
IV. ENVIRONMENTAL IMPACT ANALYSIS

O. CULTURAL RESOURCES

3. PALEONTOLOGICAL RESOURCES

A Paleontologic Resources Inventory/Impact Assessment for the proposed project was prepared by Paleo Environmental Associates, Inc. in April 2003 to analyze the potential paleontological resources impacts associated with the proposed project. A summary of the Paleontologic Resources Inventory/Impact Assessment with respect to potential paleontological resources impacts is set forth below. The Paleontologic Resources Inventory/Impact Assessment, which is incorporated herein by this reference, is included in its entirety as Appendix M to this Draft EIR

ENVIRONMENTAL SETTING

Methodology

As part of the paleontological resource inventory and impact assessment, geologic and paleontological reports and maps covering the project site and vicinity were reviewed to determine the sedimentary or stratigraphic rock units exposed at the project site and to document the species represented by the fossil remains, if any, recovered from each rock unit at previously recorded fossil sites at and near the project site. The literature and map reviews were supplemented by an archival search conducted at the Natural History Museum of Los Angeles County Vertebrate Paleontology Department (LACMVP) for additional information regarding these and other previously recorded fossil sites and remains. A field survey of those portions of the project site underlain by sedimentary rock units with a potential for containing fossil remains was conducted to document the condition of any previously recorded fossil site, the presence of any previously recorded fossil site, and/or the occurrence of strata suitable for containing fossil remains. The results of the data searches then were used to develop a baseline paleontologic resource inventory of the project site by rock unit.¹

Stratigraphy

The project site lies in the northwestern portion of the Verdugo Mountains in the southeastern portion of the western Transverse Range Province, in which major linear geologic structures (e.g., faults and folds) and the resulting geographic features (e.g., mountains and valleys) trend in an east-west direction.

¹ *This impact assessment is in compliance with Society of Vertebrate Paleontology (SVP, 1995) standard guidelines for assessing the paleontologic sensitivity or potential paleontologic productivity of an area under investigation.*

Recent surficial geologic mapping indicates that the project site is underlain by a number of stratigraphically superposed rock units, including, in order of decreasing geologic age and increasing stratigraphic level: (1) undifferentiated, Precambrian to late Cretaceous metamorphic and plutonic igneous rocks units, which underlie virtually the entire project site; (2) an unnamed middle Miocene volcanic rock unit that underlies two areas in the northwestern portion of the project site; (3) the middle Miocene Upper Topanga Formation, which underlie two areas of the northwestern portion of the project site; (4) Holocene alluvium, which underlies La Tuna Canyon in two areas in the southwestern portion of the project site; and (5) historic artificial fill, which underlies portions of the project site bordering Interstate 210. The locations of these rock units are shown on the surficial geologic map of the project site shown in Figure IV.O-1 (Surficial Geology and Potential Paleontologic Productivity).

The field survey documented the occurrence of unmapped volcanic strata in roadcut exposures immediately north of the project site along Verdugo Crestline Drive, where these strata are interbedded with sedimentary strata mapped, presumably incorrectly, as the Upper Topanga Formation. Presumably, the sedimentary strata along Verdugo Crestline Drive actually are assignable to the middle Miocene Middle Topanga Formation, which, in the Santa Monica Mountains and unlike the Upper Topanga Formation, is interbedded with volcanic strata.

Paleontologic Resource Inventory and Assessment of Scientific Importance

The literature review, archival search and field survey did not document any previously recorded fossil site as occurring at the project site, although a number of previously recorded fossil sites were documented as occurring in the San Fernando Valley (Pacoima Hills) in some of the same rock units (i.e., Upper Topanga Formation) that are exposed at the project site.

The following is a brief description of each major rock unit found at the project site and its potential for bearing fossils. A map showing the potential paleontologic productivity of the project site by rock unit is presented in Figure IV.O-1.

Undifferentiated Metamorphic and Plutonic Igneous Rock Units

The undifferentiated, Precambrian to late Cretaceous metamorphic and plutonic igneous rock units, because of their origin from a molten state or their metamorphism under conditions of high temperature and pressure deep within the crust of the earth, do not contain fossils.

Figure IV.O-1. Surficial Geology and Potential Paleontologic Productivity

Unnamed Volcanic Rock Unit

The unnamed volcanic rock unit is probably correlative of the middle Miocene Conejo Volcanics in the Santa Monica Mountains. Because of its origin from a molten state deep within the crust of the earth, the volcanic rock unit does not contain fossils.

Upper Topanga Formation

No fossil remains or previously recorded fossil sites are reported as occurring in the middle Miocene Upper Topanga Formation at the project site. However, the fossilized shell impressions of extinct species of marine clams have been recovered at a previously recorded fossil site in the Upper Topanga Formation in the Pacoima Hills. The fossil remains from this site are scientifically important because they have allowed confirmation of the marine depositional paleoenvironment.

