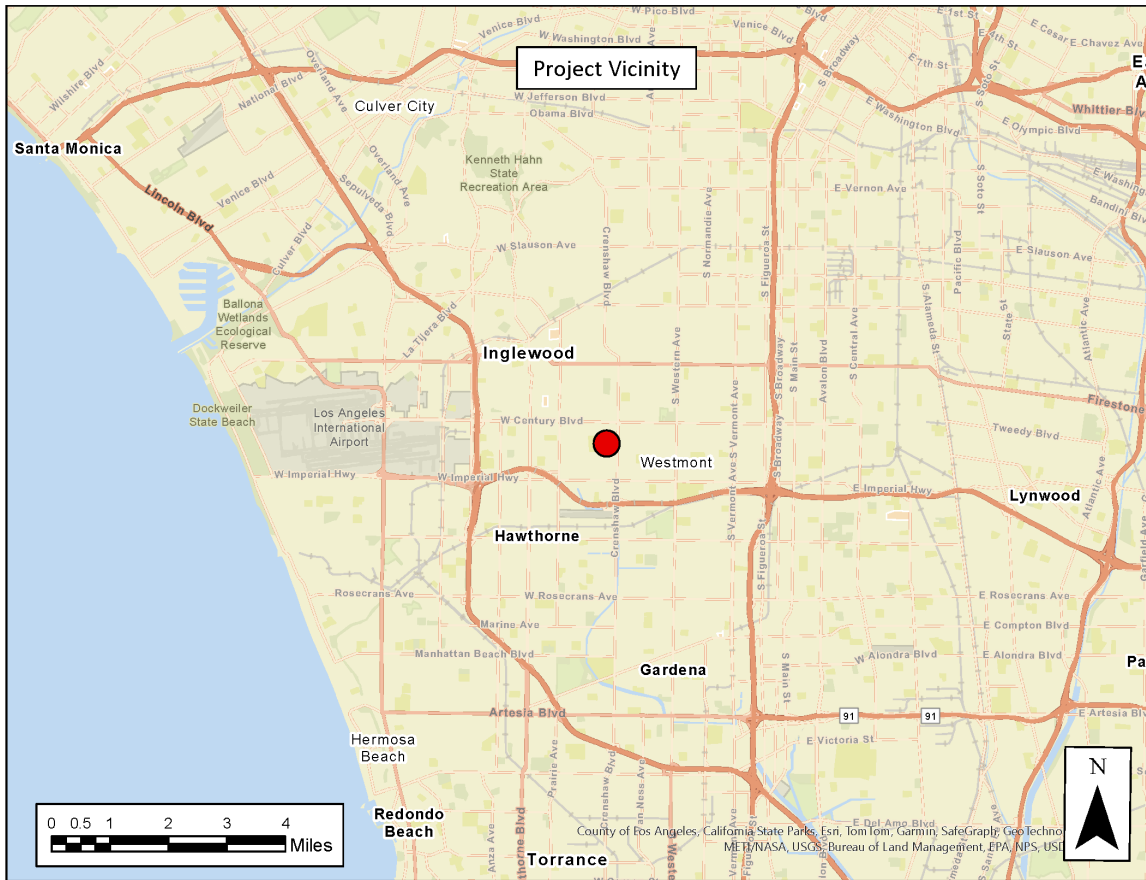


Figure 1: Project Vicinity Map

Natural Setting

The Project area is located within the western Los Angeles Basin, approximately seven miles east of the Pacific Coast. The Los Angeles basin is a structural depression that is approximately 50 miles long and 20 miles wide that developed as a result of tectonic forces and the San Andreas Fault zone (Critelli et al. 1995; Ingersoll and Rumelhart 1999). Sediments have eroded into the basin from the surrounding mountains since the middle Miocene (13 million years ago), resulting in thousands of feet of sediment accumulation within the Basin. When the sea level dropped during the Pleistocene (2.58 million to 11,700 years ago), the uppermost layers of the Basin then became composed of alluvial sediments (Yerkes et al. 1965). The natural geomorphology of the Project area consists of an alluvial fan remnant and terrace (SoilWeb 2023). While the Project vicinity is comprised of urban, developed land, this area would have once been a lush, wet environment that supported an abundance of plant and animal resources. The proposed Project area is situated west of the Newport-Inglewood-Rose Canyon fault zone (U.S. Geological Survey 2023). A geotechnical investigation recently occurred for the Project (Irvine Geotechnical, Inc. 2022), and field exploration was conducted via ten (10)

geotechnical borings to depths of 30 feet below ground surface (Irvine Geotechnical, Inc. 2022). The results indicated that the Project area contains natural alluvial deposits underneath a maximum six (6) feet of fill. The alluvium consists of weakly stratified layers of silty sand, clayey sand, and sand that is orange-brown to yellow-brown, slightly moist to very moist, and dense to very dense.



