L. CULTURAL AND PALEONTOLOGICAL RESOURCES

This section evaluates the Master Plan's potential impacts to cultural and paleontological resources. Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or historical significance. Paleontological resources, as a subset of cultural resources, are the fossilized remains of prehistoric plant and animal life.

CEQA defines a "historical resource" as a resource which is listed in or determined eligible for listing on the California Register of Historical Resources (California Register), listed in a local register of historical resources (as defined in Public Resources Code Section 5020.1(k)), identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, or determined to be a historical resource by a project's lead agency. According to *CEQA Guidelines* Section 15064.5, a historical resource consists of: "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." *CEQA Guidelines* Section 15064.5 states that a substantial adverse change in the significance of a historical resource may result in a significant effect on the environment.

CEQA also applies to effects on archaeological sites. The lead agency must apply a two-step screening process to determine if an archaeological site meets the definition of a historical resource or a unique archaeological resource. Prior to considering potential impacts, the Lead Agency must determine whether the archaeological site meets the definition of a historical resource in *CEQA Guidelines* Section 15064.5(a). If the archaeological site meets the definition of a historical resource, then it must be treated like any other type of historical resource in accordance with *CEQA Guidelines* Section 15126.4. If the cultural resource does not meet the definition of a historical resource, then the Lead Agency must then determine if the resource meets the definition of a unique archaeological resource as defined in *Public Resources Code* Section 21083.2(g). If the archaeological site meets the definition of a unique archaeological resource, then it must be treated in accordance with Section 21083.2(g). If the archaeological site does not meet the definition of a historical resource or a unique archaeological resource, then effects to the site are not considered significant effects on the environment.

Public Resources Code Section 5097.5 also provides for the protection of cultural and paleontological resources. Section 5097.5 prohibits the removal, destruction, injury, or defacement of archaeological and paleontological features on any lands under the jurisdiction of State or local authorities.

Paleontological resources are fossilized remains of plants and animals, and associated deposits. CEQA requires that a determination be made as to whether a project could directly or indirectly destroy a unique paleontological resource or site or unique geological feature. If an impact is significant, CEQA requires the identification of feasible measures to minimize the impact. *Public Resources Code* Section 5097.5 also applies to paleontological resources. The Society of Vertebrate Paleontology has identified vertebrate fossils and fossiliferous deposits as significant, non-renewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources.

The first section describes the methods used to conduct the cultural resources analysis of the proposed project, and is followed by a brief historical overview of the project area. The second section

describes the methods used for the paleontological resources analysis, and is followed by a brief discussion of paleontological conditions in the site. The third section presents the results of the impacts analysis and provides mitigation measures to reduce impacts, where possible, to a less-than-significant level.

1. Cultural Resources

This section describes the methods used to identify the baseline conditions for cultural resources in the project area. Following this is a brief overview of the prehistoric, ethnographic, and historical setting of the project site and its vicinity.

a. Methods. This cultural resources analysis included a records search, a literature review, and consultation with potentially-interested parties. This work was done to: (1) identify cultural resources or cultural resource studies in or adjacent to the project area; and (2) gather the archaeological, ethnographic, and historical information necessary to describe the baseline conditions for cultural resources.

(1) Records Search. A records search (#08-0022) of the project site and a ¼-mile radius around the site was conducted on July 7, 2008, at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California. The NWIC, an affiliate of the State of California Office of Historic Preservation, is the official State repository of cultural resource records and reports for San Mateo County. As part of the records search, LSA reviewed the following State of California inventories for cultural resources in and adjacent to the project area:

- *California Inventory of Historic Resources*;[1]
- *California Historical Landmarks*;[2]
- *California Points of Historical Interest*;[3]
- *Five Views: An Ethnic Historic Site Survey for California*;[4] and
- *Directory of Properties in the Historic Property Data File*.[5] The directory includes the listings of the National Register of Historic Places, National Historic Landmarks, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

[1] California Department of Parks and Recreation, 1976. *California Inventory of Historic Resources*. California Department of Parks and Recreation, Sacramento.

[2] California Office of Historic Preservation, 1996. *California Historical Landmarks.* California Department of Parks and Recreation, Sacramento.

[3] California Office of Historic Preservation, 1992. *California Points of Historical Interest.* California Department of Parks and Recreation, Sacramento.

[4] California Office of Historic Preservation 1988. *Five Views: An Ethnic Historic Site Survey for California*

[5] California Office of Historic Preservation, 2008. California Department of Parks and Recreation, Sacramento. March 7.

