

APPENDIX H

Paleontological Resources Report

March 25, 2024

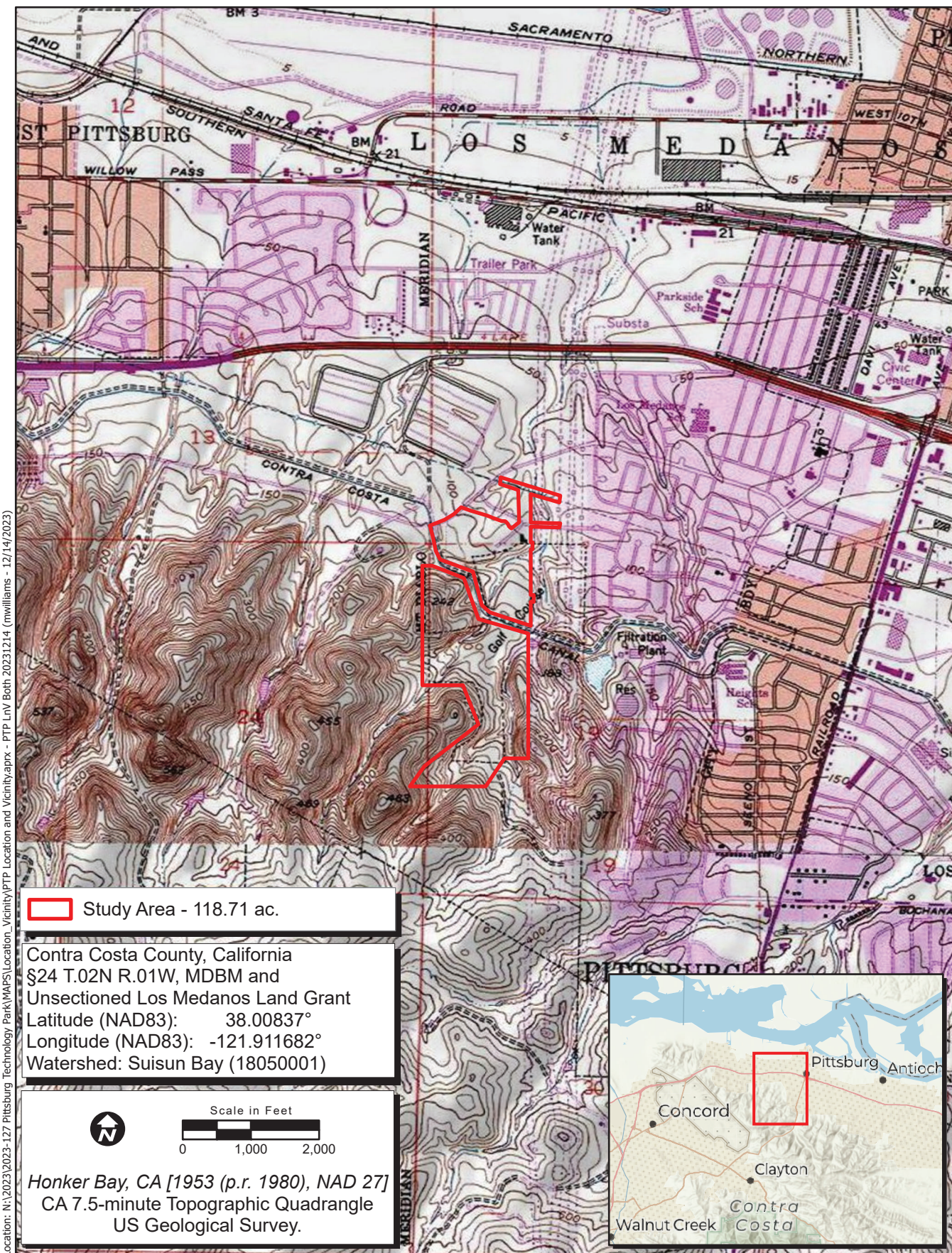
Stephanie Morgan Whitmore
Director, Environmental Planning
WSP USA
401 B Street, Suite 1650
San Diego, California 92101
Email: Stephanie.Whitmore@wsp.com

RE: *Paleontological Resources Assessment for the Pittsburg Technology Park Project, Contra Costa County, California*

Dear Ms. Whitmore:

ECORP Consulting, Inc. prepared this Paleontological Resources Assessment for the Pittsburg Technology Park Project (Project) in Contra Costa County, California (Figure 1). The project is proposed to be developed on the eastern portion of the defunct Delta View Golf Course in the City of Pittsburg and would encompass approximately 105 acres of land, including Assessor's Parcel Numbers (APNs) 095-150-032, 094-080-011, 095-160-001, and 095-160-002, and portions of two additional parcels, APNs 094-090-001 and 094-080-002 ("Site"). The Site is located approximately three miles from the City's downtown area and less than two miles from the Pittsburg/Bay Point and Pittsburg Center BART (Bay Area Rapid Transit) stations. The Site lies south of West Leland Road and Golf Club Road. Additional golf course area borders the Site to the west, unincorporated lands border the Site to the south and a Pacific Gas & Electric (PG&E) power transmission corridor borders the Site to the east. The Contra Costa Canal runs between some of the Site parcel boundaries, separating the Site into northern and southern areas (refer to Figures 1 and 2). The Site was originally developed as the Pittsburg Golf and Country Club in the mid-1900s. In 1960, the United States federal government deeded the property to the City as part of the transfer of the Camp Stoneman Rifle Range Park Site. The City maintained the property as a public golf course until early 2018, when golf course operations ceased.

The Site encompasses a portion of the former golf course and has features that include sand pits, two constructed ponds, paved cart paths and fencing. There are six structures on the Site, plus a water storage tank and an asphalt-surfaced parking lot. Three of the structures were accessible to the public prior to closure of the golf course and included a pro shop, restaurant, and golf course clubhouse. The remaining three structures, located just to the southwest of the restaurant and clubhouse, are utilitarian buildings that housed equipment, carts, and other items in support of golf course maintenance and operations. The water storage tank is located near the east edge of the Site, just north of the Contra Costa Canal. The paved parking lot is located at the northeast corner of the Site, proximal to the restaurant and clubhouse buildings.



Study Area - 118.71 ac.

Contra Costa County, California
 §24 T.02N R.01W, MDBM and
 Unsectioned Los Medanos Land Grant
 Latitude (NAD83): 38.00837°
 Longitude (NAD83): -121.911682°
 Watershed: Suisun Bay (18050001)

Scale in Feet
 0 1,000 2,000

Honker Bay, CA [1953 (p.r. 1980), NAD 27]
 CA 7.5-minute Topographic Quadrangle
 US Geological Survey.

Location: N:\2023\2023-127 Pittsburg Technology Park\MAPS\Location and Vicinity.aprx - PTP LNV Both 20231214 (mwilliams - 12/14/2023)

Map Date: 12/14/2023
 Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

Vegetation onsite primarily consists of ruderal grasses and small- to medium- sized trees within the developed golf course lands, and annual grassland in undeveloped areas. Some wetlands occur in larger drainage swales. Topography alternates between rolling hills and gently sloping areas with surface water drainage generally northward.

BACKGROUND AND SETTING

The Project Area is located in the east-central portion of Contra Costa County, within the geologically young and seismically active San Francisco Bay Area region. The majority of the County extends from California's Great Valley geomorphic province. The Great Valley geomorphic province is a deep basin filled with a thick sequence of sediments dating from the Jurassic to Quaternary alluvial deposits derived from the neighboring eastern Sierra Nevada mountains and the western coastal mountain ranges (WSP 2023). The Project Area is located on a topographic area alternating between rolling hills and gently sloping areas (TRC 2020), and relatively flat areas bordered by low rolling hills. The geology of the vicinity consists of Pleistocene and/or Pliocene loosely consolidated sandstone, shale, and gravel deposits (QPc) within the southern area of the Project Area and Quaternary older alluvium consisting of lake, playa, and terrace deposits (Qoa) in the northern portion of the Project Area (Figure 2). South of the Project Area within the northern tip of the Diablo Range include the Los Medanos Hills consisting of Tertiary-age (Miocene to Pliocene) sediments of the Oro Loma Formation. The Oro Loma Formation consists of moderately consolidated siltstone, sandstone, and claystone with interbedded pebble conglomerate (WSP 2023). Although not visible at the surface at the Project Area, this unit may be encountered with deep excavations.

PALEONTOLOGICAL RESOURCES AND SENSITIVITY

As defined by the Society of Vertebrate Paleontology (SVP) guidelines (SVP 2010), significant paleontological resources are fossils and fossiliferous deposits, herein defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010). Body fossils include bones, teeth, shells, leaves, and wood, while trace fossils include trails, trackways, footprints, burrows, coprolites, and eggshells. The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years.