Figure 2: Project Area Map

Record Searches

Paleontological record searches were conducted for the Project area and the nearby region through the Los Angeles County Natural History Museum (LACNHM) and the Western Science Center (WSC). Results were provided by LACNHM on December 24th, 2023, and by WSC on December 22nd, 2023 (Attachment A). While the results of the record searches were both negative for known specimens within both the Project area, both repositories cited a paleontological sensitivity for the Project area based on the age and composition of the native soils and sediments across the site and positive findings in similar sediment deposits within California. Specifically, Pleistocene alluvial units are considered to be fossiliferous and moderately or highly paleontologically sensitive. Although there were no findings in the Project area, LACNHM provided the below table of the closest known findings within their records:

Locality Number	Location	Approximate Distance from Project Area	Formation	Taxa	Depth
LACM VP 3252	3140 Hyde Park Blvd, Hyde Park School	3 miles north	Unknown formation (Pleistocene)	Bison (<i>Bison</i>), Camel (<i>Camelops</i>)	Unknown
LACM VP 1170	Centinella Park (north of Florence Ave.; between Centinella Ave. & East Park; bounded on north by Warren Ln.)	3.3 miles northwest	Unknown formation (Pleistocene)	Sloth (<i>Megalonyx</i>), camel (<i>Camelops</i>), weasel (<i>Mustela frenata</i>), bison (<i>Bison</i>), deer (<i>Odocoileus</i>), sabertooth cat (<i>Smilodon</i>), pronghorn antelope (<i>Capromeryx</i>), Mastodon (<i>Mammut</i>), peccary (<i>Platygonus</i>), horse (<i>Equus</i>), coot (<i>Fulica</i>), unidentified birds (<i>Aves</i>)	Unknown
LACM VP 4942	SE corner of Airport Blvd. & Manchester Ave	4.5 miles northwest	Unknown formation (Pleistocene, massive sandy mudstone w scattered pieces of gravel)	Mammoth (<i>Mammuthus</i>); bison (<i>Bison</i>); hare (<i>Lepus</i>)	16 ft bgs
LACM VP 3789	8734 Bellanca Avenue, Westchester	4.1 miles northwest	Unknown (Pleistocene; pebbly gray-green to brown mud that directly overlies a	Mammoth (<i>Mammuthus</i>)	14 ft bgs

			gray-green fine sand)		
LACM VP 7332	Westchester, NW of intersection of West Century Blvd & Bellanca Ave	3.4 miles west	Unknown formation (Pleistocene; silty sand)	Mammoth (Mammuthus)	40 ft bgs
LACM VP 3266	W Athens Blvd & Menlo Ave	3.3 miles southwest	Unnamed formation (Pleistocene, calcareous siltstone)	Uncatalogued vertebrates	15-18

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

Additional Research

Available historical and topographic maps and technical studies were also reviewed to ascertain the level of existing disturbance within the Project area as well as the potential for existing paleontological resources. Historic topographic maps of the proposed Project area date to 1896 (Historic Aerials 2023). The earliest maps portray vacant land, and the later maps show the presence of the school. Similarly, historic aerial images of the proposed Project area from 1952 indicate that the Project Site was undeveloped at the time. The school buildings in the eastern Project Site were constructed during the 1950s-1960s. The northern Project Site was developed with sports fields and courts during the same time. The southern Project area has remained vacant.

Geologic maps and previous reports were also reviewed for the Project area. Previous paleontological research and technical reports have outlined the paleontological sensitivity of the Los Angeles Basin (Crouch and Suppe 1993; McDougall et al. 2012; Rodda 1957; Yerkes et al. 1965). Geologic maps for the Inglewood quadrangle illustrate that the Project area is underlain by slightly elevated and dissected alluvial gravel, sand, and clay (Qae) and elevated and dissected older alluvium of gray to light brown pebble-gravel, sand, and silt-clay (Qoa) (Dibblee and Minch 2007). The results of the research indicate that the Project area is underlain by Pleistocene alluvial units that are paleontologically sensitive and potentially fossil bearing.