No cultural resources are recorded in or adjacent to the project site, or within a ¼-mile radius. Archival and map research indicates that the project site consists of engineered fill created in the 1960s to build Foster City.

One cultural resource study (*San Mateo Redevelopment Plan EIR: Bay Meadows and Shoreline Areas)* was identified through the records search that encompassed the entire project site,[6] and four studies were identified for sites within ¼-mile of the project site. The *San Mateo Redevelopment Plan EIR* study, conducted by David Chavez (1981), consisted of an archival review and cursory pedestrian survey of selected "open areas" near Seal Slough. It is not known whether the current project site was subject to the cursory survey. No archaeological deposits were identified in the project area, and the author noted that ". . . the majority of the terrain has been highly disturbed." Chavez noted that, due to the prior environmental characteristics of the project area and the degree of modern disturbance, there is little potential for land development in this area to encounter intact archaeological deposits. However, Chavez recommended that a professional archaeologist be consulted should unanticipated archaeological deposits be encountered.

(2) Literature Review LSA reviewed prehistoric, ethnographic, and historical literature and maps for information about the project site. As part of the literature review LSA reviewed the following documents:

- *California Place Names: The Origin and Etymology of Current Geographical Names*;[7]
- *Historic Spots in California*;[8]
- *Handbook of North American Indians, Volume 8: Costonoan*;[9]
- *Handbook of the Indians of California*;[10]
- *Historic Civil Engineering Landmarks of San Francisco and Northern California*.[11]

A review of historical aerial photographs taken from 1946 through 1969 shows that the project site and vicinity were used for agriculture, with residential and roadway construction occurring in the vicinity in the 1960s.[12] Archival and map research indicated that the land on which the project site is

[6] Chavez, David, 1981. *San Mateo Redevelopment Plan EIR: Bay Meadows and Shoreline Areas.* David Chavez, Consulting Archaeologist. San Francisco, California.

[7] Gudde, Erwin G.,1998. *California Place Names: The Origin and Etymology of Current Geographical Names.* Fourth edition, revised and enlarged by William Bright. University of California Press, Berkeley.

[8] Hoover, Mildred Brooke, Hero Eugene Rensch, Ethel Rensch, and William N. Abeloe, 1989. *Historic Spots in California*, Fourth edition, revised by Douglas E. Kyle. Stanford University Press, Stanford, California.

[9] Levy, Richard 1978. Costanoan. In *California*, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, Volume 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

[10] Kroeber, Alfred L., 1925. *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C. Reprinted 1976 by Dover Publications, New York.

[11] American Society of Civil Engineers, 1976. *Historic Civil Engineering Landmarks of San Francisco and Northern California.* The History and Heritage Committee, San Francisco Section, San Francisco, California.

[12] Engeo Incorporated 2005b:9-10. Phase One Environmental Site Assessment, Triton Drive, APN 094-010-570. Engeo Incorporated, San Jose, California.

situated is engineered fill created in the 1960s to develop Foster City. One map[13] shows an unimproved road and power lines extending through the project area. No other maps identified during the archival review depict cultural features in the project site.

(3) Consultation. LSA sent letters and maps to potentially-interested parties to solicit concerns regarding any cultural resources that may be affected by the proposed project. No concerns were expressed about the project site. The parties contacted and the results of the contacts are provided below.

- **Native American Heritage Commission**. On July 3, 2008, LSA faxed a letter and map depicting the project site to the Native American Heritage Commission (NAHC) in Sacramento, requesting a review of its sacred lands file for any Native American cultural resources that might be affected by the proposed project. On July 10, 2008, the NAHC responded to LSA's letter by fax and stated that: "A records search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area."
- **Foster City Historical Society**. On July 3, 2008, LSA mailed a letter and a project area map to the Foster City Historical Society requesting any information or concerns about cultural resources in the project area. No response to the letter was received. On August 14, 2008, LSA sent a follow-up email to the Society, but no response to this email has been received.

b. Cultural Resources Overview. This section provides a brief overview of the cultural history of Foster City from about 12,000 years ago, when Native Americans first entered the area, to modern times. Following the overview, a brief summary of the project area's archaeological sensitivity is provided.

(1) Prehistory and Ethnography. The area around Foster City was probably settled by native Californians between 12,000 and 6,000 years ago. Penutian peoples migrated into central California around 4,500 years ago and were firmly settled around San Francisco Bay by 1,500 years ago. The descendants of the native groups who lived between the Carquinez Strait and the Monterey area are the Ohlone, although they are often referred to by the name of their linguistic group, Costanoan.

Ethnographically, the *Lamchin* tribelet of Ohlone occupied the bayshore and adjacent interior valleys from present-day Belmont to Redwood City.[14] The Ohlone exploited marine and estuarine resources, as evidenced from archaeological materials recovered from prehistoric shell middens along the San Francisco bayshore. Although it is possible that the project site and vicinity were utilized to gather such resources, prehistorically the project area consisted of bay mud and tidal flats and would not have been suitable for habitation. Prehistoric archaeological sites in the general area are located inland from present-day Foster City, along the bayshore terrace near, but outside of, areas that were historically tidal marshland, such as the project area.

[13] United States Army Corps of Engineers (USACE), 1941. *San Mateo Quad.* 15-minute topographic sheet. Washington, D.C.

[14] Milliken, Randall, 1995:246-247. *A Time of Little Choice, The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*. Ballena Press Anthropological Papers No. 43, Menlo Park, California.

An Ohlone household consisted of about 15 individuals, with households grouping together to form villages, which in turn comprised tribelets. In the Foster City area, many Ohlone villages were located along waterways. Like many other Native Americans groups in California, the acorn was the Ohlone's dietary staple. Acorns were knocked from trees with poles, then leached to remove bitter tannins and eaten as mush or bread. The Ohlone used many other plant resources, including buckeye, California laurel, elderberries, strawberries, manzanita berries, goose berries, toyon berries, wild grapes, wild onion, cattail, amole, wild carrots, clover, and chuchupate. Animals hunted by the Ohlone and their neighbors included black-tailed deer, Roosevelt elk, antelope, and marine mammals. Smaller animals such as dog, skunk, raccoon, rabbit, squirrel, geese, ducks, salmon, sturgeon, and mollusks were also hunted, fished or gathered. In addition to sustenance, the Bay Area's flora and fauna provided the Ohlone with raw materials for clothing, shelter, and boats.[15]

Intensive Hispanic exploration and settlement of the Bay Area began in the late 18th century, and Ohlone culture was radically transformed when European settlers moved into northern California. These settlers established the mission system and exposed the Ohlone to diseases to which they had no immunity. Mission San Francisco was founded in 1776, and drew Ohlone from the entire Bay area, including the *Lamchin* tribelet. Following the secularization of the missions in 1834, native people in the Bay Area moved to ranchos, where they worked as manual laborers.[16]

(2) Project Vicinity History. Historical maps show the project area was bay tidal marshland until about 1939.[17,18] Levees were first constructed around Brewer Island (present day Foster City) sometime around 1897, and the land was reclaimed at that time. Brewer Island was once a salt marsh that was diked and drained for pasturage by dairyman Frank M. Brewer. According to Erwin Gudde,[19] Foster City was named for T. Jack Foster, a developer who purchased Brewer Island in 1959 in order to construct a master-planned community.[20] Filling of the island for residential use began in 1961, using dredged material from the San Bruno shoal in San Francisco Bay. The city was incorporated in 1971.

(3) Archaeological Sensitivity. The project area's low archaeological sensitivity is indicated by the absence of recorded archaeological sites, the low likelihood that the area was used by Native Americans, the absence of buildings/structures in the historic period, and the deposition of engineered fill during the creation of Foster City. For these reasons, prehistoric and historical archaeological deposits and human remains are not anticipated in the project area. This conclusion is supported by the study of the project area conducted by David Chavez in 1981.

[15] Levy, Richard, 1977:462-492.Costanoan. In California, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, Volume 8; William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

[16] Ibid

[17] U.S. Corps of Engineers, 1939. California, San Mateo Quadrangle. 15-minute topographic quadrangle. U.S. Army Corps of Engineers, Washington, D.C.

[18] U.S. Geological Survey1896, 1899, 1915. California, San Mateo Sheet. 15-minute topographic quadrangle. U.S. Geological Survey, Washington, D.C.

[19] Gudde, op. cit.,:136.

[20] Svanevik, Michael. and Shirley Burgett, 1995. San Mateo County Chronicles. Michael Svanevik and Shirley Burgett, San Mateo, California.

2. Paleontological Resources

This section describes the methods used to identify the baseline conditions for paleontological resources in the project area. Following this is a brief summary of the paleontological resources setting of the project area.

a. Methods. Background research was conducted to determine if paleontological resources (fossils) or geologic units known to contain fossils are located within or adjacent to the project site. This research, which consisted of a fossil locality search and a literature review, was conducted to identify geologic units, paleontological studies, fossil localities (i.e., locations at which paleontological resources have been documented), and the types of fossils that may be within or adjacent to the project site.