Stratigraphic and Paleontological Inventory Methods

Quaternary older alluvium (Qoa) in the northern portion of the Project Area yielded a fossil fish skull (UCMP V91184) (Holroyd 2023) in 1961 in a gravel terrace behind the property at 88 Riverview Drive. Although this terrace is no longer present within the Project Area, the Project Area sits on some of the remaining unpaved portions of Qoa. An online search for literature regarding paleontological resources found in the Project Area and vicinity did not produce any information.



- Map Features**
- Study Area
 - Geologic Units within Project Boundary
 - Quaternary Sedimentary Rocks
 - Qpc - Pleistocene and/or Pliocene sandstone, shale, and gravels deposits; mostly loosely consolidated
 - Qoa - Older alluvium, lake, playa, and terrace deposits

Map Date: 1/11/2024



Sources: ESRI, Mapbox (2022), California Department of Conservation - Geologic Atlas of California (2010)



Figure 2. Geologic Units

Because excavations within the Project Area will encounter geologic units such as QPc and Qoa, as discussed earlier, it is possible that paleontological resources may be affected. A stratigraphic inventory and a paleontological resource inventory were completed to develop a baseline paleontological resource inventory of the Project Area and surrounding vicinity by rock unit, and to assess the potential paleontological productivity of each rock unit.

Inventory methods included a review of published and unpublished literature and a field survey. ECORP reviewed geological maps and reports covering the geology of the Project Area and vicinity to determine the exposed rock units and to delineate their respective areal distributions within the Project Area. Published and unpublished geological and paleontological literature were reviewed to document the number and locations of previously recorded fossil sites from rock units exposed within and near the Project Area and surrounding vicinity and the type of fossil remains each rock unit has produced. The literature review was supplemented by an archival search conducted at the University of California Museum of Paleontology in Berkeley, California on June 16, 2023 (Holroyd 2023).

When assessing the paleontological productivity of each geologic unit, ECORP used the classification adopted by the Society of Vertebrate Paleontology (2010) for assessing paleontological sensitivity. In this classification system, geologic units are assigned a potential for producing paleontological resources based on the relative abundance of significant paleontological resources and their sensitivity to adverse impacts. Rock units are described as having (a) high, (b) undetermined, (c) low, or (d) no potential for containing significant paleontological resources. Due to the findings of a fossil fish skull in the northern portion of the Project Area, a high fossil potential has been assigned to the geologic units underlying the Project site.

Paleontological Resource Inventory and Assessment

The potential paleontological importance of the Project Area can be assessed by identifying the paleontological importance of exposed rock units within the Project Area. Because the areal distribution of a rock unit can be easily delineated on a topographic map, this method is conducive to delineating parts of the Project that are of higher and lower sensitivity for paleontological resources, and to delineating parts of the Project that may therefore require monitoring during construction.

A paleontologically important rock unit is one that:

- has a high potential paleontological productivity rating; and
- is known to have produced unique, scientifically important fossils.

The potential paleontological productivity rating of a rock unit exposed within the Project Area refers to the abundance/densities of fossil specimens and/or previously recorded fossil sites in exposures of the unit in and near the Project Area. Exposures of a specific rock unit within the Project Area are most likely to yield fossil remains representing particular species in quantities or densities similar to those previously recorded from the unit in and near the Project Area. However, well-documented, fossil-bearing formations are less likely to yield a unique paleontological resource.

An individual vertebrate fossil specimen may be considered unique or significant if it meets the following criteria:

- it is identifiable;
- it is complete;
- it is well preserved;
- it is age diagnostic;
- it is useful in paleoenvironmental reconstruction;
- it is a type or topotypic specimen;
- it is a member of a rare species;
- it is a species that is part of a diverse assemblage; and/or
- it is a skeletal element different from, or a specimen more complete than, those now available for its species

For example, identifiable and complete vertebrate marine and terrestrial fossils are generally considered scientifically important because they are relatively rare. The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, how complete the skeleton is, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions such as part of a research project. Individual portions of a vertebrate skeleton (e.g., an individual vertebra) would generally not be considered a unique paleontological resource. Marine invertebrates are generally common and well documented; they would not generally be considered a unique paleontological resource.

Field Survey

ECORP conducted a field reconnaissance of the Project Area on December 13, 2023 to determine the potential of finding paleontological resources on the surface or within any exposures onsite. The survey was conducted by Niranjala Kottachchi, M.Sc., an SVP-qualified paleontologist, and by Jaspal Saini, M.Sc. The survey was conducted in an east–west direction using 15-meter-spaced transects. The Project Area consisted of rolling hills to the north and dense, dry vegetation throughout. In some areas, the tall vegetation made it difficult to traverse through. Ground visibility was poor because the entire Project Area was covered by dry grass and plants. ECORP did not observe exposures of potentially fossiliferous strata (Figures 3, 4, and 5).



Figure 3. View of Project Area (view west; December 13, 2023).



Figure 4. View of Project Area (view southeast; December 13, 2023).



Figure 5. View of Project Area (view northwest; December 13, 2023).

Regulatory Framework

Paleontological resources (fossils) are the remains or traces of prehistoric plants and animals. Fossils are important scientific and educational resources because of their use in:

- documenting the presence and evolutionary history of particular groups of now extinct organisms;
- reconstructing the environments in which these organisms lived; and
- in determining the relative ages of the strata in which they occur and of the geologic events that resulted in the deposition of the sediments that formed these strata.

As defined by the SVP (2010), a paleontological resource can be significant if:

- it provides important information on the evolutionary trends among organisms, relating living organisms to extinct organisms;
- it provides important information regarding development of biological communities or interaction between botanical and zoological biota;
- it demonstrates unusual circumstances in biotic history; or
- it is in short supply and in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and is not found in other geographical localities.

As such, paleontological resources are protected under various federal, state, and local laws and regulations.

California Environmental Quality Act of 1970 (Public Resources Code Section 21000 et seq.)

The California Environmental Quality Act (CEQA) Guidelines, Article 1, Section 15002(a)(3) states that CEQA is intended to “prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.” CEQA further states that public or private projects financed or approved by the State of California are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. If paleontological resources are identified as being within a proposed project study area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

Public Resources Code Section 5097.5

Public Resources Code Section 5097.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, public lands mean lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

County Laws, Ordinances, Regulations, and Standards

Contra Costa County does not have mitigation requirements that specifically address potential adverse impacts to paleontological resources.

Professional Standards

The SVP (2010)—a national scientific organization of professional vertebrate paleontologists—has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional paleontologists in the nation adhere to the SVP’s assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

RECOMMENDATIONS

Impacts to Paleontological Resources

Due to the highly sensitive geologic units within the Project Area, there is potential to impact paleontological resources with depth during Project construction. Impacts can be kept to a minimum if paleontological mitigation measures are implemented to protect and recover these resources for their

scientific significance. Below are recommended mitigation measures to be implemented during ground disturbance:

- Paleontological Resources Mitigation and Monitoring Plan: The Project Paleontologist will develop a Paleontological Resources Mitigation and Monitoring Plan prior to ground disturbance within the Project Area. The plan will outline preconstruction coordination, monitoring procedures, emergency discovery procedures, sampling and data recovery, museum storage coordination with an accredited institution or facility for any specimen and data recovered, and final reporting.
- Worker’s Environmental Awareness Training: Prior to the start of construction, the Project Paleontologist or a qualified paleontological monitor will provide all construction personnel involved with earthmoving activities an environmental awareness training that will provide information on the possibility of encountering fossils during construction, how to identify fossils, and the protocols to follow in the case of any fossil discoveries including proper notification procedures.
- Paleontological Monitoring: Prior to construction, the Project Paleontologist will review excavation plans to determine where paleontologically sensitive stratigraphic units will be disturbed by Project-related earth movement. Earthmoving construction activities will be monitored by a qualified paleontological monitor in those areas and/or where disturbance will take place to previously undisturbed sediment. Monitoring will not take place in areas where the ground has been previously disturbed, in areas underlain by artificial fill, or in areas where exposed sediment will be buried but not disturbed. Monitoring procedures will include measures to suspend monitoring should construction activities be restricted to previously disturbed fill and to adjust monitoring protocols based on updated evaluations of sensitivity subsequent to initial excavations.

If you have any questions pertaining to this report and would like to discuss further, please contact me at nkottachchi@ecorpconsulting.com.

Sincerely,



Niranjala Kottachchi
Paleontological Resources Manager

REFERENCES

Society of Vertebrate Paleontologists (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. 11 pp. Website: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf

TRC 2020. California Environmental Quality Act Initial Study Pittsburg Technology Park, 79p.

WSP 2023. Pittsburg Technology Center, Pittsburg, California: Geotechnical Due Diligence Report, 122p.

PERSONAL COMMUNICATION

Email from Patricia Holroyd. June 16, 2023. Paleontological Record Search University of California Museum of Paleontology, Berkeley, California.