Alluvium

No fossil remains or previously recorded fossil sites are reported as occurring in the Holocene alluvium at the project site. However, the fossilized bones and teeth of small continental vertebrate species (fresh-water fishes, frogs, lizards, snakes, birds, rabbits, rodents), the shells of fresh-water species of mollusks (snails, clams), and the fossilized wood and pollen of land plant species have been recovered at previously recorded fossil sites in the alluvium at the Metro Red Line Universal City and North Hollywood Stations, approximately 5.5 to 7.5 miles south-southwest of the project site, at depths at least 16 feet below grade. The fossil remains from these sites are scientifically important because they have allowed confirmation of the Holocene age and continental depositional paleoenvironment represented by the fossil-bearing strata.

The fossil occurrences from the San Fernando Valley indicate that there might be a potential for previously unrecorded fossil sites and scientifically important fossil remains to exist beneath the surface of the two areas underlain by alluvium in the southern portion of the project site adjacent to La Tuna Canyon Road. However, any remains near the surface of those areas probably are not old enough to be considered fossilized.²

Artificial Fill

Artificial fill consists of historic sediment and debris substantially disturbed by human activity. Any fossil remains encountered in artificial fill lack data regarding their original geologic (temporal) and geographic contexts. For this reason, there is no potential for any scientifically important fossil remains being encountered in the portion of the project site underlain by artificial fill.

² *Remains are "considered fossilized" when they are too old to be considered historic and are not associated with an archaeological site.*

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the CEQA Guidelines, the proposed project would have a significant impact on the environment if it would directly or indirectly destroy a unique paleontologic resource or site.

Project Impacts

To evaluate the potential impacts on paleontologic resources, the surficial geologic map of the project site was overlaid on the map of the proposed project (see Figure IV.O-2 (Potential Paleontologic Resources Impacts)).

Undifferentiated Metamorphic and Plutonic Igneous Rock Units

The development of the proposed project would have no impact on paleontologic resources as a result of earth-moving activities in areas of the project site underlain by undifferentiated metamorphic and plutonic igneous rock units because these rock units do not contain fossils.

Unnamed Volcanic Rock Unit

The unnamed volcanic rock unit is exposed only in two areas of the northwestern portion of the project site that lie outside of the Development Areas and would be preserved as open space. Therefore, this rock unit would not be encountered by any earth-moving activity and, as a result, there would be no impact on any paleontologic resource potentially located in this rock unit.

Upper Topanga Formation

The Upper Topanga Formation is exposed only in two small areas of the northwestern portion of the project site that lie outside of the Development Areas and would be preserved as open space. Therefore, this rock unit would not be encountered by any earth-moving activity and, as a result, there would be no impact on any paleontologic resource potentially located in this rock unit.

Alluvium

No grading would be necessary for the development of the equestrian park adjacent to La Tuna Canyon Road. Therefore, there would be no impact on any paleontologic resource potentially located in the portion of the rock unit located in that area.

Figure IV.O-2 Potential Paleontologic Resources Impacts

The other portion of the rock unit also lies along La Tuna Canyon Road. Access to Development Area B would be by two bridges that extend northward from La Tuna Canyon Road and cross over La Tuna Canyon. However, the bridges would be founded in the undifferentiated metamorphic and plutonic rock units. Therefore, the alluvium in this portion of the project site would not be encountered by any earth-moving activity associated with bridge construction and, as a result, there would be no impact on any paleontologic resource potentially located in the rock unit.

Artificial Fill

The development of the proposed project would have no impact on paleontologic resources as a result of earth-moving activities in areas of the project site near Interstate 210 underlain by artificial fill because any fossil remains in this rock unit would lack data regarding their original geologic and geographic contexts.

MITIGATION MEASURES

The proposed project would not result in any significant impacts to paleontological resources and therefore would not require any mitigation. However, in the unlikely event that fossil remains are encountered by grading at the project site, the following mitigation measure is recommended:

- O.3-1** If fossil remains are encountered during grading activities, no further disturbance of the fossil remains shall occur until a vertebrate paleontologist approved by the LACMVP has been retained by the project developer to evaluate and, if and to the extent warranted and feasible, recover the remains and/or implement other appropriate mitigation measures, if necessary.

Although mitigation is not required under CEQA, the above measure would provide direction in the event that paleontological resources are discovered during construction.

CUMULATIVE IMPACTS

Development of the proposed project in combination with the 13 related projects listed in Figure II-1 in Section II.C (Related Projects) would result increase the potential for encountering paleontological resources in the area. The potential that one or more of these related projects might encounter paleontological resources during the course of development is determined by such factors as whether paleontological resource bearing strata occur at any given related project site and the type of proposed development activities at that site. However, not all paleontological resources are of equal scientific value. While some have the potential to be scientifically important due to rarity or their ability to provide new information, many fossils are common and have little scientific value. Therefore, the significance of cumulative impacts to paleontological resources is not determined simply by the

frequency of the encounter but more to the point by the nature of that encounter. Furthermore, the mere fact of an encounter does not imply an adverse impact. With appropriate mitigation, such an encounter may lead to the recovery of scientifically important fossil remains that would not have been exposed without these activities. Considering that the discovery of paleontological resources is a fairly rare event, the discovery of scientifically important fossils is an even rarer event, and the discovery of rare fossils may lead to their recovery rather than their destruction, it is not anticipated that there would be a significant adverse cumulative impact to paleontological resources.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No impacts on paleontological resources would occur with implementation of the proposed project.