A fossil locality search was conducted at LSA's request on July 9, 2008, by Dr. Pat Holroyd of the University of California Museum of Paleontology (UCMP), Berkeley. The purpose of the search was to identify known paleontological sites in and near the project site. No recorded fossil localities are within or adjacent to the project site. The project area is located on artificial fill, and Holocene -aged (10,000 years ago to present) bay mud.

b. Paleontological Resources Setting. The project area is located on artificial fill, and Holocene aged (10,000 years ago to present) bay mud, which extends to a depth of at least 80 feet.[21] The artificial fill will not contain any significant paleontological resources in primary context. Bay mud has been known to contain Holocene-aged molluscan fossils,[22] but such fossils are not considered significant.

3. Impacts and Mitigation Measures

The following section describes potentially significant project impacts to cultural and paleontological resources. Mitigation recommendations are made to avoid, minimize, or mitigate such impacts where possible

a. Criteria of Significance. Implementation of the proposed project would have a significant impact on cultural and/or paleontological resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5. Specifically, substantial adverse changes include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

[21] Engeo Incorporated, 2005a. Preliminary Geotechnical Assessment, Triton Drive, Foster City, California. Engeo Incorporated, San Ramon, California.

[22] Helley, E.J, K.R. La Joie, W.E. Spangle, and M.L. Blair 1979. Flatland Deposits of the San Francisco Bay Region - Their Geology and Engineering Properties, and Their Importance to Comprehensive *Planning.* Geological Survey Professional Paper 943. U.S. Geological Survey and Department of Housing and Urban Development, Washington, D.C.

- Disturb any human remains, including those interred outside of formal cemeteries.

(1) Cultural Resources. The project area consisted of tidal marsh during the Holocene (10,000 years ago to present) and up until the late 19th century, and would have been unsuitable for prehistoric human habitation. There is a low possibility of encountering prehistoric archaeological deposits during Master Plan buildout.

No buildings were constructed on the project site until sometime after 1980.[23] The State of California Office of Historic Preservation recommends documenting, and taking into consideration in the planning process, any cultural resource that is 45 years or older.[24] The buildings and structures that would be demolished on the project site are all modern; they do not possess significant historical associations or architectural qualities, and would not qualify as historical resources under CEQA. Therefore, these buildings and structures do not require further consideration.

Impact CULT-1: Ground-disturbing activities associated with site preparation and the construction of building foundations and underground utilities could adversely affect archaeological cultural resources. (S)

Although it is unlikely, there is the potential that ground-disturbing construction activities in the project site could affect archaeological cultural resources. If such resources qualify as historical or unique archaeological resources, then a substantial adverse change in their significance (i.e., damage or destruction) would result in a significant impact. Should such deposits be encountered, implementation of the following mitigation measure would reduce this potential impact to a less-than-significant level:

> Mitigation Measure CULT-1: If deposits of prehistoric or historical archaeological materials are encountered during project activities, all work within 25 feet of the discovery shall be redirected and a qualified archaeologist contacted to assess the find, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, basalt, or quartzite toolmaking debris; bone tools; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash and charcoal, shellfish remains, faunal bones, and cultural materials); and stone-milling equipment (e.g., mortars, pestles, handstones). Prehistoric archaeological sites often contain human remains. Historical materials can include wood, stone, concrete, or adobe footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, metal, and other refuse.
>
> Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results of the analysis, and provide recommendations for the treatment of the archaeological deposits discovered. The report shall be submitted to the project applicant, the Foster City Community Development Department and the Northwest Information Center.

[23] U.S. Geological Survey 1973, 1980. San Mateo, Calif. 7.5-minute topographic quadrangle. U.S. Geological Survey, Washington, D.C.

[24] California Office of Historic Preservation 1995:2. *Instructions for Recording Historical Resources.* Office of Historic Preservation, Sacramento.

Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Adverse effects to such deposits shall be avoided by project activities. If avoidance is not feasible (as determined by the City, in conjunction with the qualified archaeologist), the archaeological deposits shall be evaluated for their eligibility for listing in the California Register. If the deposits are not eligible, avoidance is not necessary. If the deposits are eligible, avoidance of project impacts on the deposit shall be the preferred mitigation. If adverse effects on the deposits cannot be avoided, such effects must be mitigated. Mitigation can include, but is not necessarily limited to: excavation of the deposit in accordance with a data recovery plan (see *CEQA Guidelines* Section 15126.4(b)(3)(C)) and standard archaeological field methods and procedures; laboratory and technical analyses of recovered archaeological materials; production of a report detailing the methods, findings, and significance of the archaeological site and associated materials; curation of archaeological materials at an appropriate facility for future research and/or display; preparation of a brochure for public distribution that discusses the significance of the archaeological deposit; an interpretive display of recovered archaeological materials at a local school, museum, or library; and public lectures at local schools and/or historical societies on the findings and significance of the site and recovered archaeological materials. The City shall ensure that any mitigation involving excavation of the deposit is implemented prior to the resumption of actions that could adversely affect the deposit. (LTS)

(2) Paleontological Resources. The project site is located on artificial fill, which occurs from the surface to a depth of 3 feet, underlain by Holocene-aged (10,000- years ago to present) bay mud to a depth of at least 80 feet.[25] The artificial fill will not contain any significant paleontological resources in primary context. Bay mud has been known to contain Holocene aged molluscan fossils,[26] but such fossils are not considered significant.

Impact CULT-2: Ground-disturbing activities associated with site preparation and the construction of building foundations and underground utilities could adversely affect paleontological resources. (S)

There is a low potential that ground-disturbing construction in the project site will affect paleontological resources. If such resources are encountered and damaged, however, such an effect may be considered a significant impact. Should paleontological resources be encountered, implementation of the following mitigation measure would reduce this potential impact to a less-than-significant level:

Mitigation Measure CULT-2: If paleontological resources are discovered during project activities, all work within 25 feet of the discovery shall be redirected and a qualified paleontologist shall be contacted to asses the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Paleontological resources include fossil plants and animals, and evidence of past life such as trace fossils and tracks.[27]

[25] Engeo Incorporated, 2005a. Preliminary Geotechnical Assessment, Triton Drive, Foster City, California. Engeo Incorporated, San Ramon, California.

[26] Helley, E.J, K.R. La Joie, W.E. Spangle, and M.L. Blair 1979. Flatland Deposits of the San Francisco Bay Region - Their Geology and Engineering Properties, and Their Importance to Comprehensive *Planning.* Geological Survey Professional Paper 943. U.S. Geological Survey and Department of Housing and Urban Development, Washington, D.C.

[27] Bates, Robert L., and Julia A. Jackson (editors) 1984. *Dictionary of Geological Terms.* Third edition. Prepared by the American Geological Institute. Anchor Books, New York.

Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Fossil vertebrate land animals may include bones of reptiles, birds, and mammals. Paleontological resources also include plant imprints, petrified wood, and animal tracks.

Upon completion of the assessment, the paleontologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the paleontological resources discovered. This report shall be submitted to the project applicant, the Foster City Community Development Department, and the paleontological curation facility.

Adverse effects to paleontological resources shall be avoided by project activities. If avoidance is not feasible (as determined by the City, in conjunction with the qualified paleontologist), the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, adverse effects on the resources shall be avoided, or such effects shall be mitigated. Mitigation can include, but is not necessarily limited to: excavation of paleontological resources using standard paleontological field methods and procedures; laboratory and technical analyses of recovered materials; production of a report detailing the methods, findings, and significance of recovered fossils; curation of paleontological materials at an appropriate facility (e.g., the University of California Museum of Paleontology) for future research and/or display; an interpretive display of recovered fossils at a local school, museum, or library; and public lectures at local schools on the findings and significance of the site and recovered fossils. The City shall ensure that any mitigation involving excavation of the resource is implemented prior to project construction or actions that could adversely affect the resource. (LTS)

(3) Human Remains. Construction of the proposed project would require soil excavation and grading for building foundations and utilities. There is no evidence of human remains in the project area, nor is there an expectation that such remains would be encountered during ground disturbing activities on the site.

Impact CULT-3: Ground-disturbing activities associated with site preparation and the construction of building foundations and underground utilities could disturb human remains, including those interred outside of formal cemeteries. (S)

Although not anticipated, it is possible that human remains could be encountered and damaged or destroyed by project construction. Such an impact would be considered significant. Should such remains be encountered, implementation of the following mitigation measure would reduce this potential impact to a less-than-significant level:

Mitigation Measure CULT-3: If human remains are encountered, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. The project applicant shall also be notified. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a

Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The project sponsor shall comply with these recommendations. The report shall be submitted to the project applicant, the Foster City Community Development Department, the MLD, and the Northwest Information Center. (LTS)