A Mitigated Negative Declaration (MND) was also previously prepared for the Morningside High School Site Upgrade and Woodworth Elementary School Demolition Project in February 2023 that includes a port of the Project area (ESA 2023). A paleontological records search was conducted as part of the MND on July 22, 2021, and the results of the record search correspond with the results in Attachment A. Specifically, the previous record search indicated that the repository did not have any fossil localities that lie directly within the previous Project area, but there are known fossil localities nearby from the same sedimentary deposits.

Results and Recommendations

No paleontological resources were identified within the Project area as a part of the current study. However, the age and composition of soils and sediments across the Project area, combined with the knowledge of paleontological resources identified within similar sediment deposits in California, indicate a moderate to high sensitivity for paleontological resources. While the Project area has been previously disturbed to depths of six (6) feet, paleontological resources have been documented in the vicinity at depths ranging from 14-40 feet below ground surface. Excavation for the proposed Project will reach a maximum depth of 12 feet, and therefore will include approximately six feet of previously undisturbed soil with a moderate to high paleontological sensitivity. In summary, excavation for the Project has potential to encounter sediments with paleontological resources. The paleontological repositories also indicated that any resources in the Project area would be scientifically significant. As such, in order to mitigate potential impacts to paleontological resources, it is recommended that the following or similar mitigation measures be adopted for the proposed Project:

- **MM-GEO-1: Retention of Qualified Paleontologist.** The Applicant shall retain a paleontologist who meets the Society of Vertebrate Paleontology's (SVP, 2010) definition for qualified professional paleontologist (Qualified Paleontologist) to carry out all mitigation related to paleontological resources. Prior to the start of ground-disturbing activities, the Qualified Paleontologist or their designee shall conduct construction worker paleontological resources sensitivity training for all construction personnel. Construction personnel shall be informed on how to identify the types of paleontological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources, and safety precautions to be taken when working with paleontological monitors. The Applicant shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.
- **MM-GEO-2: Paleontological Monitoring.** Paleontological monitoring shall be conducted during ground-disturbing activities below 10 feet in Quaternary alluvium. Monitoring shall be conducted by a qualified paleontological monitor (SVP, 2010) working under the direct supervision of the Qualified Paleontologist. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting sediment samples to wet or dry screen to test promising horizons for smaller fossil remains. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely.
- **MM-GEO-3: Paleontological Resource Discovery.** If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the monitor's discretion, and to reduce any construction delay, the grading and excavation

contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If a fossil is determined to be significant, the Qualified Paleontologist shall implement a paleontological salvage program to remove the resources from their location, following the guidelines of the SVP (2010). Any fossils encountered and recovered shall be prepared to the point of identification, catalogued, and curated at a public, non-profit institution with a research interest in the material and with retrievable storage, such as the Natural History Museum of Los Angeles County, if such an institution agrees to accept the fossils. If no institution accepts the fossil collection, they shall be donated to a local school in the area for educational purposes. Accompanying notes, maps, and photographs shall also be filed at the repository and/or school.

If construction personnel discover any potential fossils during construction while the paleontological monitor is not present, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and recommended and implemented appropriate treatment as described earlier in this measure.

MM-GEO-4: Monitoring Report. At the conclusion of paleontological monitoring and prior to the release of the grading bond, the Qualified Paleontologist shall prepare a report summarizing the results of the monitoring and salvage efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the District, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

Sincerely,



Jamie Nord, MA, RPA
Kimley-Horn and Associates, Inc.

RPA Number: 5502

Attachment A: Paleontological Record Search Results

References:

- Critelli, S. P. Rumelhart, and R. Ingersoll. 1995. Petrofacies and provenance of the Puente Formation (middle to upper Miocene), Los Angeles Basin, southern California: implications for rapid uplift and accumulation rates. *Journal of Sedimentary Research* A65: 656-667.
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- Dibblee, T.W., and Minch, J.A. 2007. Geologic map of the Venice and Inglewood quadrangles, Los Angeles County, California. Dibblee Geological Foundation. Dibblee Foundation Map DF-322.
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- Ingersoll, R. V. and P. E. Rumelhart. 1999. Three-stage basin evolution of the Los Angeles basin, southern California. *Geology* 27: 593-596.
- Irvine Geotechnical, Inc., 2022. Geotechnical Engineering Exploration for Proposed Residential Development, APN's 4030-033-901 & 4030-033-903, 3200 W. 104TH Street, Inglewood, California. Prepared for Harridge Development Group LLC.
- McDougall, K.A., Hillhouse, J., Powell, C.L., Mahan, S., Wan, E. and Sarna-Wojcicki, A.M., 2012. Paleontology and geochronology of the Long Beach core sites and monitoring wells, Long Beach, California. US Department of the Interior, US Geological Survey.
- Rodda, P.U., 1957. Paleontology and stratigraphy of some marine Pleistocene deposits in northwest Los Angeles Basin, California. *AAPG Bulletin*, 41(11), pp.2475-2492.
- SoilWeb. <https://casoilresource.lawr.ucdavis.edu/gmap/>. Accessed December 8, 2023.
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- Yerkes, R.F., T.H. McCulloh, J.E. Schollhamer, and J.G. Vedder. 1965. Geology of the Los Angeles Basin: an introduction. Geological Survey Professional Paper 420-A.

Attachment A: Paleontological Record Search Results



December 22nd, 2023

Jamie Nord
Kimley-Horn & Associates, Inc.
3801 University Ave, Ste. 300
Riverside, CA 92501

Hello,

This letter presents the results of a record search conducted for the Inglewood USD Project located in the Inglewood, Los Angeles County, California. The project site is located north of W 108th Street, south of W 104th Street, east of Yukon Ave South, and west of Crenshaw Blvd on Section 3 of Township 3 South , Range 14 West on the *Inglewood, CA* USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped entirely as alluvial gravel, sand, and clay from the Pleistocene epoch (Dibblee and Minch 2007). Pleistocene alluvial units are considered to be fossiliferous and highly paleontologically sensitive. The Western Science Center does not have any localities within the project area or within a 1 mile radius, although this may be due to the project area's distance from the Western Science Center and should not be taken as indicator of paleontological sensitivity.

Any fossil specimens recovered from the Inglewood USD Project would be scientifically significant. Excavation activity associated with the 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 from the study area.

If you have any questions, or would like further information, please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

A handwritten signature in black ink, appearing to read 'Brittney Stoneburg', written in a cursive style.

Brittney Elizabeth Stoneburg, MSc
Collections Manager

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December 24, 2023

Kimley-Horn & Associates

Attn: Jamie Nord

re: Paleontological resources for the Inglewood USD Project

Dear Jamie:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Inglewood USD project area as outlined on the portion of the Inglewood USGS topographic quadrangle map that you sent to me via e-mail on November 28, 2023. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that may occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM VP 3252	3140 Hyde Park Blvd, Hyde Park School	Unknown formation (Pleistocene)	Bison (<i>Bison</i>), Camel (<i>Camelops</i>)	Unknown
LACM VP 1170	Centinella Park (north of Florence Ave.; between Centinella Ave. & East Park; bounded on north by Warren Ln.)	Unknown formation (Pleistocene)	Sloth (<i>Megalonyx</i>), camel (<i>Camelops</i>), weasel (<i>Mustela frenata</i>), bison (<i>Bison</i>), deer (<i>Odocoileus</i>), sabertooth cat (<i>Smilodon</i>), pronghorn antelope (<i>Capromeryx</i>), Mastodon (<i>Mammut</i>), peccary (<i>Platygonus</i>), horse (<i>Equus</i>), coot (<i>Fulica</i>), unidentified birds (<i>Aves</i>)	unknown
LACM VP 4942	SE corner of Airport Blvd. & Manchester Ave	Unknown formation (Pleistocene, massive sandy mudstone w scattered pieces of gravel)	Mammoth (<i>Mammuthus</i>); bison (<i>Bison</i>); hare (<i>Lepus</i>)	16 ft bgs

Locality Number	Location	Formation	Taxa	Depth
LACM VP 3789	8734 Bellanca Avenue, Westchester Westchester, NW of intersection of West Century Blvd & Bellanca Ave	Unknown (Pleistocene; pebbly gray-green to brown mud that directly overlies a gray-green fine sand)	Mammoth (<i>Mammuthus</i>)	14 ft bgs
LACM VP 7332	W Athens Blvd & Menlo Ave	Unknown formation (Pleistocene; silty sand)	Mammoth (<i>Mammuthus</i>)	40 ft bgs
LACM VP 3266	W Athens Blvd & Menlo Ave	Unnamed formation (Pleistocene, calcareous siltstone)	Uncatalogued vertebrates	15-18 ft bgs

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the NHMLA. It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,



Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice