Archaeological Survey for the Los Gatos Bridge Replacement/ South Terminal Phase III Project, Santa Clara County, California

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July 2013

Prepared for:
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SUMMARY OF FINDINGS

The Peninsula Corridor Joint Powers Board (JPB) which operates the San Francisco Bay Area’s Caltrain passenger rail service proposes to replace the two-track railroad bridge that crosses Los Gatos Creek in the City of San Jose, Santa Clara County, California. The Proposed Action is needed to address the structural deficiencies and safety issues of the Caltrain Los Gatos Creek railroad bridge to be consistent with the standards of safety and reliability required for public transit, to ensure that the bridge will continue to safely carry commuter rail service well into the future, and to improve operations at nearby San Jose Diridon Station and along the Caltrain rail line.

Far Western Anthropological Research Group, Inc. conducted an archaeological investigation to ensure compliance with Section 106 of the National Historic Preservation Act (16 USC 470 et seq.) and the California Environmental Quality Act (CEQA; Public Resources Code Section 21000 et seq.). These laws require federal and California public agencies to consider the effects that a project may have on historic properties.

The project Area of Potential Effects (APE)—an area encompassing both surface and subsurface areas that might be impacted by the project—consists of 4.1 acres at and around the Los Gatos Creek Bridge. The right-of-way largely consists of the railroad itself, along with narrow corridors between the edge of the railroad and commercial property and Los Gatos Creek. The project APE also includes small, thin slivers of three commercial properties. The commercial parcels are adjacent to the right-of-way between West San Carlos Street and Auzerais Avenue, and south of Auzerais Avenue. All portions of the 4.1-acre project APE were surveyed.

This study updates an initial study from 2008. Both the original and updated study included a records search and other archival research, Native American consultation, and archaeological survey (Byrd and Darcangelo 2009). In 2008 the Native American Heritage Commission and the eight individuals listed by the commission as interested parties were contacted and asked whether they had any information regarding the Los Gatos Creek area. These and additional interested Native American parties were contacted again in 2013. The Native American parties contacted did not have any knowledge of cultural resources within the project area. Archival research at the California Historical Resource Information System Northwest Information Center revealed no archaeological sites within the project APE.

The potential to encounter sites that are buried beneath the modern ground surface was analyzed; the APE is considered sensitive for buried sites. As planned, however, the project will only disturb sensitive areas during the replacement of existing bridge piles and abutments. It would not be practical, nor safe, for archaeologists to conduct testing in these areas since they are all within the active rail corridor. All other impacts within the APE appear to be near-surface within modern fill or disturbed settings. In these areas there is a very low likelihood of disturbing buried archaeological sites.

No cultural resources were identified in the project area and no further archaeological studies are recommended.

If adjustments are made to the final design, then an archaeologist should be consulted to determine the potential impacts to possible buried cultural resources. Additional archaeological survey will be needed if project limits are extended beyond the footprint presented in this document. It is best to avoid cultural resources whenever possible. If previously unidentified cultural materials are unearthed during construction, work should be halted in that area until a qualified archaeologist can assess the significance of the find.
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PROJECT PURPOSE AND NEED, LOCATION, AND DESCRIPTION

This section describes the project location, its purpose and need, existing safety concerns, and describes the project elements and construction sequence.

PROJECT LOCATION

The Peninsula Corridor Joint Powers Board (JPB) which operates the San Francisco Bay Area’s Caltrain passenger rail service proposes to replace the two-track railroad bridge that crosses Los Gatos Creek, in the City of San Jose, Santa Clara County, California. As shown in Figure 1, the proposed project area, generally bounded by Caltrain’s San Jose Diridon Station to the north, Interstate 280 (I-280) to the south, Sunol Street to the west, and Royal Avenue on the east, occupies the width of the right-of-way (ROW) owned by JPB and extends a distance of approximately 0.4 mile.

Two tracks, Main Tracks 1 and 2 (MT-1 and MT-2), run parallel through the entire project area. MT-1 is owned by the Union Pacific Railroad (UPRR) for freight service and MT-2 is owned by the JPB for Caltrain service. Both tracks connect with San Jose Diridon Station Tracks 1 through 9 immediately south of the Park Avenue Overpass. From the Park Avenue Overpass, the double-track alignment continues southward for approximately 800 feet before passing beneath the West San Carlos Avenue vehicular bridge. Immediately south of the West San Carlos Avenue vehicular bridge, the two tracks turn in a southeasterly direction and extend approximately 200 feet across the Los Gatos Creek railroad bridge. The JPB owns and maintains the Los Gatos Creek railroad bridge. Both tracks continue southeast for approximately 500 feet before crossing Auzerais Avenue at grade. South of Auzerais Avenue, the double-track alignment continues for approximately 400 feet before reaching the project area’s southern boundary immediately north of the I-280 overpass. Beyond I-280, the alignment continues south to Caltrain’s Gilroy Station.

PURPOSE AND NEED FOR THE PROPOSED PROJECT

The proposed project is needed to address the structural deficiencies and safety issues of the Caltrain Los Gatos Creek railroad bridge to be consistent with the standards of safety and reliability required for public transit, to ensure that the bridge will continue to safely carry commuter rail service well into the future, and to improve operations at nearby San Jose Diridon Station and along the Caltrain rail line. These project needs are discussed below.

EXISTING SAFETY CONCERNS

The existing Los Gatos Creek Bridge measures 174 feet in length and 35 feet in width and is approximately 100 years old. The bridge is made up of two bridge types, steel girders on concrete piers and timber trestle on wooden pile bents (piers). There are a combined nine piers and bents in the creek including the abutments. Second-hand steel girders (now much older than 100 years) were used during the original construction of the bridge and contribute an additional risk for the structural failure of the bridge.

The existing bridge was inspected in 2005 and 2012 as part of the on-going JPB Bridge Program and many elements were found to not meet current load requirements. Although the steel spans are in good condition, the southerly timber trestle approach spans have been damaged by fire and have experienced moderate section loss. The bridge was evaluated per current industry requirements for the inspected condition and was found to rate below the current and projected service loads as well as the JPB design criteria for live load capacity (Cooper E80) for new bridges. The bridge was also analyzed for seismic capacity and found to be vulnerable during significant magnitude earthquakes.
Figure 1. Project Location.
Figure 2 shows two photographs from the most recent bridge inspection in 2012. The photographs highlight the deteriorating conditions of the bridge from the charring and rotting of the South bridge cap.

The bridge has reached and exceeded the 75-year useful life for which it was designed. Due to its increasing age, the compromised condition of the southerly trestle approach spans, failure of some bridge elements to meet current and projected service loads, and vulnerability in the event of a significant earthquake, the Los Gatos Creek Bridge needs to be replaced with a new structure.

NEED FOR A TAIL TRACK

Caltrain currently operates 46 northbound and 46 southbound trains per weekday (for a total of 92 trains per day). Thirty-four of these trains originate and terminate at Tamien Station, located approximately 1.3 miles south of the Los Gatos Creek Bridge. All Caltrain service to Tamien Station and farther south utilizes only one of the two tracks through the project area, MT-2.

The San Jose Diridon Station has recently completed an expansion program that included four new platform faces with extended platform lengths. The expansion allows for more trains to serve the San Jose Diridon Station and more passengers to access the Caltrain trains.

In addition to Caltrain, Altamont Corridor Express (ACE), Capitol Corridor, and Amtrak also serve Diridon Station. ACE currently operates three weekday trains to San Jose during the morning peak period and three weekday trains departing San Jose in the evening peak period. Capitol Corridor operates seven weekday trains originating and departing from San Jose Diridon Station (for a total of 14 trains per day). Amtrak Long Distance currently operates the Coast Starlight which serves San Jose Diridon Station with two trains per day (one northbound and one southbound). While ACE and Capitol Corridor trains terminate passenger service at Diridon Station, one Capitol Corridor train and three ACE trains use Tamien Station and the Tamien yard for layovers. These trains utilize MT-1 through the project area from San Jose Diridon Station to Tamien Station. Since MT-1 is owned by UPRR, freight service has priority use for the track.

Currently, the two tracks are sufficient to provide service through this rail corridor. However, several trains a day pass through the project area just to access the layover area at Tamien Station. There is no siding along this stretch of the Caltrain corridor; therefore non-revenue, non-passerger trains are traveling the full length between Diridon and Tamien Stations just to turn around. Moreover, other trains that terminate at San Jose Diridon Station have limited rail yard space to efficiently maneuver and change directions. A tail track extending south from San Jose Diridon Station would improve operations at San Jose Diridon Station and would be able to accommodate the trains otherwise laying over and changing direction at Tamien Station.

In addition, if there is a delay in one of the rail services, or if a train breaks down, the lack of any siding along this alignment creates a delay along the entire route. The tail track in the project area would also serve as a temporary, emergency layover area for a passenger train.

PURPOSE OF THE PROPOSED PROJECT

The purpose of the proposed project is to replace the structurally deficient Los Gatos Creek railroad bridge and provide a tail track south of San Jose Diridon Station in order to:

- Ensure safe rail travel for Caltrain passengers and other users of the Los Gatos Creek railroad bridge;
- Improve operations at the San Jose Diridon Station and provide an efficient way for trains to change directions; and
Figure 2. Deteriorating Conditions of Los Gatos Creek Bridge.
• Minimize system-wide delays by providing a temporary, emergency layover area.

Without the proposed project, the replacement of the Los Gatos Creek railroad bridge would not be completed and the bridge would continue to present a safety hazard to all users. In addition, operations at nearby San Jose Diridon Station would not be improved and system-wide delays would be likely to occur.

PROJECT DESCRIPTION

The following sections describe design elements and construction phasing plan for the proposed project. The proposed project consists of replacing the existing Los Gatos Creek Bridge while maintaining rail services across the bridge. The new bridge will consist of a two-track alignment over Los Gatos Creek with the addition of a tail track extending south from San Jose Diridon Station. The addition of the tail track comprises Phase III of the South Terminal Project, which includes a variety of improvements at and near the San Jose Diridon Station to improve Caltrain operations along this corridor.

Project Elements

Figure 3 illustrates the elements of the proposed project. The existing bridge consists of a north abutment, three piers in the creek area, and a series of timber bents segments on the south end; the new bridge would have a north abutment, two piers within the creek area, and a south abutment. The two tracks that currently utilize this bridge are MT1 (owned by UPRR and on the east side of the bridge) and MT2 (owned by the JPB). The new bridge would be wider than the existing bridge, with the expansion occurring on the west side to accommodate the tail track to improve operations at the San Jose Diridon Station just to the north of the project area. The tail track and several temporary tracks, known as shoofly tracks, will be used to route trains around the area under construction in order to maintain active rail service across the bridge at all times.

The ultimate alignments of MT1 and MT2 over the new bridge would be generally unaltered from their current configuration.

The limits of the tail track are from approximately 300 feet north of West San Carlos Street to 300 feet south of Auzerais Avenue, where it ties back into MT2 before the alignment crosses over I-280, the southern limit of the project area. Due to spacing requirements between adjacent tracks, minor right-of-way acquisitions from two parcels on the west side of the tracks would be required. Rock slope and scour protection (riprap) would be installed on the north bank of the creek.

Caltrain operates, and is required to operate, rail service on two tracks across the Los Gatos Creek Bridge at all times. In order to maintain continuous rail operations on both tracks, the construction of the replacement span must take place in three sections. Before work can start on any section, the channel flow must be diverted via a pipe and out of the way of the work. Only after the channel is diverted can the first section be constructed. Piles, piers, superstructure, and finally the track itself will be constructed only after the channel diversion is complete. However, during the winter months, when no work is taking place in the channel, the channel shall be returned to its original condition. Therefore, in order to construct the new piers and bridge superstructure, Los Gatos Creek would be realigned via a diversion channel or pipe three times during construction.

Proposed staging and laydown areas have been identified on the west side of the existing bridge. A portion of the staging area lies on private property and temporary construction easements would be needed for this area.

Construction Staging

Replacement of the Los Gatos Creek railroad bridge is estimated to last approximately 24 months starting in 2015. Work within the creek will be limited to only the time between June 15 and October 15 in
Figure 3. Los Gatos Creek Bridge Replacement/South Terminal Phase III Project Site Plan.
order to accommodate sensitive environmental resources. As a result of the environmentally constrained window for work within the creek, the in-creek construction elements will be completed in two consecutive summer seasons. The construction stages and major work elements outlined in Table 1.

Table 1. Construction Stage Work Elements.

<table>
<thead>
<tr>
<th>CONSTRUCTION STAGE</th>
<th>TIME PERIOD FOR WORK</th>
<th>CONSTRUCTION WORK ELEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Initial out-of-creek construction</td>
<td>Project Start to June 15</td>
<td>▪ Relocate fence by staging area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Relocate overhead and underground utilities as required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct north end of tail track up to bridge approach area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Install shoring and grade temporary access ramp/roads</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct southwest wingwall for abutment 4</td>
</tr>
<tr>
<td>2 - Season 1 in-creek construction</td>
<td>June 16 to October 14</td>
<td>▪ Add tie-backs and shoring as needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Grade temporary access roads into creek area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct temporary creek diversion, new sanitary sewer line under the creek, and piers 2 and 3 for new tail track bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Install precast abutments and southwest wingwall caps and remove tie-backs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Adjust shoring and remove access ramps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Reset channel flow</td>
</tr>
<tr>
<td>3 - Winter out-of-creek construction</td>
<td>October 15 to June 15</td>
<td>▪ Construct tail track bridge superstructure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Install tail track over new track bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Install new fiber optic and other electrical associated with new bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Cut in tail track at ends on train free weekends and begin operations</td>
</tr>
<tr>
<td>4 - Season 2 in-creek construction</td>
<td>June 16 to October 14</td>
<td>▪ Remove tie-backs under MT2 track and add tie-backs and shoring for MT1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Grade temporary access roads into creek area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct temporary creek diversion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Cut timber deck and remove existing MT2 section of bridge superstructure, piers, and abutments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct piers, abutments, and superstructure for new MT2 bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct MT1 shoofly on approaches and across MT2 bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Grade temporary access roads into creek area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Remove exiting MT1 section of bridge superstructure, piers, and abutments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct piers and abutments for new MT1 bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Grade new creek channel, regrade upstream channel embankment, and place riprap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Remove access roads from creek area and regrade downstream channel embankments</td>
</tr>
<tr>
<td>5 - Finish out-of-creek construction</td>
<td>October 15 to Project Completion</td>
<td>▪ Construct superstructure for new MT1 bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Construct new MT1 track on new bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Remove remaining access road segments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Remove temporary MT1 shoofly and return service to MT1 mainline track</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Remove temporary tail track connection and return service to MT2 mainline track</td>
</tr>
</tbody>
</table>

AREA OF POTENTIAL EFFECTS

As shown in Figure 4. The Area of Potential Effects (APE) for the project is defined as all construction limits both within the JPB right-of-way and within commercial properties that will be used as either staging areas or as part of the project area. The vertical APE varies over the project area. The grading of access roads and construction of shoofly tracks will require disturbances of no more than five feet. The construction of bridge piers and abutments, however, requires extensive excavation in limited areas. Although the depth of this construction is not known, it can assumed to be deep enough to include all soils with potential to contain archaeological deposits.
Figure 4. Archaeological Area of Potential Effects Map.
METHODOLOGY

Far Western Anthropological Research Group, Inc. (Far Western) conducted an archaeological investigation on behalf of the Peninsula Corridor Joint Powers Board/Caltrain, which plans to replace the aging Caltrain corridor railroad bridge at Los Gatos Creek within the City of San Jose, Santa Clara County, California (see Figure 1). The Los Gatos Creek Bridge is at post mile 47.95, near the junction of I-280 and State Route (SR) 87 (see Figure 4). The nature of the proposed activities and the involvement of federal funds require compliance with Section 106 of the National Historic Preservation Act (16 USC 470 et seq.) and the California Environmental Quality Act (CEQA; Public Resources Code Section 21000 et seq.), which mandate federal and California public agencies to consider the effects an undertaking may have on historic properties. This document updates a previous cultural resources study of the Los Gatos Creek Bridge Replacement Project (Byrd and Darcangelo 2009), which was prepared for an initial iteration of the project. The APE for the project has subsequently been expanded and additional survey was required. The archival research for the project, however, was conducted within the last five years and the records search was not updated.

Cultural resources studies as part of this effort included a records search, archaeological survey, a geoarchaeological assessment of the potential for buried cultural resources, and consultation with the Native American community. The fieldwork consisted of two pedestrian surveys of the proposed project area on August 14-15, 2008 and February 28, 2013 by project archaeologist Michael Darcangelo with technicians Ian Patrick (2008) and Patricia Galindo (2013). Fieldwork was conducted under the supervision of project directors Dr. Adrian Whitaker and Dr. Brian Byrd. Whitaker, Byrd, and Darcangelo have many years of experience in California archaeology, and all archaeologists exceed the required qualifications for cultural resources specialists as defined by the US Department of Interior. Investigations of the historic-built environment have been being carried out separately by JRP Historical Consulting, LLC.

SOURCES CONSULTED

This section describes the archival sources, agencies, and Native American parties that were consulted or used to determine whether archaeological resources were present in the project area.

Records Search and Previous Investigations

On June 19, 2008, the Northwest Information Center at Sonoma State provided Far Western with a records search of archaeological resources for the project (as well as a separate bridge replacement project at Guadalupe Street). The records search included a 0.8-kilometer radius around the bridge location. In addition, Far Western reviewed its library and archival records relevant to the project area. The records search included a broader area than the current APE since two bridges were being considered together.

The Information Center examined the following references:

- San Jose West 7.5-minute USGS quadrangle (Los Coches Landgrant, unsectioned)
- 1860 Rancho San Joan Bautista Plat Map
- 1867 GLO Plat Map, T7S, R1E
- 1876 Thompson & West, Historical Atlas Map of Santa Clara County
- 1879 Pueblo Lands of San Jose Plat Map
• 1899 USGS San Jose Quadrangle Map
• Office of Historic Preservation’s Historical Property Data File
• California Inventory of Historic Resources

The Information Center provided a list of 126 projects that had been carried out within the records search area (Appendix D). The majority of these projects are either very small-scale archaeological surveys or historical architectural evaluations. A total of 17 projects pertaining to archaeological topics were identified directly adjacent to the bridge location. These include 13 archaeological surveys (document numbers: S-7476, -8387, -9526, -11,394, -13,874, -22,819, -23,373, -24,935, -25,039, -29,657, -31,445, -33,026, and -33,289), one historical archaeological evaluation (S-18,736), two overviews (S-13,872 and -33,543), and one management plan/monitoring report (S-24,976). Prominent studies include the Vasona Light Rail corridor project (S-23,373; Basin Research 1999, 2000), the Guadalupe Flood Control Study (S-25,039; Cartier and Eckert 1996), and the Caltrain electrification project (S-29,657; Nelson et al. 2002).

Only one archaeological site has been recorded within the records search area (Figure 5; Table 2). None fall within the project APE. Site CA-SCL-840H consists of a series of historic-era trash deposits east of the project area and immediately east of Los Gatos Creek and northeast of the Los Gatos Creek bridge APE. Archaeological investigations during construction of the Villages at Museum Park development revealed isolated trash dumps and trash pit features within, and adjacent to, stream channel deposits (Pesnichak and Evans 2003; Roop 1997). These features were within the historic-era town and are thought to have resulted from Euro-American and Chinese-American trash disposal between the 1860s and the early 1900s. These deposits were largely destroyed by construction events within the project area, but other trash deposits may be present beyond the defined site boundaries.

Table 2. Previously Recorded Cultural Resources within the Records Search Area.

<table>
<thead>
<tr>
<th>PRIMARY (P-43)</th>
<th>TRINOMIAL (CA-SCL-</th>
<th>INTERSECTS APE</th>
<th>ERA</th>
<th>RESOURCE</th>
<th>YEAR RECORDED</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1282</td>
<td>840H</td>
<td>No</td>
<td>Historic Trash deposits</td>
<td>2002</td>
<td>Date from 1870s to mid-1900s; some exposed along Guadalupe River; within historic town area; largely destroyed by construction of “Villages at Museum Park”</td>
<td></td>
</tr>
</tbody>
</table>

Native American Consultation

Far Western contacted the Native American Heritage Commission on May 19, 2008, and requested that they conduct a search of their Sacred Lands file to determine if there were known cultural sites within or near the APE for the current project. On May 22, 2008, the Commission responded stating that no Native American cultural resources were reported from the sacred lands file records search (Appendix A). A list of interested Native American groups and individuals was also requested. All eight contacts on that list were sent letters requesting input on October 8, 2008. A new request was sent to the NAHC on February 13, 2013. The Commission responded on February 21, 2013 and reiterated that there were no sacred lands listed in the project area. They provided the same list of eight contacts and these individuals were sent a letter to update them on the status of the project. Letters were sent on February 25, 2013. No responses have been received to date.
Confidential Information

Not Available for Public Review
FIELD METHODS AND CONDITIONS

The project APE consists of 4.1 acres, almost entirely within the Caltrain railroad right-of-way. The right-of-way largely consists of the railroad itself, along with narrow corridors between the edge of the railroad and commercial property and Los Gatos Creek. The project APE also includes small, thin slivers of three commercial properties. The commercial parcels are adjacent to the right-of-way between West San Carlos Street and Auzerais Avenue and south of Auzerais Avenue.

Project archaeologists surveyed the entire project APE spaced at three-meter transect intervals, and inspected all exposed cutbanks (Appendix B). In general, the project APE has been extensively modified by construction of the railroad tracks, surface streets, levees along the creek, and commercial development. Notably, imported fill was used in the 1930s construction of the railroad bridge. Overall, ground visibility was moderate, with the ground surface varying from recently disturbed areas (with excellent visibility) to areas consisting largely of tall weeds and patches of brush or concrete (all with poor visibility). The railroad right-of-way generally had poor ground visibility, typically covered either with ballast and concrete (Figures 6a and 6b). Appendix C provides photo documentation of the survey area.
a. Northern portion of Los Gatos Creek Bridge APE (looking north).

b. Southern portion of Los Gatos Creek Bridge APE (looking north).

Figure 6. Additional Photos of Project Area.
REGIONAL ENVIRONMENTAL AND CULTURAL CONTEXT

This section briefly reviews the environmental, prehistoric, ethnographic, and historical context for the general area. The information described in this section provides background information which is meant to guide expectations regarding potential resources in the project area. These sections guide the identification of potential resources under Section 106 of the NHPA.

Since prehistoric sites in California were the result of activity by hunter-gatherers, whose basic lifeways were integrally tied to the environment, the environmental context frames the constraints on where people could live and would have wanted to live as the environment changed. The geomorphic background section provides critical information regarding the expectations for buried archaeological sites in the project area that will not be visible from the surface and therefore might be impacted by construction after the project begins. The ethnographic and archaeological background provide a context for the types of artifacts and archaeological signatures that are expected, and the historical background provides a similar context for historic-era archaeological remains.

ENVIRONMENTAL CONTEXT

The project area is within the San Francisco Bay region. Specifically, it lies less than 20 kilometers southeast of the southern edge of the bay. The project area is situated within the alluvial plain of the lower Santa Clara Valley. The APE lies 1.2 kilometers southwest of the confluence of Los Gatos Creek and Guadalupe Creek. Modern elevation in the project area are approximately 30 meters above mean sea level.

The area’s climate is typically Mediterranean, with cool, wet winters, and warm, dry summers. The region has warmer temperatures than northern coastal regions and is relatively frost-free. The majority of rainfall occurs December through March, decreasing from north to south. The climate is cool along the immediate coast and without extreme fluctuations.

This region is typified by estuaries, coastal marsh lands, coastal prairie, and riparian corridors. San Francisco Bay, formed by rising sea levels at the end of the Pleistocene, is part of a large estuary that includes San Pablo and Suisun bays, and the Carquinez Strait, all north of the proposed project alignment. A series of water courses drain into the bay from the San Francisco Peninsula. In the Santa Clara Valley, Los Gatos Creek has a large catchment, originating up in the Santa Cruz Mountain range to the southwest. The dominant vegetation along creek margins on the valley floor includes yellow willow (Salix lasiandra), arroyo willow (Salix lasiopilis), broadleaf cattail (Typha latifolia), common tule (Scirpus acutus), and California bulrush (Scirpus californicus). Pickleweed (Salicornia virginica), Pacific cordgrass (Spartina foliosa), and salt grass (Distichlis spicata) are common species in coastal salt marshes. Native grasses along the coastal prairie, such as Pacific reed grass (Calamagrostis nutkaensis), Pacific hairgrass (Deschampsia holciformis), and California bentgrass (Agrostis californica), are mixed with introduced species from Europe (Crampton 1974).

Historically, the Bay Area environments provided abundant resources such as fish, shellfish, and large mammals, as well as a range of plant resources. Anadromous fish were available in the creeks that drained into the bay. Tule elk (Cervus elaphus nannodes), pronghorn (Antilocapra americana), and grizzly bear (Ursus arctos), native to the area, were hunted out by the 1900s, and most of the bay marshlands have been destroyed by landfill projects and construction.

It should be noted, however, that the margins of San Francisco Bay evolved considerably during the Holocene, tied to sea level rise, siltation, and uplifting (Bickel 1978; Brown 1978). Rapid sea level rise in the Terminal Pleistocene and Early Holocene drowned deeply incised river valleys, creating estuarine
settings that were ultimately silted in as sea level rise stabilized in the latter portion of the Holocene. As a result, historic-era valley floor settings and the tidal marshlands of the bay margins are a very recent development. This topic is discussed in more detail in the geoarchaeological sensitivity section.

GEOENVIRONMENTAL CONTEXT (By Jack Meyer and Jeffrey Rosenthal)

This section describes the environmental history of the Santa Clara Valley and the potential relationships between environmental changes, human settlements, and the archaeological record. The Bay Area has undergone a series of significant large-scale environmental changes since the Late Pleistocene, when people may have first entered and inhabited the region. These changes included rising sea levels, widespread sediment deposition, and corresponding fluctuations in the distribution and availability of important natural resources. As a result, the archaeological record, and the potential for archaeological deposits in the project area, is better understood when viewed within the history of Bay Area environmental and landscape changes.

During the last glacial maximum some 22,000 years ago, vast ice sheets covered the northern part of the continent, and the climate in central California was considerably cooler than at any time since. Worldwide sea levels were at least 100 meters lower than today, and the California coastline was located some 25 to 50 kilometers west of its current position (Atwater et al. 1977; Bard et al. 1996; Helley et al. 1979). At that time, the combined runoff from the Sacramento and San Joaquin rivers merged to form the “California River” (Howard 1979), which passed through the Carquinez Straits and into the “Franciscan Valley” (Axelrod 1981), now occupied by San Francisco Bay. The smaller streams and rivers draining the South Bay also joined this massive drainage as it flowed west through the Golden Gate and across the continental shelf, where it eventually emptied into the Pacific Ocean near the modern-day Farallon Islands (Atwater et al. 1977; Axelrod 1981). Thus, instead of a “bay,” there was a broad inland valley that supported grassland and riparian plant and animal communities.

As the continental ice sheets began to melt some 16,000 years ago, the world’s oceans rose rapidly, causing the Pacific shoreline to migrate eastward. For instance, between 13,500 and 11,000 cal BP, sea levels rose about 40 meters at an astounding average rate of about 16 meters every 1,000 years (Bard et al. 1996). This dating coincides with the earliest known evidence for human occupation in the region. The sea continued to rise at an average rate of about 6.7 meters per 1,000 years between 11,000 and 9000 cal BP, submerging much of the continental shelf west of the project area. Over the next 2,000 years (9000-7000 cal BP), sea level rose about 10 meters at a more modest rate of roughly five meters per 1,000 years. Thus, there was a cumulative ~230-foot (70-meter) rise in sea level during the Latest Pleistocene and Early Holocene. As the waters rose, freshwater marshes began to form and sediments carried by the California River accumulated on the floor of the Franciscan Valley, marking the transition from valley to bay.

Between 7000 and 6000 cal BP, there was a dramatic decrease in the rate of sea level rise worldwide (Stanley and Warne 1994). During this time, the sea inundated the Franciscan Valley at a more gradual rate of about 1.3 meters every 1,000 years, for a total of 8.0 meters over the past 6,000 years. This allowed sedimentation to keep pace with inundation, which permitted the formation of extensive tidal-marsh deposits during the Middle Holocene (Atwater et al. 1979). As base levels rose, the lower reaches of the stream and river channels became choked with sediments that spilled onto the surface of existing fans and floodplains, forming large alluvial floodplains (Helley et al. 1979). As a result, bay and marsh deposits now cover many formerly stable Holocene-age land surfaces, such as those documented in core samples from beneath the Bay (Atwater et al. 1977:Plate 1; Lee and Praszker 1969:60-63; Louderback 1951:90; Story et al. 1966; Treasher 1963:Figure 5).
Several studies confirm that many of the Late Pleistocene and Early Holocene land surfaces located around the Bay were overlain by deposits of younger alluvium that are generally less than 6,000 years old (Borchardt 1992; Gmoser et al. 1999; Helley et al. 1979; McIlroy et al., 2001; Meyer 2000; Stewart et al. 2002). Stratigraphic and radiocarbon evidence indicates that the Holocene-age alluvial deposits average two to three meters in thickness, with deposits exceeding 10 meters in a few areas. These older land surfaces usually exhibit well-developed buried soils (paleosols) that represent a significant stratigraphic boundary in the region. As a result, older archaeological sites located in and around the Bay were submerged by sea level rise and/or buried by sediment deposition.

During the Late Holocene, the Bay grew in size as marshlands expanded in response to higher sea levels and the decomposition, compaction, and subsidence of intertidal deposits. These processes resulted in the formation of large tidal mudflats and peat marshes, which further promoted the deposition of sediment around the margins of the Bay. Radiocarbon dates from Palo Alto Marsh indicate that these deposits were generally formed during the past 2,000 years (Atwater et al. 1979:349). Dates of 1665 and 1520 cal BP have been obtained from layers of organic clay from marsh deposits buried at depths of 6.1-6.5 meters along lower Colma Creek near San Bruno (Price 1981).

More recent changes on the San Francisco peninsula include the appearance of introduced (non-native) plant species, which generally coincides with the arrival of the Spanish and other Euro-American settlers during the 1700s and 1800s (Reidy 2001; West 1989). An intense drought during the late 1800s reduced the vegetation cover and made the landscape susceptible to erosion (Burcham 1982:171), as did many of the activities associated with historic-era settlement. Hydraulic-mining activities in the Sierra Nevada increased the amount of sediment deposited within the Bay (Gilbert 1917). Lasting evidence of these changes is found in estuarine deposits, and seen along many stream channels, where the lowest terraces are often composed of historic-age sediments (Knudsen et al. 2000; Mudie and Byrne 1980). Finally, thick deposits of artificial fill were placed around the margins of the Bay to reclaim the marshes and wetlands for human development (Lee and Praszker 1969; Witter et al. 2006). While some archaeological resources may have been partially or completely destroyed by urban development, others were likely buried and protected by artificial fill deposited during the historic and modern eras.

This brief overview illustrates that large-scale environmental changes played a major role in the evolution of the Bay Area landscape over the past 22,000 years. Many of these changes undoubtedly affected the distribution of human populations and buried and/or submerged large segments of the landscape that were once available for human use and occupation, particularly those that are Middle Holocene-age and older. Thus, the relatively incomplete nature of the Bay Area archaeological record is almost certainly related to the sequence of changes that led to the formation of the current landscape.

PREHISTORIC CONTEXT

Excavations in the San Francisco Bay region were first undertaken in the early 1900s, mostly with the intent to discover the depth, composition, and contents of the large shell mounds scattered around the bay (Gifford 1916; Nelson 1910; Schenck 1926; Uhle 1907). Later research efforts attempted to build a cultural sequence for the entire region based on changes in artifacts, mortuary practices, and shellfish remains (King 1970; Wallace and Lathrap 1975). The bay region’s cultural sequence was incorporated by Beardsley (1948) into the Central California Taxonomic System, which included three primary horizons—Early, Middle, and Late—defined largely on the basis of stylistic variation of artifacts through grave-goods analysis. Revisions to the chronology have taken many forms over the years (see in particular Fredrickson 1974); however, three periods are generally recognized today, with transitions between each. This sequence has proven useful throughout the Bay Area and neighboring regions (e.g., Hylkema 2002; Lightfoot and Luby 2002; Milliken et al. 2007).
Using Groza’s (2002) Scheme D1 dating results, these periods are as follows:

- Early (3800-2450 cal BP)
- Early-Middle Transition (2450-2150 cal BP)
- Middle (2150-950 cal BP)
- Middle-Late Transition (950-675 cal BP)
- Late (675-250 cal BP)

Each of these periods can be subdivided further, based largely on the dating of specific types of shell beads. Notably, the Late Period Phase 1 (675-450 cal BP) is generally distinguished from the Late Period Phase 2 (450-250 cal BP).

This sequence is largely used because the archaeology of the Terminal Pleistocene, Early Holocene, and Middle Holocene are very rarely encountered in the San Francisco Bay Area (see *Geoenvironmental Context*, page 15). As a result, very little is known of San Francisco Bay Area archaeology prior to the Late Holocene. Two rare examples of Early Holocene occupation in the general region were from deeply buried contexts: one from the uplands of Mt. Diablo (Meyer and Rosenthal 1997) and one from the Metcalf Creek area of the southern Santa Clara Valley (Hildebrandt 1983). These Early Holocene excavations demonstrate that the general region was occupied prior to 4,500 years ago, but strong insight into the nature of early occupation trends will require much more data.

Turning to the well-documented record for the Bay Area, the Early Period is characterized by the presence of large projectile points, millingslabs, and a lack of high-density shell deposits typical of later time periods, suggesting a focus on hunted and gathered foods (Hylkema 2002; Lightfoot 1997; Moratto 1984:277). The Middle Period shows a shift in settlement and subsistence to a marine focus (i.e., bayshore and marsh habitats). An increase in acorn exploitation occurred at this time, as well. This is also considered to have been the heyday of mound building throughout San Francisco Bay (Lightfoot 1997). Hallmarks of the Late Period include: the bow and arrow, harpoon, tubular tobacco pipe, clam disk beads, a greater emphasis on acorns, and extensive trade relations with neighboring groups (Lightfoot and Luby 2002; Moratto 1984:283).

**ETHNOGRAPHIC CONTEXT**

The area covered by the proposed project falls within the aboriginal territory of the Costanoans (from the Spanish *Costanos* for “coastal people”), who are also known today as the Ohlone. Most of what we know about the Ohlone comes from the early work by Kroeber (1925) and summary treatment by Levy (1978). Recent interpretations of Ohlone lifeways, sometimes contradictory with earlier studies, come from research with mission records conducted by Milliken (1995). Costanoan is a linguistic subfamily of the Penutian language stock. According to early linguists, there are eight branches of the Costanoan language, each associated with a geographic location and the tribelet(s) that inhabited the locality; the project area is within the Tamyen linguistic territories. According to Levy (1978:485) in AD 1770, there were approximately 1,200 Ohlone inhabiting the south end of San Francisco Bay and in the lower Santa Clara Valley speaking Tamyen. Milliken contradicts this assertion of distinct language groups and suggests that the differences reflect the “amalgamation of later Costanoan speakers at the various missions” (Milliken 1995:26).

The basic unit of political organization was a territory-holding group of one or more associated villages and smaller temporary encampments. Contrary to the earlier use by Kroeber and others of the term “tribelet” to describe these groups, Milliken (1995:13) prefers “tribe,” defined as an independent, multifamily, landholding, religious congregation. Each tribe was an autonomous polity numbering 200 to
400 people, and fell under the jurisdiction of a headman and council of elders who served as advisors to the villagers (Levy 1978:487). Permanent villages were established near the coast and on river drainages, while temporary camps were located in prime resource-collecting areas. Some tribes occupied a central village, while others had several villages within a relatively short distance of each other. At the time of Spanish occupation, the San Francisco Bay Area and the Coast Range valleys were dotted with these villages. Kroeber (1925:464) estimates an aboriginal population of 7,000 Ohlone.

Prior to European contact, the native people of the Bay Area were hunters and gatherers. Subsistence activities centered around the seasonal availability of gathered resources such as acorns, nuts, seeds, greens and bulbs; hunting deer, pronghorn, tule elk, smaller animals, sea mammals and waterfowl; fishing; and collecting shellfish (oysters, mussels, and abalone). The proliferation of shell middens throughout the Bay Area attests to the heavy reliance on marine food resources. The Ohlone practiced burning on an annual basis to ensure an abundance of seed-bearing annuals and forage for large game, and to facilitate the gathering of fall-ripening acorns (Levy 1978:491).

The most common type of housing consisted of small hemispherical huts thatched with grasses and rushes (Kroeber 1925:219). Other types of village structures included sweathouses, dance enclosures or plazas, and assembly houses. A variety of stone tools were used, including knives, arrow and spear points, handstones and millingslabs, mortars, net sinkers, anchors, and pipes. Chert was obtained from local quarries, and obsidian was acquired through trade. Many perishable items were made from tule (e.g., canoes, mats, and baskets), plant fibers (e.g., cordage, nets, and baskets), and animal skins (sea otter, rabbit, and duck skin blankets). Tule balsas were used for transportation, for fishing, and for duck hunting. Bedrock mortars, as well as portable variants, were important components of acorn processing technology Shell beads were gaming and trading commodities as well as ornamental items. Trade relations with neighboring villages and groups were well established. Bows, arrows, basketry materials, paints, and feather blankets were procured from the east, while the Ohlone traded mussels, dried abalone, salt, and abalone shells to the neighboring Yokut groups and provided the Sierra Miwok with Olivella and abalone shell beads (Davis 1961:23).

The aboriginal way of life for the Ohlone was disrupted by the influx of explorers in the late 1700s and the establishment of missions by the Spanish. The reduced population and displacement of the native people caused by missionization and Anglo-American occupation of their land substantially altered their traditional way of life. As a result, the Ohlone are not well-known ethnographically.

HISTORICAL CONTEXT

This section is partially excerpted from Gilreath et al. (2006). The historic period for the Bay Area began in 1769, with the entry of the Spanish Portola Expedition. On November 10, 1769, a scouting party led by Sergeant José Ortega traversed the north portion of the Santa Clara Valley and crossed the Guadalupe River. This is followed by a series of Spanish explorations that crossed through portions of the South Bay area. They noted the desirable settlement conditions of Santa Clara Valley, with its rich bottom lands, available timber, and a constant source of fresh water. They also observed numerous Indian settlements. Notably, the de Anza expedition crossed through the northern Santa Clara Valley and noted a number of Native American settlements including three villages near the Guadalupe River, north of present-day downtown Santa Clara (Shoup et al. 1995:11). These explorers were the first to document activities of the native Ohlone inhabitants.

Spanish colonial policy throughout the late 1700s and early 1800s was directed toward establishing missions, presidios, and secular towns known as pueblos, with all land being held by Spain. Mission Santa Clara de Asís, located initially some four kilometers northwest of the project area, was established January 12, 1777, by José Joaquin Moraga and Fray Tomas de la Pena (Beck and Haase 1974).
Later that same year on November 29, 1977, *el Pueblo de San José de Guadalupe* was founded nearby on the east side of the Guadalupe River in the vicinity of modern-day Taylor Street.

With the founding of the missions, agriculture was introduced via the planting of gardens, orchards, grain fields, and pastures for mission livestock. The missionaries arrived with cattle, mules, horses, sheep goats, pigs, and chickens. Livestock were allowed to graze on fields that formerly supplied local Native Americans with plants and seed harvests. The native inhabitants were enlisted as laborers. Spanish occupation of Alta California was the driving force behind tribal disintegration, with native people leaving their villages for the missions where padres controlled their daily lifestyles, work, diet, and religious expression.

By 1810, Pueblo San Jose initially consisted of 14 settlers and their families, led by Lt. Moraga, from San Francisco. This was the civil settlement established by the Spanish in California, with its primary function to supplement the crops grown by the missions to support the garrisons at Monterey and San Francisco. Representing the Spanish government, Moraga laid out the town and allocated house lots (solars) and cultivation plots (suertes) to each settler. The Spanish Crown retained ownership of the land, and the settlers could not sell their land or divide it. Therefore, much of the property within the pueblo was handed down through the generations to descendants of the original colonists, until the American period. The common lands (ejidos) surrounding the pueblo were used primarily for grazing livestock.

The pueblo inhabitants constructed a dam above the 1797 settlement to collect water to redistribute throughout the pueblo via an acequia or ditch. This acequia provided both household and irrigation water. The colonists’ small adobe homes were clustered near the acequia, around the market square, and at the crossing of the roads to Monterey, Santa Clara Mission, and the embarcadero at Alviso. Now functioning as major transportation corridors, these were little more than trails in the late 1700s. El Camino Real connected the pueblo and the mission with the presidios at Monterey and Yerba Buena, closely following the route of Monterey Road and the El Camino today. The Alameda, located at the northern edge of the project area, corresponds to the old route between the pueblo and Mission Santa Clara, formalized when the padres directed that three rows of willow trees be planted to shade travelers between the two settlements. It was preceded by construction in 1785, of an irrigation canal that brought water from the confluence of Los Gatos Creek and the Guadalupe River to the mission.

The Spanish Period in this area lasted until 1821, when the Mexican government gained control over Alta California (Beck and Haase 1974). During the 1820s, the mission system declined as Indians abandoned the missions, and land formerly held by Spain was divided into vast tracts owned by individuals. Secularization grew with the creation of these land grants, the rise of a ranching class, and the growth of pueblo populations. Santa Clara Mission lands were divided up late in this process, with most land grants occurring after 1837 (Shoup et al. 1995:98-104). These “ranchos,” granted by the government, were used primarily for farming and raising cattle.

The project area falls within Rancho Los Coches. This rancho, covering 2,219 acres, was first granted to a Mission Indian named Roberto by Governor Micheltorena on March 12, 1844. Then Roberto sold the land to Antonio Suñol in 1847.

The region came under American control after the defeat of the Californios (Mexican) forces in 1847. Agriculture continued to be the major economic pursuit with the onset of the American Period, in particular to supply the gold mines from 1848 into the 1850s. American farmers then became commonplace in the region, and a series of court cases in the 1850s resulted in the loss of land for many Mexican land-grantees.

In the 1850s, land grants were subdivided for towns and eventually, in the 1860s, for the railroad right-of-way. Construction on the San Francisco and San Jose Railroad began in 1861, with passenger and freight service commencing in 1863, and reached San Jose in 1865 (Beck and Haase 1974:68). The railroad alignment ran along and came within one kilometer of northern edge of the project area. The railroad
expanded the agricultural life of California, and led to more innovative ways to ship and preserve food supplies, such as the transportation of fruit and meat in refrigerator cars developed in 1880. It also provided a mechanism by which communities in the Santa Clara Valley could develop, a process greatly hastened by the San Francisco earthquake of 1906 that displaced many people.

The City of San Jose was incorporated in 1850, and the Town of Santa Clara in 1852. Urban development in San Jose moved at a swift pace during the 1860s. Tracts adjacent to the city limits were subdivided, including the lands originally part of Rancho Los Coches. Gas service was introduced in 1861, and gas mains were extended from San Jose into Santa Clara. The San Jose Water Company was incorporated in 1866, supplying piped water to city residents. The first sewers were contracted by the city this same year. During the 1850s, regional stage lines were established between San Jose, Santa Clara, and Saratoga. These were replaced by the arrival of the streetcar line in 1868, establishing the first urban transit lines in San Jose.

The changes in transportation had a major influence on developmental patterns. The narrow-gauge South Pacific Coast Railroad from Niles, completed in 1877, came through Alviso, along the eastern edge of the Town of Santa Clara. It intersected with the Southern Pacific tracks (formerly the SF & SJ), through the College Park area, to its station south of The Alameda at Cahill Street, and then on to Los Gatos. The railroad’s construction changed land use from residential and agricultural to industrial.

In the early 1920s, the Western Pacific Railroad alignment between Fremont and San Jose was constructed. The freight (1921) and passenger depots (1923) were built on East Santa Clara Street between North Twenty-Seventh and North Twenty-Eighth streets (Holmes 1985). In 1931, Western Pacific ended passenger service, and closed the East San Jose passenger depot. The Los Gatos Creek Bridge was constructed in 1935.
STUDY FINDINGS

The following section discusses the survey results, and provides an assessment of the potential for buried archaeological site to be encountered within the project APE.

PEDESTRIAN SURVEY

In general, the project APE is very narrow and runs through a heavily urbanized area. Railroad ballast and concrete characterized much of the survey area, and dense vegetation covered the ground adjacent to the creeks. No cultural resources were located within the Los Gatos Creek Bridge APE.

POTENTIAL FOR BURIED ARCHAEOLOGICAL SITES

The project area is situated within Holocene alluvial soils. These soils were deposited long after humans arrived in the area and the Los Gatos creek drainage would have been a likely location for occupation throughout prehistory. Given this situation, it is quite possible that archaeological resources may exist within the APE that lack surface indicators, the project area is considered highly sensitive to contain buried resources. As discussed previously, much of the Bay Area archaeological record is either buried by natural deposition, submerged by sea-level rise, or covered by urban development. The potential for buried archaeological sites is a practical problem for resource managers who must make a reasonable effort to identify archaeological deposits in a three-dimensional project area; ensuring that potentially important resources are not affected by project activities. This can be a problem in any area where archaeological sites may have been buried or obscured by natural sediments or deposits of artificial fill, such as those found in many parts of the Santa Clara Valley. Early detection of buried archaeological deposits also avoids the potential for costly delays that may occur when unknown resources are discovered during construction.

The sensitivity of the project area was determined by overlying the project APE onto the most recent Quaternary (Pleistocene and Holocene-aged) deposits map for the nine-county Bay Area provides a basis for assessing the potential for encountering buried archaeological deposits (Witter et al. 2006). This surficial mapping was created at a 1:24,000 scale and was based partly on prior soil survey mapping, stereoscopic aerial photography, and limited field reconnaissance.

The Quaternary map indicates that the entire project APE lies in an area of Holocene alluvial fan deposits. Generally located along the edges of valleys, these landforms consist mainly of gravel, sand, silt, and clay that were deposited by streams emanating from upland drainages or mountain canyons, and include debris flows, mudflows, and braided stream deposits (Witter et al. 2006:37). The fans form a series of gently sloping cone-shaped surfaces that often merge with one another on valley floors to create low-lying “inter-fan” basins.

Because the Holocene alluvial fan deposits often contain laterally extensive buried soils that were available for human use, they generally have the potential to contain buried archaeological sites. Because prehistoric sites were not located everywhere, the general sensitivity for such a landform is considered only moderate. However, the potential for buried sites is estimated as high to very high in areas that lie 200 meters or less from an active or formerly active water course, such as those marked by levee deposits that now seem isolated (Rosenthal and Meyer 2004a; see also Byrd et al. 2007). This is because prehistoric sites were often located near rivers and streams to provide residents with access to freshwater. The natural setting of the APE, alongside Los Gatos Creek, could have attracted and focused prehistoric human settlement along the watercourses, as demonstrated elsewhere in the region (Rosenthal and Meyer 2004a). These findings suggest that the potential for buried prehistoric archaeological deposits may be high within the project APE.
SUMMARY AND MANAGEMENT RECOMMENDATIONS

Records search and Native American consultation failed to identify any previously known cultural resources within the project APE. All accessible areas of this urbanized setting were surveyed for archaeological material; no materials were identified.

The APE is considered sensitive for buried sites. Based on current project construction details, disturbance of natural sediments appears to be primarily limited to the replacement of existing bridge piles with new concrete piles. These restricted localities within the APE cannot be studied by archaeologists as they are within the active rail corridor. Other impacts within the APE appear to be near-surface within modern fill/disturbed settings and have limited likelihood of disturbing buried archaeological sites. No further archaeological investigations are recommended to discover undocumented buried sites given the limited nature of planned natural sediment disturbance, the lack of opportunity to explore these locations, and the absence of previously recorded cultural resources within the project APE. As there are no known archaeological resources in the project area, no further work is necessary under Section 106 of the National Historic Preservation Act or CEQA provided that the State Historic Preservation Officer (SHPO) concurs with these findings.

If adjustments are made to the final design, then an archaeologist should be consulted to determine the potential impacts to buried cultural resources. Additional study will be needed if new project construction details include more extensive disturbance of natural sediments (such as removing any extensive portion of the existing banks of Los Gatos Creek). If new plans are limited in scale, then the most likely recommendations would be either backhoe trenching or archaeological monitoring of earth-moving construction activities. Also, additional archaeological survey will be needed if project limits are extended beyond the present survey coverage.

It is best to avoid cultural resources whenever possible. If previously unidentified cultural materials are unearthed during construction, work should be halted in that area until a qualified archaeologist can assess the significance of the find.
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APPENDIX A

NATIVE AMERICAN CONSULTATION CORRESPONDENCE
Confidential Information

Not Available for Public Review
APPENDIX B

PROJECT APE AND ARCHAEOLOGICAL SURVEY COVERAGE MAPS
Area of Potential Effects
Surveyed 2008
Surveyed 2013

1 inch = 75 meters
APPENDIX C

SURVEY COVERAGE TABLE AND FIELD PHOTOS
File: IMGP0697
Date/time 2/28/2013 10:23:32 AM
Camera: PENTAX Optio W80
Subject: View toward bridge (W. San Carlos overpass).

View to: 196°
Accession:
Resource:

File: IMGP0698
Date/time 2/28/2013 10:29:28 AM
Camera: PENTAX Optio W80
Subject: View toward Diridon Station.

View to: 4°
Accession:
Resource:

File: IMGP0699
Date/time 2/28/2013 10:38:36 AM
Camera: PENTAX Optio W80
Subject: View Toward I-280 from Auzerais Ave.

View to: 134°
Accession:
Resource:
File: IMGP0498
Date/time: 8/14/2008 12:18:05 PM
Camera: PENTAX Optio W30
Subject: Area north of San Carlos overpass.

View to: 340°
Accession:
Resource:

File: IMGP0499
Date/time: 8/14/2008 12:31:24 PM
Camera: PENTAX Optio W30
Subject: Los Gatos Creek south of San Carlos overpass.

View to: 160°
Accession:
Resource:

File: IMGP0500
Date/time: 8/14/2008 12:40:25 PM
Camera: PENTAX Optio W30
Subject: Area south of Auzerais Avenue and east of railroad tracks.

View to: 120°
Accession:
Resource:

File: IMGP0501
Date/time: 8/14/2008 12:52:33 PM
Camera: PENTAX Optio W30
Subject: Area north of Auzerais Avenue, Los Gatos Creek along tree line in far background.

View to: 320°
Accession:
Resource:
Los Gatos Bridges Project Survey Coverage and Photo Documentation.

<table>
<thead>
<tr>
<th>Survey Method*</th>
<th>Surface Visibility*</th>
<th>Photograph</th>
<th>View</th>
<th>Surface Conditions/Current Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>High</td>
<td>498</td>
<td>340°</td>
<td>Area north of San Carlos overpass.</td>
</tr>
<tr>
<td>3</td>
<td>Low</td>
<td>499</td>
<td>160°</td>
<td>Los Gatos Creek south of San Carlos overpass.</td>
</tr>
<tr>
<td>1</td>
<td>Moderate</td>
<td>500</td>
<td>120°</td>
<td>Area south of Auzerais Avenue and east of railroad tracks.</td>
</tr>
<tr>
<td>1-3</td>
<td>None</td>
<td>501</td>
<td>320°</td>
<td>Area north of Auzerais Avenue, Los Gatos Creek along tree line in far background.</td>
</tr>
<tr>
<td>1</td>
<td>None</td>
<td>696</td>
<td>196°</td>
<td>View Toward Bridge (w. San Carlos Overpass)</td>
</tr>
<tr>
<td>1</td>
<td>Low</td>
<td>697</td>
<td>4°</td>
<td>View toward Diridon Station</td>
</tr>
<tr>
<td>1</td>
<td>Low</td>
<td>698</td>
<td>134°</td>
<td>View toward I-280 from Auzerais Ave.</td>
</tr>
</tbody>
</table>

* 1: full pedestrian survey; 2: partial pedestrian survey; 3: visual inspection from adjacent land only
** high >75% sediment visible; moderate: 25-75% sediment visible; low: <25% sediment visible; none: paved/built out
APPENDIX D

RECORDS SEARCH RESULTS
(SITE RECORDS ARE CONFIDENTIAL)