SOUTH ORANGE COUNTY TRANSPORTATION INFRASTRUCTURE IMPROVEMENT PROJECT PHASE I ARCHAEOLOGICAL INVENTORY

FINAL

Prepared for:

Foothill/Eastern Transportation Corridor Agency
125 Pacifica
Irvine, CA 92618-3406
Contact: Macie Cleary-Milan, Deputy Director, Environmental and Planning

Prepared by:

Greenwood and Associates
725 Jacon Way
Pacific Palisades, CA 90272
Contact: John M. Foster, RPA
James J. Schmidt
Alice Hale, MA, RPA

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SECTION A
ABSTRACT

ABSTRACT

Greenwood and Associates (GandA) has conducted a Phase I investigation of the proposed South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) alternatives. This report is a technical study that documents the Phase I level inventory intended to yield baseline data for subsequent, more focused efforts. The primary objectives were to determine which of the SOCTIIP alternatives would have the fewest impacts to archaeological sites within the Study Area, and what additional information will be needed for compliance with the applicable Federal and State regulations. The inventory has been prepared from records searches at the designated site information repositories in Orange and San Diego counties and consultations with knowledgeable individuals and groups, followed by an intensive surface survey of all accessible portions of the build alternatives.

The proposed project involves locating and constructing transportation improvements in south Orange County and north San Diego County, extending across portions of Townships 6 through 9 South, Ranges 6 through 8 West, depicted on the United States Geological Survey (USGS) 7.5' quadrangles for San Juan Capistrano, Cañada Gobernadora, Dana Point, and San Clemente.

The alternatives under consideration consisted of various transportation improvement alternatives and two No Action Alternatives. The transportation improvement alternatives include widening of Interstate 5 (I-5), arterial road improvements with and without widening I-5, and toll road corridors that would be southern extensions of the existing Foothill Transportation Corridor - North (FTC-N, State Route 241). The FTC is one of three existing Orange County toll road corridors operated by the Transportation Corridor Agencies (TCA). The northern segment of State Route 241 (SR 241) begins at an interchange with Oso Parkway and extends north to State Route 91 (SR 91) in northeast Orange County. The corridor alternatives would continue the FTC south from its existing terminus to approximately the Orange/San Diego County border.

Background research revealed that 82 archaeological sites have been recorded within the 0.4 to 0.8 km (0.25 to 0.5 mile) area along the build alternatives. Some of these records are 30 and more years old, prepared on old forms and at varying levels of precision or detail. Among the archaeological sites are the San Mateo Archaeological National Register District, the Forster Mansion, and 11 sites previously described as eligible to the National Register of Historic Places (NRHP). The field survey conducted in the preparation of this report successfully relocated 21 of the previously recorded sites. The remainder had already been described as destroyed by other investigators, were mismapped, obscured by sediments or vegetation, or had been collected by others. No new archaeological sites were discovered, but four isolated artifacts were found for which formal isolated artifact records have been prepared (Appendix B).

The primary objectives of this investigation were to determine what is presently known of archaeological resources and according to that database, which of the SOCTIIP alternative alignments would have the fewest impacts on archaeological resources within the Study Area. The numbers of sites within each SOCTIIP alternative varied from four to 28 resources.

On the basis of this study, it appears that the long Alternatives, AIO, CC-ALPV-U, A7C-ALPV-I and A7C-ALPV-U, in that order, will have the fewest impacts. Of the short Alternatives, FEC-OHV-I, FEC-OHV-U, A7C-OHV-I and A7C-OHV-U, in that order, will have the least impacts.

SECTION P
PREFACE

PREFACE

The alternatives considered for the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) are described in detail in the following technical report:

Project Alternatives Technical Report (P&D Consultants, 2003).

The alternatives include a number of build alternatives including extensions to the existing Foothill Transportation Corridor, improvements to Interstate 5 and arterial highway improvements.

Individual technical reports were prepared to assess the potential environmental impacts of the SOCTIIP alternatives. Each of the following reports describes the study area for the individual parameter, existing conditions, study methodology, short and long term adverse and beneficial effects of the SOCTIIP alternatives, and appropriate mitigation measures.

Air Quality Technical Report (Mestre Greve Associates, 2003).

Geotechnical, Geology and Soils Technical Report (GeoPentech, 2003).

Hazardous Materials and Wastes Technical Report (Initial Site Assessment) (P&D Consultants, 2003).

Phase I Historical Resource Inventory Report (Greenwood and Associates, 2003).

Hydrology Technical Report (Psomas, 2003).

Land Use Technical Report (P&D Consultants, 2003).

Location Hydraulic Studies (Psomas, 2003).

Military Impacts Technical Report (P&D Consultants, 2003).

Natural Environment Study (P&D Consultants, 2003).

Noise Assessment (Mestre Greve Associates, 2003).

Paleontological Resources Technical Report (SWCA, 2003).
Phase I Archeological Inventory (Greenwood and Associates, 2003).

Public Services and Utilities Technical Report (P&D Consultants, 2003).

Recreation Resources Technical Report (P&D Consultants, 2003).

Relocation Impacts Technical Report (P&D Consultants, 2003).
Runoff Management Plan (Psomas, 2003).

Socioeconomics and Growth Inducing Impacts Technical Report (P&D Consultants, 2003).

Traffic and Circulation Technical Report (Austin Foust Associates, 2003).

Visual Impact Assessment Technical Report (P&D Consultants, 2003).

These technical reports are available for review at the Transportation Corridor Agencies office.

This Technical Report identifies and evaluates the potential environmental impacts of a wide range of build and no action alternatives considered for the SOCTIIP. Based on the findings of the analysis of the potential effects of these alternatives as documented in the technical reports, the SOCTIIP Collaborative evaluated each alternative and made a decision whether to advance an alternative for detailed evaluation in the EIS/SEIR or to eliminate that alternative from detailed consideration in the EIS/SEIR. Table P-1 lists the SOCTIIP alternatives described in this Technical Report and identifies which were advanced for detailed evaluation in the EIS/SEIR and which were eliminated from further consideration in the EIS/SEIR. The detailed explanation for why each alternative was eliminated is provided in the EIS/SEIR.

During the preparation of the technical studies for the SOCTIIP, the name of the Rancho Mission Viejo (RMV) Land Conservancy was changed to the Donna O'Neill Land Conservancy. All references to the RMV Land Conservancy or the RMV Conservancy in this Technical Report should be interpreted to refer to the Donna O'Neill Land Conservancy.

TABLE P-1
SOCTIIP ALTERNATIVES ADVANCED TO THE EIS/SEIR OR ELIMINATED FROM DETAILED EVALUATION IN THE EIS/SEIR

TOLL ROAD CORRIDOR ALTERNATIVES	
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Far East Corridor - Complete - Initial Alternative	Eliminated.
Far East Corridor - Complete - Ultimate Alternative	Eliminated.
Far East Corridor - Talega Variation - Initial Alternative	Eliminated
Far East Corridor - Talega Variation - Ultimate Alternative	Eliminated
Far East Corridor - Cristianitos Variation - Initial Alternative	Eliminated.
Far East Corridor - Cristianitos Variation - Ultimate Alternative	Eliminated.
Far East Corridor - Agricultural Fields Variation - Initial Alternative	Eliminated.
Far East Corridor - Agricultural Fields Variation - Ultimate Alternative	Eliminated.
Far East Corridor - Ortega Highway Variation - Initial Alternative	Eliminated.
Far East Corridor - Ortega Highway Variation - Ultimate Alternative	Eliminated.
Far East Corridor - Avenida Pico Variation - Initial Alternative	Eliminated.
Far East Corridor - Avenida Pico Variation - Ultimate Alternative	Eliminated.
Far East Corridor-West-Initial Alternative	Advanced.
Far East Corridor-West-Ultimate Alternative	Advanced.
Far East Corridor-Modified-Initial Alternative	Advanced.
Far East Corridor-Modified-Ultimate Alternative	Advanced.
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Central Corridor - Complete - Initial Alternative	Advanced.
Central Corridor - Complete - Ultimate Alternative	Advanced.
Central Corridor - Avenida La Pata Variation - Initial Alternative	Advanced.
Central Corridor - Avenida La Pata Variation - Ultimate Alternative	Advanced.
Central Corridor - Ortega Highway Variation - Initial Alternative	Eliminated.
Central Corridor - Ortega Highway Variation - Ultimate Alternative	Eliminated.
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Alignment 7 Corridor - Complete - Initial Alternative	Eliminated.
Alignment 7 Corridor - Complete - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - 7 Swing Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - 7 Swing Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Ultimate Alternative	Eliminated.

TABLE P-1
SOCTIIP ALTERNATIVES ADVANCED TO THE EIS/SEIR OR ELIMINATED FROM DETAILED EVALUATION IN THE EIS/SEIR

TOLL ROAD CORRIDOR ALTERNATIVES	
Alignment 7 Corridor - Ortega Highway Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Ortega Highway Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Avenida La Pata Variation - Initial Alternative	Advanced.
Alignment 7 Corridor - Avenida La Pata Variation - Ultimate Alternative	Advanced.
Alignment 7 Corridor-Far East Corridor-West-Initial Alternative	Advanced.
Alignment 7 Corridor-Far East Corridor-West-Ultimate Alternative	Advanced.
NON-TOLL ROAD ALTERNATIVES	
ARTERIAL IMPROVEMENTS ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Arterial Improvements Only – Alternative	Advanced.
Arterial Improvements Only Plus HOV and Spot Mixed-Flow Lanes on I-5 Alternative	Eliminated.
I-5 ALTERNATIVE	**Alternative Advanced or Eliminated (1)**
I-5 Widening Alternative	Advanced.
NO ACTION ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
No Action Alternative - Orange County Projections 2000	Advanced.
No Action Alternative - Rancho Mission Viejo (RMV) Development Plan	Advanced.

(1) Advanced: Alternative was advanced for detailed evaluation in the EIS/SEIR.
Eliminated: Alternative was eliminated from detailed evaluation in the EIS/SEIR and is discussed in the EIS/SEIR as an alternative "considered and eliminated."

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SECTION 1.0
INTRODUCTION

1.1 THE PROJECT

The proposed project involves locating and constructing transportation improvements in south Orange County and north San Diego County, extending across portions of Townships 6 through 9 South, Ranges 6 through 8 West, depicted on the United States Geological Survey (USGS) 7.5' quadrangles for San Juan Capistrano, Cañada Gobernadora, Dana Point, and San Clemente (Figure 1.1-1).

The alternatives under consideration consisted of various transportation improvement alternatives and two No Action Alternatives. The transportation improvement alternatives include widening of Interstate 5 (I-5), arterial road improvements with and without widening I-5, and toll road corridors that would be southern extensions of the existing Foothill Transportation Corridor - North (FTC-N, State Route 241). The FTC is one of three existing Orange County toll road corridors operated by the Transportation Corridor Agencies (TCA). The northern segment of State Route 241 (SR 241) begins at an interchange with Oso Parkway and extends north to State Route 91 (SR 91) in northeast Orange County. The corridor alternatives would continue the FTC south from its existing terminus at Oso Parkway to approximately the Orange/San Diego County border.

Cultural resources are protected under both federal and state regulations. Section 106 of the National Historic Preservation Act (Section 106) requirements are promulgated in 36 C.F.R. Part 800). This technical report is designed to meet the goals of both sets of regulations as they relate to the identification of project impacts on cultural resources. The cultural resources studies conducted for purposes of Section 106 are presented as a phased identification approach as allowed under C.F.R. 800.4 (b)(2) that states, "Where alternatives under consideration consist of corridors or large land areas, or where access to properties is restricted, the Agency Official may use a phased process to conduct identification and evaluation efforts" (Advisory Council on Historic Preservation 2001.

The archaeological investigation was conducted under Section 106 of the National Historic Preservation Act (Advisory Council on Historic Preservation 1999) regulations (36 CFR 800) and included a review of historical and archaeological archival sources and a pedestrian survey of the proposed project alignments. The records search was undertaken at the South Central Coastal Information Center, California State University, Fullerton; at the South Coastal Information Center, California State University, San Diego;and at the facilities of the San Diego Museum of Man. The pedestrian survey was conducted between April 16 and May 8, 2001 and resulted in the identification of four isolated artifacts. No new archaeological sites were found. This report provides the findings of the archival review and the project related field efforts and describes cultural resources identified along the alignments of the SOCTIIP build alternatives and identifies the potential impacts on cultural resources along each alternative.

This investigation is intended to provide the information necessary for the California Department of Transportation (the Department) and Federal Highway Administration (FHWA) review in

accordance with federal law. These studies are required by the Advisory Council on Historic Preservation (ACHP) regulations (36 C.F.R. 800.1 et seq.) for implementing Section 106 of the National Historic Preservation Act (NHPA). These regulations require federal agencies to take into consideration the potential effects of proposed projects on historic properties. Section 106 studies provide the information necessary to satisfy legal requirements for environmental documents under the National Environmental Policy Act (NEPA). Incorporated in these objectives are FHWA administrative regulations (23 C.F.R. 771 et seq.), and current practices of the State Historic Preservation Officer (SHPO) and the Department.

The SOCTIIP is also subject to compliance with the California Environmental Quality Act (CEQA), as amended through 2003. Under State regulations, Public Resource Codes 5020.7, 5024.1 (a), 5024.1 (g), 21083.2, 21084.1, and Executive Order V-26-92 all pertain to the need to identify the presence and importance of cultural resources that may be affected by the project. CEQA exists to ensure that governmental decision makers consider the potential significant environmental effects of proposed projects before taking action. The CEQA lead agency is responsible for determining whether a significant adverse environmental impact may occur and whether it can be mitigated to a level of insignificance. Where substantial evidence indicates that a significant adverse effect may occur, the lead decision-making agency is required to prepare an Environmental Impact Report (EIR) which discusses in detail the potential impact and feasible means of avoiding or reducing it.

As specific aspects and locations of alternatives are determined, TCA will implement identification and evaluation of historic properties in accordance with C.F.R. 800.4 (b)(1) and (C) which govern level of effort and evaluation of significance.

1.2 THE PHASED APPROACH

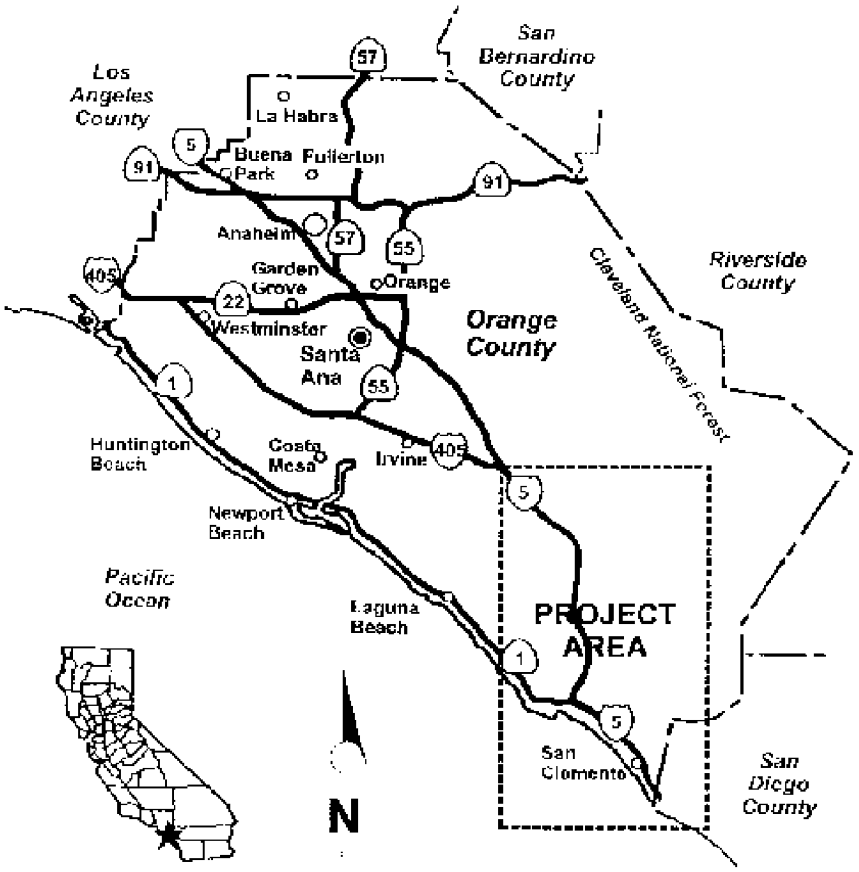
As the lead federal agency, FHWA is required to take into account the effects of this undertaking on historic properties (36 C.F.R. 800.1 et seq.). In order to assist FHWA to meet its regulatory responsibilities under Section 106, the Transportation Corridor Agencies (TCA) is proposing to implement its SOCTIIP cultural resource program under Section 800.4 (b)(2), which provides for phased identification and evaluation. This particular subsection pertains to large land areas, land to which access is denied, and is also relevant to consideration of multiple corridor alternatives. To quote in brief:

> The [identification and evaluation] process should establish the likely presence of historic properties within the area of potential effects for each alternative or inaccessible area through background research, consultation and an appropriate level of field investigation, taking into account the number of alternatives under consideration, the magnitude of the undertaking and its likely effects, and the views of the SHPO... [36 C.F.R. 800.4 (b)(2)]

The phased approach to identification and evaluation is selected because there are multiple alternatives and the final SOCTIIP alternative has not been selected. This avoids unnecessary impacts to resources along alignments that are not ultimately chosen. The first phase (Phase I), represented by this document, consists of background research and field survey of all accessible

land within the Study Area for each proposed alignment, so that the various alternatives can be compared based on the number of known archaeological sites. Activities that will be completed during the planning stage and that have the potential to affect cultural resources (e.g., geotechnical investigations) are also addressed, subject to the results of the records search and field surveys.

Assuming that the data provided from Phase I are sufficient to warrant the additional steps of further research and archaeological site evaluations under a Phase II effort, a Memorandum of Agreement (MOA) will be prepared binding the parties to a commitment that will include evaluation of the National Register eligibility of all identified archaeological sites and stipulations for the mitigation of unavoidable adverse impacts upon sites found to be significantéligible. This will be prepared in consultation with FHWA, the Department, SHPO, and, as appropriate, Marine Corps Base Camp Pendleton (MCB Camp Pendleton). The Phase II effort will then include field testing as necessary to assess the integrity and scientific research potential of archaeological sites, or their status as Traditional Cultural Places (PCPs) among the affiliated Native American groups.



Source: Greenwood and Associates (2003)

SOCTIIP Vicinity Map

SOCTIIP EIS/SEIR
Phase I Archaeological Inventory

Figure 1.1-1

SECTION 2.0
PROJECT LOCATION AND DESCRIPTION

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PROJECT LOCATION AND DESCRIPTION

2.1 INTRODUCTION

This Section describes the alternatives for the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP). A detailed discussion of the project alternatives is provided in the Project Alternatives Technical Report.

2.2 BILD ALTERNATIVES

2.2.1 OVERVIEW OF THE BUILD ALTERNATIVES

The transportation improvement alternatives propose the widening of Interstate 5 (I-5), arterial road improvements with and without widening I-5, and toll road corridors which would be southern extensions of existing State Route 241 (SR 241), the Foothill Transportation Corridor-North (FTC-N). The FTC is one of three existing Orange County toll road corridors operated by the Transportation Corridor Agencies (TCA). The northern segment of existing SR 241 begins at an interchange with Oso Parkway and extends north to State Route 91 (SR 91) in northeast Orange County. The corridor alternatives would extend SR 241 south from its existing terminus at Oso Parkway to approximately the Orange/San Diego County border.

The Study Area for the cultural resources investigation incorporates the maximum anticipated area for the project (Figure 2.2-1; Appendix A). Project mapping has not advanced to the point that an Area of Potential Effects (APE) can be identified. Because this project investigates the presence or absence of cultural resources with respect to the phased identification process, the development of an APE will be completed once a final alternative is chosen. In order to set limits to the preliminary identification process used to assess and predict the level of project effects, a map that illustrates a project Study Area was used. The Study Area corresponds to the extent of the grading, remedial grading and other disturbance limits (provided by engineering) on either side of the alignment. This provides an adequate buffer for remedial grading of landslides in the Study Area. Concurrence from SHPO will be requested on the extent of the Study Area at the beginning of the project. Mapping of the alignments, access roads, staging areas, potential staging areas, arterial road modifications, and any other areas affected by the SOCTIIP alternatives was considered in the development of the Study Area.

Two major categories of build alternatives are considered in this technical report:

- Build alternatives which propose a southern extension of the existing FTC in south Orange County. The corridor extension alternatives being evaluated propose the extension of existing FTC south from its existing terminus at Oso Parkway to I-5 in the vicinity of the Orange/San Diego County line. This proposed segment of the corridor is frequently referred to as the Foothill Transportation Corridor-South (FTC-South or FTC-S). The corridor alternatives all propose extension of existing SR 241 south of Oso Parkway, to I-5 or to an intersecting arterial south of Oso Parkway. In addition, as described in detail later in this

Section, each corridor alternative is proposed as an initial corridor alternative and an ultimate corridor alternative. The initial corridor alternatives would be permitted and constructed based on future traffic demand through 2025. The ultimate corridor alternatives, with a wider cross section, are not anticipated to be needed or constructed until 2025 or later, based on forecasted traffic demand. The initial corridor alternatives would result in lower construction costs because the TCA would only finance and construct the road facility that is needed through 2025. The initial corridor alternatives would also result in smaller disturbance limits which would result in reduced environmental impacts. The ultimate corridor alternatives would be built after 2025 and will be evaluated in the EIS/SEIR in order to determine the extent of impacts associated with the wider ultimate cross sections. The TCA anticipates seeking environmental permits and constructing only the initial corridor alternatives. Additional permits would be required when the ultimate corridor alternatives are constructed sometime after 2025.

- Build alternatives which propose improvements to existing I-5 and/or to Master Plan of Arterial Highways (MPAH) arterials in south Orange County and north San Diego County. The I-5, AIO and AIP Alternatives do not include any extension of existing SR 241 south of Oso Parkway.

In addition, two No Action Alternatives and several No Action scenarios, with different land use and transportation system assumptions, are also described in this Section.

The corridor, arterial and I-5 widening alternatives are described in the following sections. Figure 2.2-1, following the last page of text in this Section, shows the alignments of the corridor, arterial and I-5 alternatives.

As discussed in this Section, the corridor alternatives are subdivided into unique segments with letter codes. Each segment is unique to each alternative. However, on some segments, the corridor alternatives may share a common alignment but do not necessarily share common disturbance limits. For example, the corridor alignment on the segment immediately south of the terminus of the existing FTC-N is common to all the corridor alternatives. However, the disturbance limits on this segment may vary among the alternatives based on slight differences in the overall profile for each alternative. This is based on objectives to meet federal and state standards and to balance cut and fill earthwork for each alternative. Therefore, each segment of each corridor alternative is unique in its disturbance limits, even when several alternatives have a common alignment on that segment. Detailed maps of the corridor alignments and their associated cultural resources are provided in Appendix A.

2.2.1.1 Far East Corridor Alternatives

The Far East Corridor (FEC) alignments proposed for evaluation are listed below and are discussed in detail in the following sections.

<u>Far East Corridor - Initial Alternatives</u>

Far East Corridor – Complete - Initial (FEC- Initial) Alternative

Far East Corridor - Talega Variation - Initial (FEC-TV-Initial) Alternative
Far East Corridor - Cristianitos Variation - Initial (FEC-CV-Initial) Alternative
Far East Corridor - Agricultural Fields Variation - Initial (FEC-AFV-Initial) Alternative
Far East Corridor - Ortega Highway Variation - Initial (FEC-OHV-Initial) Alternative
Far East Corridor - Avenida Pico Variation - Initial (FEC-APV-Initial) Alternative
Far East Corridor-West-Initial (FEC-W-Initial) Alternative
Far East Corridor-Modified-Initial (FEC-M-Initial) Alternative

Far East Corridor - Ultimate Alternatives

Far East Corridor – Complete - Ultimate (FEC-Ultimate) Alternative
Far East Corridor - Talega Variation - Ultimate (FEC-TV-Ultimate) Alternative
Far East Corridor - Cristianitos Variation - Ultimate (FEC-CV-Ultimate) Alternative
Far East Corridor - Agricultural Fields Variation - Ultimate (FEC-AFV-Ultimate) Alternative
Far East Corridor - Ortega Highway Variation - Ultimate (FEC-OHV-Ultimate) Alternative
Far East Corridor - Avenida Pico Variation - Ultimate (FEC-APV-Ultimate) Alternative
Far East Corridor-West-Ultimate (FEC-W-Ultimate) Alternative
Far East Corridor-Modified-Ultimate (FEC-M-Ultimate) Alternative

As described earlier in the Preface, the SOCTIIP Collaborative evaluated all the build alternatives based on the findings of the technical analyses and identified the following alternatives for further consideration in the EIS/SEIR:

The SOCTIIP Collaborative further determined that the following alternatives, which are described in detail in the following Sections, would not be carried forward for detailed evaluation in the EIS/SEIR:

FEC-AF-Initial and Ultimate Alternatives
FEC-CV-Initial and Ultimate Alternatives
FEC-OHV-Initial and Ultimate Alternatives

Far East Corridor - Complete - Initial and Ultimate Alternatives

The alignment of the FEC-Initial and Ultimate Alternatives generally follows the alignment of the alternative previously referred to as the CP Alignment (Figures A-1 and A-2). As shown, the FEC Alternatives include Segments A, B, C and D. The corridor under the FEC Alternatives is approximately 26 kilometers (km) (16 miles (mi) long, with an additional approximately 1.9 km (1.2 mi) of improvements on I-5. Table 2.2-1 summarizes the characteristics of the FEC Alternatives by segment, including the geographic extent of the segment, the length of the segment, the typical initial and ultimate cross sections on the segment, the interchanges on the segment, bridges and other crossings on the segment, and other relevant features of the segment. The individual segments which comprise the FEC-Initial and Ultimate Alternatives are described below.

Segment A. Segment A of the FEC Alternatives extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita to the southeast, south of Coto de Caza,

crossing Cañada Gobernadora approximately four km (2.5 mi) north of San Juan Creek. This Segment crosses San Juan Creek and terminates at Ortega Highway. This Segment includes realignment and potential widening of approximately 1.4 km (0.9 mi) of Ortega Highway and construction of a new connector road approximately 1.8 km (1.1 mi) long extending north from Ortega Highway to the FEC alignment. Ortega Highway at the corridor crossing is currently a two lane facility. Under the MPAH, Ortega Highway is designated as a six lane Major Arterial. If Ortega Highway is improved to the Major Arterial designation prior to the implementation of these Alternatives, no further widening of Ortega Highway would be required. If Ortega Highway is not improved to the MPAH designation by the time these Alternatives are implemented, an approximately 1.4 km (0.9 mi) segment of Ortega Highway would be widened, to the MPAH designation, as part of these Alternatives. These Alternatives would also result in the realignment of this same segment of Ortega Highway.

Segment B. Segment B of the FEC Alternatives starts at Ortega Highway approximately 5.5 km (3.5 mi) east of Antonio Parkway/Avenida La Pata. From Ortega Highway, Segment B extends south, east of the Rancho Mission Viejo (RMV) Land Conservancy and Cristianitos Creek, extending southwest and crossing Blind/Gabino Creek and Cristianitos Creek approximately 1.5 km (one mi) north of the Orange/San Diego County line. Segment B crosses the southeast corner of the Talega Valley Planned Community (PC), on an alignment reflected in the Talega Valley Development Agreement, before terminating just south of Avenida Pico.

Segment C. Segment C of the FEC Alternatives starts south of Avenida Pico and the Orange/San Diego County line immediately west of the San Diego Gas and Electric (SDG&E) substation. The alignment travels south, crossing the inland part of the San Onofre State Beach lease on Marine Corps Base (MCB) Camp Pendleton in San Diego County, extending across Cristianitos Road approximately 1.1 km (0.7 mi) north of I-5. This Segment terminates where the corridor crosses San Mateo Creek.

Segment D. Segment D of the FEC Alternatives starts where the corridor crosses San Mateo Creek and extends southeast to I-5, with direct connectors between the corridor and I-5 one km (0.6 mi) south of Basilone Road. I-5 would be widened from 1.0 km (0.6 mi) south of Basilone Road to 2.9 km (1.8 mi) south of Basilone Road.

Far East Corridor - Talega Variation - Initial and Ultimate

The FEC-TV-Initial and Ultimate Alternatives alignment follows the alignment of the FEC Alternatives from Oso Parkway to south of Ortega Highway (Figures A-3 and A-4; Segment A described earlier). The FEC-TV Alternatives also include segments E and F as described below. The corridor under the FEC-TV Alternatives is approximately 21 km (13 mi) long with approximately 4.6 km (2.9 mi) of improvements on I-5. Table 2.2-2 summarizes the characteristics of the FEC-TV Alternatives by segment.

Segment E. From Ortega Highway, the FEC-TV Alternatives extend southwest across the north part of the RMV Land Conservancy and enter the City of San Clemente approximately 3.2 km (2.0 mi) east of the City of San Juan Capistrano. The FEC-TV alignment then crosses the Talega

Valley PC, crossing Avenida Vista Hermosa approximately 0.5 km (0.3 mi) north of Avenida Pico to approximately 0.4 km (0.3 mi) south of Avenida La Pata.

Segment F. From south of Avenida La Pata, Segment F of the FEC-TV Alternatives extends southwest, traversing land owned by the City of San Clemente and several existing residential developments. Segment F continues parallel to and northwest of Avenida Pico, to direct connectors at I-5, 0.9 km (0.6 mi) south of Avenida Pico. This Segment then extends 4.6 km (2.9 mi) south on I-5 to the terminus just north of Cristianitos Road.

Far East Corridor - Cristianitos Variation - Initial and Ultimate

The alignment of the FEC-CV Alternatives follows the alignment of the FEC Alternatives from Oso Parkway to just after it crosses into San Onofre State Park, south of Avenida Pico (Figures A-5 and A-6; Segments A and B, described earlier). From that point, the FEC-CV Alternatives would become an undivided four lane arterial highway south to I-5. The FEC-CV Alternatives also include segment G, as described below. The corridor under the FEC-CV Alternative is approximately 24 km (14 mi) long. Table 2.2-3 summarizes the characteristics of the FEC-CV Alternative by segment.

Segment G. Segment G of the FEC-CV Alternatives becomes a four lane undivided collector road just south of the Avenida Pico interchange. From that interchange, the FEC-CV alignment proceeds south to join the existing Cristianitos Road alignment south of the Camp Pendleton Guard Gate to the interchange of Cristianitos Road and I-5. Segment G includes widening (to four lanes) and reconstruction of existing Cristianitos Road south of the Camp Pendleton Guard Gate south to I-5 and reconstruction of the existing I-5/Cristianitos Road interchange.

The DON has consistently indicated that this Alternative is not acceptable based on how far it encroaches into Camp Pendleton and resulting impacts to the Military Mission of the DON at Camp Pendleton.

Far East Corridor - Agricultural Fields - Initial and Ultimate

The alignment of the FEC-AFV Alternatives follows the alignment of the FEC Alternative from Oso Parkway to just after it crosses into the San Onofre State Beach Park, south of Avenida Pico (Figures A-7 and A-8; Segments A, B and D described earlier). The FEC-AFV Alternatives also include segment H, as described below. The corridor under the FEC-AFV Alternative is approximately 26 km (16 mi) long, with an additional approximately 1.9 km (1.2 mi) of improvements to I-5. Table 2.2-4 summarizes the characteristics of the FEC-AFV Alternatives by segment.

Segment H. Segment H extends southeast from just south of Avenida Pico as it crosses the Orange/San Diego County line. This Segment extends southeast through San Onofre State Beach on MCB Camp Pendleton and crosses Cristianitos Road 0.8 km (0.5 mi) southwest of San Mateo Road. It crosses San Mateo Creek just west of Cristianitos Creek and traverses the agricultural leased land on MCB Camp Pendleton east of San Mateo Creek to the intersection of the corridor with I-5.

The DON has consistently indicated that this Alternative is not acceptable based on how far it encroaches into Camp Pendleton and the resulting impact to the Military Mission of the DON at Camp Pendleton.

Far East Corridor - Ortega Highway Variation - Initial and Ultimate Alternatives

The alignment of the FEC-OHV Alternatives follows the alignment of Segment A of the FEC Alternatives, from Oso Parkway to Ortega Highway (Figures A-9 and A-10; Segment A described earlier). Only Segment A would be constructed under these Alternatives. The corridor under the FEC-OHV Alternatives is approximately 9 km (6 mi) long.

The FEC-OHV Alternatives incorporate Transportation Systems Management (TSM) technology improvements on Ortega Highway from the corridor terminus at Ortega Highway to I-5. The TSM strategies may include traffic signal coordination, real time traffic monitoring and surveillance, and traveler information. No additional lanes or road widening on Ortega Highway, beyond those improvements already assumed in the MPAH (four lanes on Ortega Highway), are assumed under these Alternatives. The TSM strategies may require construction within the existing Ortega Highway right-of-way to install surveillance, monitoring and information display equipment. Table 2.2-5 summarizes the characteristics of the FEC-OHV Alternatives.

Far East Corridor - Avenida Pico Variation - Initial and Ultimate Alternatives

The alignment of the FEC-APV - Initial and Ultimate Alternatives follows the alignment of Segments A and B of the FEC Alternatives from Oso Parkway to Avenida Pico (Figures A-11 and A-12; Segments A and B described earlier). Segments A and B are the only segments which would be constructed under these Alternatives. The corridor under the FEC-APV - Initial and Ultimate Alternatives is approximately 17 km (10~~.6~~ mi) long. The FEC-APV Alternatives incorporate TSM technology improvements on Avenida Pico from the corridor terminus at Avenida Pico to I-5. No additional lanes or road widening on Avenida Pico, beyond those improvements already assumed in the MPAH (six lanes on Avenida Pico), are assumed under this Alternative. The TSM strategies may require construction within the existing Avenida Pico right-of-way to install surveillance, monitoring and information display equipment. Table 2.2-6 summarizes the characteristics of the FEC-APV Alternatives by segment.

Far East Corridor-West Variation – Initial and Ultimate Alternatives

The alignment of the FEC-W-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figures A-33 and 34. The FEC-W alignment follows the same alignment as the FEC Alternatives on Segments C and D. The FEC-W Alternative includes Segments U, V, C and D. The corridor under the FEC-W Alternatives is approximately 25 km (15 mi) long, with approximately 1.3 km (0.8 mi) of improvements on the I-5. Table 2.2-7 summarizes the characteristics of the FEC-W Alternatives by segment and the individual segments which comprise the FEC-W Alternative are described below.

Segment U. Segment U of the FEC-W Alternatives extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita to the southeast, south of Coto de Caza, crossing Cañada Gobernadora approximately four km (2.5 mi) north of San Juan Creek.

Segment V. Segment V of the FEC-W Alternatives starts at Ortega Highway approximately 4.0 km (2.5 mi) east of Antonio Parkway/Avenida La Pata. From Ortega Highway, Segment V extends south traversing the west side of the RMV Land Conservancy, extending southeast and crosses the southeast corner of the Talega Valley PC before terminating just south of Avenida Pico.

Far East Corridor-Modified Variation – Initial and Ultimate Alternatives

The alignment of the FEC-M-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figures A-35 and 36. The FEC-M alignment follows the same alignment as the FEC Alternatives on Segments C and D. The FEC-M Alternative includes Segments W, X, C and D. The corridor under the FEC-M Alternatives is approximately 26 km (16 mi) long, with approximately 1.3 km (0.8 mi) of improvements on the I-5. Table 2.2-8 summarizes the characteristics of the FEC-M Alternatives by segment and the individual segments which comprise the FEC-M Alternative are described below.

Segment W. Segment W of the FEC-W Alternatives extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita to the southeast, south of Coto de Caza, crossing Cañada Gobernadora approximately four km (2.5 mi) north of San Juan Creek. This Segment crosses San Juan Creek and terminates at Ortega Highway. This Segment includes potential widening of approximately 1.4 km (0.9 mi) of Ortega Highway and construction of a new connector road approximately 1.8 km (1.1 mi) long extending north from Ortega Highway to the FEC alignment. Ortega Highway at the corridor crossing is currently a two lane facility. Under the MPAH, Ortega Highway is designated as a six lane Major Arterial. If Ortega Highway is improved to the Major Arterial designation prior to the implementation of these Alternatives, no further widening of Ortega Highway would be required. If Ortega Highway is not improved to the MPAH designation by the time these Alternatives are implemented, an approximately 1.4 km (0.9 mi) segment of Ortega Highway would be widened, to the MPAH designation.

Segment X. Segment X of the FEC Alternatives starts at Ortega Highway approximately 5.4 km (3.4 mi) east of Antonio Parkway/Avenida La Pata. From Ortega Highway, Segment X extends south, east of the RMV Land Conservancy and Cristianitos Creek, extending southwest and crossing Cristianitos Creek approximately 2.8 km (1.7 mi) north of the Orange/San Diego County line. Segment X crosses the southeast portion of the RMV Land Conservancy and the southeast corner of the Talega Valley PC before terminating just south of Avenida Pico.

2.2.1.2 Central Corridor Alternatives

The Central Corridor (CC) alignments proposed for evaluation are listed below and are discussed in detail later in this Section.

Central Corridor - Initial Alternatives

Central Corridor – Complete - Initial (CC-Initial) Alternative
Central Corridor - Avenida La Pata Variation - Initial (ALPV-Initial) Alternative
Central Corridor - Ortega Highway Variation - Initial (OHV-Initial) Alternative

Central Corridor - Ultimate Alternatives

Central Corridor – Complete - Ultimate (CC-Ultimate) Alternative
Central Corridor - Avenida La Pata Variation - Ultimate (ALPV-Ultimate) Alternative
Central Corridor - Ortega Highway Variation - Ultimate (OHV-Ultimate) Alternative

Central Corridor - Complete - Initial and Ultimate Alternatives

The alignment of the CC - Initial and Ultimate Alternatives generally follows the alignment of the alternative previously referred to as BX (Figures A-13 and A-14). The CC Alternatives include Segments I, J and K. The corridor under the CC Alternatives is approximately 19 km (12 mi) long, with an additional approximately 4.6 km (2.9 mi) of improvements on I-5. These Alternatives would also require widening (to the MPAH designation), but no realignment, of approximately 1 km (0.6 mi) of Ortega Highway. Ortega Highway at the corridor crossing is currently a two lane facility. Under the MPAH, Ortega Highway is designated as a six lane Major Arterial. If Ortega Highway is improved to the Major Arterial designation prior to the implementation of these Alternatives, no further widening of Ortega Highway would be required. If Ortega Highway is not improved to the MPAH designation by the time these Alternatives are implemented, an approximately 1.0 km (0.6 mi) segment of Ortega Highway would be widened, to the MPAH designation, as part of these Alternatives. These Alternatives would not result in the realignment of this same segment of Ortega Highway. Table 2.2-9 summarizes the characteristics of the CC - Initial and Ultimate Alternatives by segment. The individual segments which comprise the CC Alternatives are described below.

Segment I. Segment extends from the existing terminus of the FTC-N at Oso Parkway, crosses Cañada Chiquita approximately 2.1 km (1.3 mi) south of Oso Parkway, extending along the west side of Cañada Chiquita, crossing San Juan Creek and Ortega Highway approximately 0.4 km (0.25 mi) east of Antonio Parkway/Avenida La Pata.

Segment J. Segment J extends south from Ortega Highway, paralleling Avenida La Pata, crossing through Prima Deshecha Landfill, south to Avenida Vista Hermosa, traversing property owned by the City of San Clemente and terminating 0.4 km (0.3 mi) south of Avenida La Pata.

Segment K. Segment K of the CC Alternatives extends southwest from the crossing of Avenida La Pata, traversing several existing residential developments. Segment K continues parallel to and northwest of Avenida Pico, to direct connectors at I-5. This Segment then extends 4.6 km (2.9 mi) south on I-5 to Cristianitos Road.

Central Corridor - Avenida La Pata Variation - Initial and Ultimate Alternatives

The alignment of the CC-ALPV - Initial and Ultimate Alternatives includes Segments I and J only (Segments I and J described earlier; Figures A-15 and A-16). The corridor under the CC-ALPV Alternatives is approximately 14 km (9 mi) long. Table 2.2-10 summarizes the characteristics of the CC-ALPV-Initial and Ultimate Alternatives by segment. The CC-ALPV Alternatives incorporate TSM technology improvements on Avenida Vista Hermosa from the corridor terminus at Avenida Vista Hermosa to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico, and on Avenida Pico from Avenida La Pata to I-5. No additional lanes or road widening on Avenida Vista Hermosa, Avenida La Pata and Avenida Pico, beyond those improvements already assumed in the MPAH, are assumed under these Alternatives. The TSM strategies may require construction within the existing arterial rights-of-way to install surveillance, monitoring and information display equipment.

Central Corridor - Ortega Highway Variation - Initial and Ultimate Alternatives

The CC-OHV Alternative includes only Segment I (Segment I described earlier; Figures A-17 and A-18). The corridor under the CC-OHV Alternative is approximately 8 km (5 mi) long. Table 2.2-11 summarizes the characteristics of the CC-OHV Alternative. The CC-OHV Alternatives incorporate TSM technology improvements on Ortega Highway from the corridor terminus at Ortega Highway to I-5. No additional lanes or road widening on Ortega Highway, beyond those improvements already assumed in the MPAH (four lanes on Ortega Highway), are assumed under these Alternatives. The TSM strategies may require construction within the existing Ortega Highway right-of-way to install surveillance, monitoring and information display equipment.

2.2.1.3 Alignment 7 Corridor Alternatives

The Alignment 7 Corridor (A7C) alignments proposed for evaluation are listed below and are discussed in detail in this Section.

Alignment 7 Corridor – Initial Alternatives

Alignment 7 Corridor – Complete - Initial (A7C-Initial) Alternative
Alignment 7 Corridor - 7 Swing Variation - Initial (A7C-7SV-Initial) Alternative
Alignment 7 Corridor - Far East Crossover Variation - Initial (A7C-FECV-Initial) Alternative
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Initial (A7C-FECV-C-Initial) Alternative
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Initial (A7C-FECV-AF-Initial) Alternative
Alignment 7 Corridor - Ortega Highway Variation - Initial (A7C-OHV-Initial) Alternative
Alignment 7 Corridor - Avenida La Pata Variation - Initial (A7C-ALPV-Initial) Alternative
Alignment 7 Corridor-Far East Crossover-Modified-Initial (A7C-FEC-M-Initial) Alternative

Alignment 7 Corridor - Ultimate Alternatives

Alignment 7 Corridor - Complete - Ultimate (A7C-Ultimate) Alternative
Alignment 7 Corridor - 7 Swing Variation - Ultimate (A7C-7SV-Ultimate) Alternative
Alignment 7 Corridor - Far East Crossover Variation - Ultimate (A7C-FECV-Ultimate) Alternative
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Ultimate (A7C-FECV-C-Ultimate) Alternative
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Ultimate (A7C-FECV-AF-Ultimate) Alternative
Alignment 7 Corridor - Ortega Highway Variation - Ultimate (A7C-OHV-Ultimate) Alternative
Alignment 7 Corridor - Avenida La Pata Variation - Ultimate (A7C-ALPV-Ultimate) Alternative
Alignment 7 Corridor-Far East Crossover-Modified-Initial (A7C-FEC-M-Ultimate) Alternative

Alignment 7 Corridor - Complete - Initial and Ultimate Alternatives

The alignment of the A7C-Initial and Ultimate Alternatives includes Segments L, M and N (Figures A-19 and A-20). The corridor under the A7C Alternatives is approximately 19 km (12 mi) long, with an additional approximately 4.6 km (2.9 mi) of improvements on I-5. Table 2.2-12 summarizes the characteristics of the A7C-Initial and Ultimate Alternatives by segment. The individual segments which comprise the A7C Alternatives are described below.

Segment L. Segment L extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita and east of the Cañada Chiquita Water Reclamation Plant. It then extends south, across San Juan Creek to Ortega Highway, approximately 1.7 km (1.1 mi) east of the intersection of Antonio Parkway/Avenida La Pata. This Segment includes construction of a new connector road approximately 2.2 km (1.4 mi) long, extending east from Antonio Parkway to the A7C alignment.

Segment M. Segment M extends south from Ortega Highway and across Prima Deshecha Landfill, entering the City of San Clemente and crossing the Talega PC. Segment M then extends southeast to Avenida Vista Hermosa approximately 0.5 km (0.3 mi) northwest of Avenida Pico.

Segment N. From the crossing of Avenida Vistas Hermosa, Segment N extends southwest, traversing land owned by the City of San Clemente and several existing residential developments. Segment N continues parallel to and northwest of Avenida Pico, to direct connectors at I-5. Segment N includes widening of I-5 from south of Avenida Pico to just north of Cristianitos Road.

Alignment 7 Corridor – 7 Swing Variation - Initial and Ultimate Alternatives

The alignment of the A7C-7SV-Initial and Ultimate Alternatives includes Segments L, O and P (Segment L described earlier; Figures A-21 and A-22). The corridor under the A7C-7SV Alternatives is approximately 18 km (11 mi) long, with an additional approximately 4.6 km (2.9

mi) of improvements on I-5. Table 2.2-13 summarizes the characteristics of the A7C-7SV-Initial and Ultimate Alternatives by segment. Segments O and P are described below.

Segment O. Segment O extends from Ortega Highway south across the Prima Deshecha Landfill to Avenida Vista Hermosa, traversing land owned by the City of San Clemente and terminating 0.43 km (0.27 mi) south of Avenida La Pata.

Segment P. Segment P extends southwest from the crossing of Avenida La Pata, traversing several existing residential developments. Segment P continues parallel to and northwest of Avenida Pico, to direct connectors at I-5. Segment P includes widening 4.6 km (2.9 mi) of I-5 from south of Avenida Pico to just north of Cristianitos Road.

Alignment 7 - Far East Crossover Variation - Initial and Ultimate Alternatives

The alignment of the A7C-FECV Initial and Ultimate Alternatives includes Segments L, Q, R and D (Segments D and L described earlier; Figures A-23 and A-24). The corridor under the A7C-FECV Alternatives is approximately 25 km (15 mi) long, with an additional approximately 1.9 km (1.2 mi) of improvements on I-5. Table 2.2-14 summarizes the characteristics of the A7C-FECV-Initial and Ultimate Alternatives by segment. Segments Q and R are described below.

Segment Q. Segment Q extends from south of Ortega Highway, across Prima Deshecha Landfill, through the southeast corner of the Rolling Hills (Talega) PC, through the southeast corner of the RMV Land Conservancy and south to Avenida Pico.

Segment R. Segment R starts at Avenida Pico and the Orange/San Diego County line immediately west of the SDG&E substation. The alignment travels south, crossing the inland part of San Onofre State Beach on MCB Camp Pendleton in San Diego County, extending across Cristianitos Road approximately 1.1 km (0.7 mi) north of I-5. This segment terminates where the corridor crosses San Mateo Creek.

Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Initial and Ultimate Alternatives

The alignment of the A7C-FECV-C-Initial and Ultimate Alternatives includes Segments L, Q and S (Segments L and Q described earlier; Figures A-25 and A-26). The corridor under the A7C-FEC-C Alternatives is approximately 23 km (14.3 mi) long. Table 2.1-15 summarizes the characteristics of the A7C-FECV-C Alternatives by segment. Segment S is described below.

Segment S. Segment S becomes a four lane undivided collector road south of the Avenida Pico interchange. From that interchange, the alignment would proceed south to join the existing Cristianitos Road alignment south of the Camp Pendleton Guard Gate to the interchange of Cristianitos Road and I-5. Segment S includes widening and reconstruction of existing Cristianitos Road from south of the Camp Pendleton Guard Gate south to I-5 and reconstruction of the existing I-5/Cristianitos Road interchange.

The DON has consistently indicated that this Alternative is not acceptable based on how far into Camp Pendleton it encroaches and resulting impacts on the Military Mission of the DON at Camp Pendleton.

Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Initial and Ultimate Alternatives

The alignment of the A7C-FECV-AF-Initial and Ultimate Alternatives includes Segments L, Q, T and D (Segments L, Q and D described earlier; Figures A-27 and A-28). The corridor under the A7C-FECV-AF Alternatives is approximately 25 km (15 miles) long. Table 2.2-16 summarizes the characteristics of the A7C-FECV-AF Alternatives by segment. Segment T is described below.

Segment T. Segment T extends southeast from Avenida Pico as it crosses the Orange/San Diego County line. This Segment then extends southeast through San Onofre State Beach on MCB Camp Pendleton, crossing Cristianitos Road 0.8 km (0.5 mi) southwest of San Mateo Road. It then crosses San Mateo Creek just west of Cristianitos Creek and traverses the agricultural leased land on MCB Camp Pendleton east of San Mateo Creek.

The DON has consistently indicated that this Alternative is not acceptable based on how far into Camp Pendleton it encroaches and the resulting impacts on the Military Mission of the DON at Camp Pendleton.

Alignment 7 - Ortega Highway Variation - Initial and Ultimate Alternatives

The alignment of the A7C-OHV Alternatives includes Segment L only (Segment L described earlier; Figures A-29 and A-30). The corridor under the A7C-OHV Alternatives is approximately 7 km (4 mi) long. Table 2.2-17 summarizes the characteristics of the A7C-OHV Alternatives for Segment L. The A7C-OHV Alternatives incorporate TSM technology improvements on Ortega Highway from the corridor terminus at Ortega Highway to I-5. No additional lanes or road widening on Ortega Highway, beyond those improvements already assumed in the MPAH (four lanes on Ortega Highway), are assumed under these Alternatives. The TSM strategies may require construction within the existing arterial right-of-way to install surveillance, monitoring and information display equipment.

Alignment 7 - Avenida La Pata Variation - Initial and Ultimate Alternatives

The alignment of the A7C-ALPV Alternatives includes Segments L and M (Segments L and M described earlier; Figures A-31 and A-32). Table 2.2-18 summarizes the characteristics of the A7C-ALPV Alternatives by segment. The corridor under the A7C-ALPV Alternatives is approximately 14 km (8 mi) long. The A7-ALPV Alternatives incorporate TSM technology improvements on Avenida Vista Hermosa from the corridor terminus at Avenida Vista Hermosa to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico and on Avenida Pico from Avenida La Pata to I-5. No additional lanes or road widening on Avenida Vista Hermosa, Avenida La Pata or Avenida Pico, beyond those improvements already assumed in the MPAH, are assumed under these Alternatives. The TSM strategies may require

construction within the existing arterial right-of-way to install surveillance, monitoring and information display equipment.

Alignment 7 Corridor - Far East Crossover (Modified) - Initial and Ultimate Alternative Variation

The A7C-FEC-M alignment follows an alignment similar to the A7C-FECV Alternatives on Segments L and Q and the same alignment on Segments C and D (Segments C and D described earlier; Figures A37 and 38). The A7C-FEC-M Alternative includes Segments Y, Z, C and D. The corridor under the A7C-FEC-M Alternatives is approximately 26 km (16 mi) long, with approximately 1.3 km (0.8 mi) of improvements on the I-5. Table 2.2-19 summarizes the characteristics of the A7C-FEC-W Alternatives by segment. Segment Z is described below.

Segment Y. Segment Y extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita and east of the Cañada Chiquita Water Reclamation Plant. It then extends south, across San Juan Creek to Ortega Highway, approximately 2.1 km (1.3 mi) east of the intersection of Antonio Parkway/Avenida La Pata.

Segment Z. Segment Z extends southeast from Ortega Highway, then south traversing the west side of the RMV Land Conservancy and then southeast and crosses the southeast corner of the Rolling Hills (Talega) PC before terminating just south of Avenida Pico.

2.2.1.4 Arterial Improvements Alternatives:

Arterial Improvements Only (AIO) Alternative
Arterial Improvements Plus HOV and Spot Mixed Lanes on I-5 (AIP) Alternative

Arterial Improvements Only Alternative

Arterial Improvements Under the AIO Alternative

The AIO Alternative assumes full build out of the Master Plan of Arterial Highways (MPAH) and the Regional Transportation Plan (Figure A-39). The AIO Alternative incorporates the following additional improvements to the transportation system:

- Expansion of Antonio Parkway/Avenida La Pata to an eight lane Smart Street from Oso Parkway south to San Juan Creek Road, and to a six lane Smart Street from San Juan Creek Road south to Avenida Pico. Antonio Parkway/Avenida La Pata currently exists from south of Ortega Highway to the north. The MPAH shows Antonio Parkway/La Pata Avenue being extended south to south of Avenida Pico, with a six or four lane cross section. The AIO Alternative proposes adding one lane in each direction on Antonio Parkway/La Pata Avenue from Oso Parkway to San Juan Creek Road.

- Smart street improvements which include a combination of advanced traffic management strategies such as traffic signal coordination, real time traffic monitoring and surveillance,

and traveler information; and modest physical improvements such as additional turn lanes at intersections and select grade separations.

- Smart street improvements/TSM strategies on Ortega Highway, Camino Las Ramblas and Avenida Pico between Antonio Parkway/Avenida La Pata and I-5.

- Focused improvements are proposed for the intersections of Antonio Parkway/Avenida La Pata with Avenida Pico, Ortega Highway, Crown Valley Parkway and Oso Parkway. These improvements would include either left turn flyovers or full grade separated intersections.

Arterial Improvements Plus HOV and Mixed Spot Lanes on I-5 Alternative

The AIP Alternative assumes full build out of the MPAH and the RTP (Figure A-40). The AIP Alternative assumes the same arterial improvements described above for the AIO Alternative and would include the following additional improvements to the transportation system:

- The addition of one HOV lane on I-5 in each direction between El Toro Road and Cristianitos Road.

- The addition of spot mixed flow (auxiliary) lanes on the segment of I-5 between San Juan Creek Road and Ortega Highway and between Avenida Pico and El Camino Real.

- A number of bridges, interchanges and other structures on the segment of the I-5 from El Toro Road to Cristianitos Road would be reconstructed.

2.2.1.5 I-5 Alternative Improvements

The I-5 Alternative assumes full build out of the MPAH and the RTP (Figure A-41). The I-5 Alternative assumes the following improvements to I-5:

- The addition of either one or two general purpose lanes in each direction between Cristianitos Road and north of Lake Forest Drive; and the provision of one HOV lane in each direction, except where HOV lanes are already programmed between Camino Las Ramblas and Avenida Pico. Additional mixed flow (auxiliary) lanes will be provided on several segments of I-5.

- A number of bridges, interchanges and other structures on the segment of the I-5 from south of the I-5/I-405 to Cristianitos Road would be reconstructed.

2.3 NO ACTION ALTERNATIVES

2.3.1 NO ACTION ALTERNATIVE – OCP-2000

This No Action Alternative assumes the following:

- Build out of the Land Use Elements (LUEs) of the General Plans for the cities and unincorporated Orange County.

- Orange County Projections (OCP)-2000 population and employment projections for 2025, which assume substantial development in Community Analysis Areas (CAAs) 59, 60 and 70. This specifically assumes the construction of approximately 35,888 additional dwelling units (dus) in CAAs 59, 60 and 70 by 2025, including a total of 21,000 dus on the RMV site.

- Build out of the MPAH, with all arterials constructed to their ultimate cross sections consistent with the MPAH.

- Build out of the RTP improvements in South Orange County.

- No extension of the existing FTC south of its existing terminus at Oso Parkway.

- An on site circulation system on the RMV property, to support the 21,000 dwelling units (dus) forecasted in OCP-2000. This on site circulation system will be defined conceptually in the traffic analysis.

2.3.2 NO ACTION ALTERNATIVE – RMV DEVELOPMENT PLAN

This No Action Alternative assumes:

- Build out of the LUEs of the General Plans for the cities and unincorporated Orange County.

- OCP-2000 population and employment projections for 2025, which assumed substantial development in CAAs 59, 60 and 70. Under this No Action Alternative, the 21,000 dus assumed on the RMV under OCP-2000 would be excluded and the 14,000 dus proposed on the RMV by the RMV Company would be included.

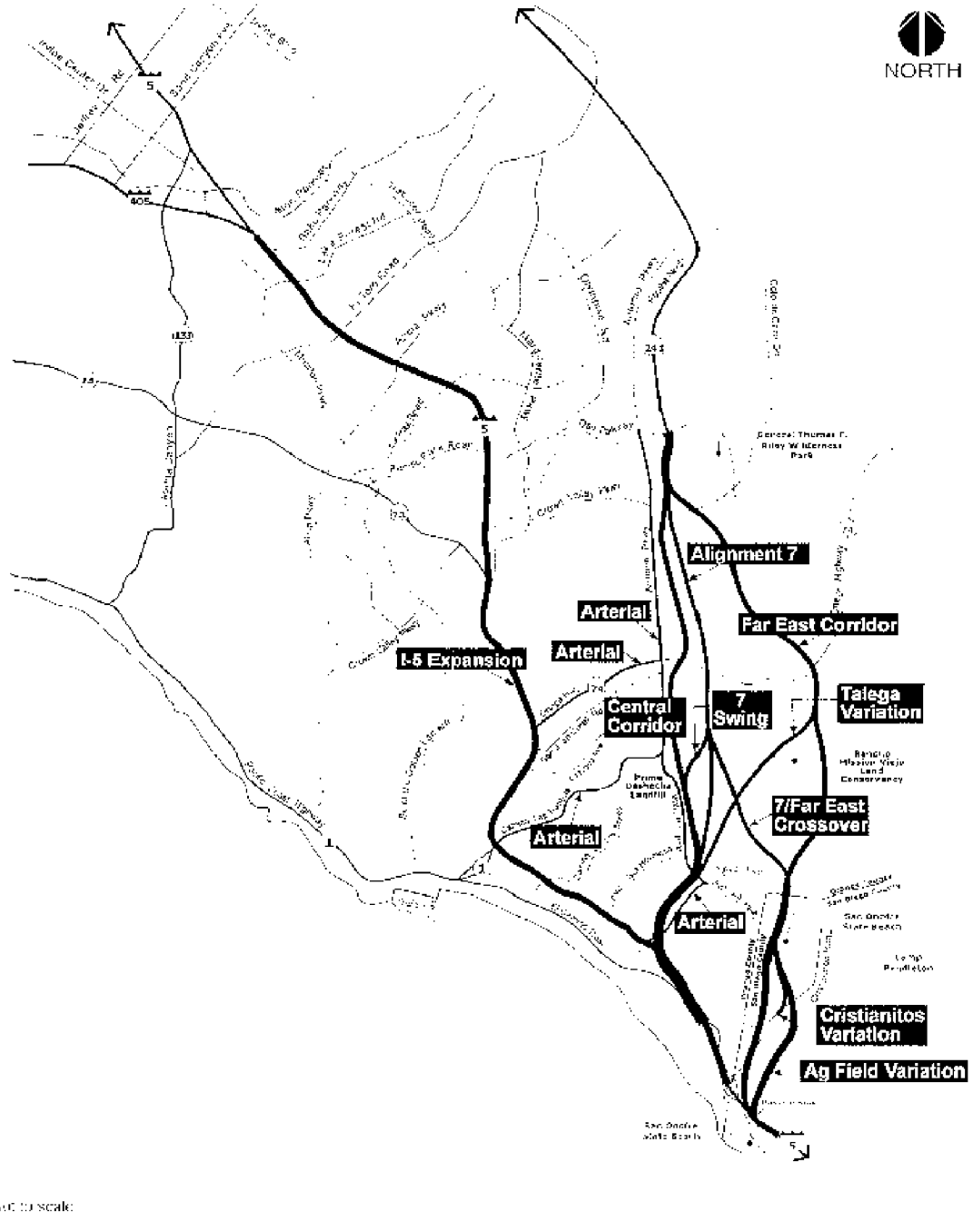
- Build out of the MPAH, with all arterials constructed to their ultimate cross sections consistent with the MPAH.

- Build out of the RTP improvements in south Orange County.

- No extension of the existing FTC-North south of its existing terminus at Oso Parkway.

- An on site circulation system on the RMV property, to support the 14,000 dus proposed by the Company, based on the on site circulation system defined by the RMV for the 14,000 du development plan

These No Action Alternatives are summarized in Table 2.3-1.



Source: Greenwood and Associates (2003)

Alignments of the Build Alternatives

SOCTIIP EIS/SEIR *Phase I Archaeological Inventory*	Figure 2.2-1

TABE 2.2-1
CHARACTERISTICS OF THE FAR EAST CORRIDOR – COMPLETE - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC alignment.
B	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Bridge over Blind/Gabino Creek. Cristianitos/Ford Road undercrossing. Bridge over Cristianitos Creek.	
C	From just south of Avenida Pico to where the corridor crosses San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABE 2.2-1
CHARACTERISTICS OF THE FAR EAST CORRIDOR – COMPLETE - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) [1.2 km (0.7 mi) of corridor; 1.9 km (1.2 mi) of I-5 improvements]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector to and from the south only.	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to and from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002)

TABE 2.2-2
CHARACTERISTICS OF THE FAR EAST CORRIDOR –TA LEGA VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Parkway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-TV alignment.
E	From Ortega Highway to 0.43 km (0.27 mi) south of Avenida La Pata.	8.2 km (5.1 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Vista Hermosa.	Avenida La Pata undercrossing. Via Sonrisa/Onda overcrossing.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Vista Hermosa.
F	From 0.43 (0.27 mi) km south of Avenida La Pata south to I-5, extending south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) [3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (connection to Avenida Pico). I-5 connector (to and from the south only).	Camino Vera Cruz overcrossing. Calle Frontera overcrossing. Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	Reconstruction of the following interchanges on I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (southbound only; no structure).

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-3
CHARACTERISTICS OF THE FAR EAST CORRIDOR -CRISTIA NITOS VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-CV alignment.
B	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Bridge over Blind/Gabino Creek. Cristianitos/Ford Road undercrossing. Bridge over Cristianitos Creek.	
G	From just south of Avenida Pico to the terminus on Cristianitos Road at I-5.	7.3 km (4.5 mi)	Initial and Ultimate: Four Lane Collector Road	Intersection with Cristianitos Road.	Widening of I-5 bridges over San Mateo Creek.	Widening of existing Cristianitos Road from the Corridor terminus south to I-5 and reconstruction of the existing I-5/Cristianitos Road interchange.

Source: CDMG and P&D Consultants (2002)

TABE 2.2-4
CHARACTERISTICS OF THE FAR EAST CORRIDOR –AGRICULTURAL FIELDS VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway to southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-AFV alignment.
B	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Avenida Pico.	Bridge over Blind/Gabino Creek. Bridge over Cristianitos Creek.	
H	From just south of Avenida Pico southeast to the intersection of the corridor with I-5.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six Lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road.	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABE 2.2-4
CHARACTERISTICS OF THE FAR EAST CORRIDOR –AGRICULTURAL FIELDS VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From the intersection of the corridor with I-5 south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) [1.2 km (0.7 mi) of corridor and 1.9 km (1.2 mi) of improvements on I-5]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector (to and from the south only.).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to/from Basilone Road.

Source: CDMG and P&D Consultants (2002)

TABE 2.2-5
CHARACTERISTICS OF THE FAR EAST CORRIDOR –ORTEGA HIGHWAY VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek.	Mainline toll plaza north of Ortega Highway. TSM improvements anticipated on Ortega Highway from the corridor to I-5.

Source: CDMG and P&D Consultants (2002).

TABE 2.2-6
CHARACTERISTICS OF THE FAR EAST CORRIDOR – AVENIDA PICO VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-APValignment.
B	From Ortega Highway to Avenida Pico.	7.3 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).		Bridge over Blind/Gabino Creek. Bridge over Cristianitos Creek.	TSM improvements anticipated on Avenida Pico from the corridor to I-5. Direct connection to Avenida Pico.

Source: CDMG and P&D Consultants (2002)

TABE 2.2-7
CHARACTERISTICS OF THE FAR EAST CORRIDOR – WEST-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
U	Oso Parkway southeast to Ortega Highway.	9.2 km (5.7 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. New Ortega Highway C Street Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at new Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at C Street
V	From Ortega Highway to just south of Avenida Pico.	6.8 km (4.2 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Cristianitos Road undercrossing.	
C	From just south of Avenida Pico to where the corridor crosses the San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek (ultimate only).	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABE 2.2-7
CHARACTERISTICS OF THE FAR EAST CORRIDOR – WEST-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	2.6 km (1.6 mi) [1.3 km (0.8 mi) of corridor; 1.3 km (0.8 mi) of I-5 improvements]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector to and from the south only.	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to and from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2003).

TABE 2.2-8
CHARACTERISTICS OF THE FAR EAST CORRIDOR – MODIFIED-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
W	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. New Ortega Highway Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives). C Street	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at C Street.
X	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Bridge over Cristianitos Creek and Cristianitos Road.	
C	From just south of Avenida Pico to where the corridor crosses the San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek (ultimate only).	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABE 2.2-8
CHARACTERISTICS OF THE FAR EAST CORRIDOR – MODIFIED-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	2.6 km (1.6 mi) [1.3 km (0.8 mi) of corridor; 1.3 km (0.8 mi) of I-5 improvements].	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector to and from the south only.	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to and from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-9
CHARACTERISTICS OF THE CENTRAL CORRIDOR -COMPLETE - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
I	Oso Parkway south to Ortega Highway.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek.	Mainline toll plaza north of Ortega Highway. Potential widening (to MPAH designation) of approximately 1.0 km (0.6 mi) of Ortega Highway.
J	From Ortega Highway south across the Landfill south to 0.43 km (0.27 mi) south of Avenida La Pata.	7.5 km (4.7 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.	Avenida La Pata and Via Sonrisa/Onda overcrossings.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway. Ramp toll plazas on the southbound on ramp and north bound off ramp at Avenida Vista Hermosa. Crosses Prima Deshecha Landfill.
K	From 0.43 km (0.27 mi) km south of Avenida La Pata south to I-5 and south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) [3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (Avenida Pico). I-5 connector (to and from the south only).	Camino Vera Cruz overcrossing. Calle Frontera overcrossing.	Reconstruction of the following interchanges with I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (south bound only; no structure).
					Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-10
CHARACTERISTICS OF THE CENTRAL CORRIDOR –AVENIDA LA PATA VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
I	Oso Parkway south to Ortega Highway.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Potential widening (to MPAH designation) of approximately 1.0 km (0.6 mi) of Ortega Highway.
J	From Ortega Highway south across the Prima Deshecha Landfill south to Avenida Vista Hermosa.	6.7 km (4.2 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.		Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway. TSM improvements anticipated on Avenida Vista Hermosa from the corridor to Avenida La Pata; on Avenida La Pata from Avenida Vista Hermosa to Avendia Pico and on Avenida Pico from Avenida La Pata to I-5. Crosses Prima Deshecha Landfill.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002)

TABE 2.2-11
CHARACTERISTICS OF THE CENTRAL CORRIDOR -ORTEGA HI GHWAY VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Eent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bdges and Other Crossings	Other Relevant Features
I	Oso Parkway south to Ortega Highway.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. TSM improvements anticipated on Ortega Highway from the corridor to I-5.

Source: CDMG and P&D Consultants (2002).

TABE 2.2-12
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR – COMPLETE - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector road from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
M	From Ortega Highway south to 0.4 km (0.3 mi) south of Avenida La Pata.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.	Avenida La Pata overcrossing. Via Sonrisa/Onda overcrossing.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Vista Hermosa.
N	From 0.4 km (0.3 mi) south of Avenida La Pata south to I-5, and south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) [3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (Avenida Pico connection). I-5 connector (to and from the south only).	Camino Vera Cruz undercrossing. Calle Frontera undercrossing. Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	Reconstruction of the following interchanges on I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (southbound only; no structure).

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-13
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR –7 SWING VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
O	From Ortega Highway south to 0.43 km (0.27 mi) south of Avenida La Pata.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.	Avenida La Pata and Via Sonrisa/Onda overcrossings.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Vista Hermosa. Crosses Prima Deshecha Landfill.
P	From 0.43 (0.27 mi) km south of Avenida La Pata south to I-5 and south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) (3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (Avenida Pico connection). I-5 connector (to and from the south only).	Camino Vera Cruz overcrossing. Calle Frontera overcrossing. Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	Reconstruction of the following interchanges on I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (southbound only; no structure).

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-14
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR – FAR EAST CROSSOVER VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
Q	From Ortega Highway south to just south of Avenida Pico.	7.9 km (4.9 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Pico.		Crosses Prima Deshecha Landfill.
R	From just south of Avenida Pico to where the corridor crosses San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) south to Cristianitos Road and six lanes (four GP and two HOV) south of Cristianitos Road.	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) (1.2 km (0.7 mi) of corridor; 1.9 km (1.2 mi) of improvements to I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector (to and from the south only).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to/from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-15
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR – FAR EAST CROSSOVER (CRISTIANITOS) VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
Q	From Ortega Highway south to just south of Avenida Pico.	7.9 km (4.9 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Pico.		Crosses Prima Deshecha Landfill.
S	From just south of Avenida Pico to the corridor terminus on Cristianitos Road at I-5.	7.4 km (4.6 mi)	Initial and Ultimate: Four Lane Collector Road.	Intersection with Cristianitos Road.		Widening of existing Cristianitos Road from the Corridor terminus south to I-5 (approximately 4.0 km (1.5 mi) and reconstruction of the existing I-5/Cristianitos interchange.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-16
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR – FAR EAST CROSSOVER (AGRICULTURAL FIELDS) VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
Q	From Ortega Highway south to just south of Avenida Pico.	7.9 km (4.9 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Pico.		Crosses Prima Deshecha Landfill.
T	From just south of Avenida Pico southeast to the intersection of the corridor with I-5.	8.3 km (5.2mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road.	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.
D	From the intersection of the corridor with I-5 south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) [1.2 km (0.7 mi) of corridor; 1.9 km (1.2 mi) of improvements on I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six Lanes (four GP and two HOV).	I-5 connector (to and from the south only).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-17
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR –ORTEGA HIGHWAY VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek.	Mainline toll plaza north of Ortega Highway. TSM improvements anticipated on Ortega Highway from the corridor to I-5.

Source: CDMG and P&D Consultants (2002).

TABE 2.2-18
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR –AVENIDA LA PATA VARIATION - INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
M	From Ortega Highway south to Avenida Vista Hermosa.	6.5 km (4.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa		TSM improvements anticipated on Avenida Vista Hermosa from the Corridor to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico and on Avenida Pico from Avenida La Pata to I-5.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

TABE 2.2-19
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER-MODIFIED-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
Y	Oso Parkway south to Ortega Highway.	8.4 km (5.2 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. New Ortega Highway. C Street. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over San Juan Creek at the mainline. Ortega Highway undercrossing.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and the northbound off ramp at New Ortega Highway (connector). Ramp toll plazas on the southbound on ramp and the northbound off ramp at C Street.
Z	From Ortega Highway south to just south of Avenida Pico.	7.8 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Avenida Pico.	Quarry Access Road undercrossing.	
C	From just south of Avenida Pico to where the corridor crosses San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) south to Cristianitos Road and six lanes (four GP and two HOV) south of Cristianitos Road.	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek (ultimate only).	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	2.6 km (1.6 mi) [1.3 km (0.8 mi) of corridor; 1.3 km (0.8 mi) of improvements to I-5].	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector (to and from the south only).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to/from Basilone Road.

Source: CDMG and P&D Consultants (2003).

TABE 2.3-1
NO ACTION ALTERNATIVES

MPAH (1) RTP and Other Circulation Assumptions	Land Use Element Assumptions	OCP-2000 Assumptions
NO ACTION ALTERNATIVE - OCP - 2000		
Build out of the MPAH and the RTP. On site circulation on the RMV property will be defined conceptually in the traffic analysis.	Build out of the General Plans, plus additional growth assumed in OCP-2000.	OCP-2000, including 35,888 additional dus in CAAs 59, 60 and 70. This Alternative assumes development of approximately 21,000 dus on the RMV.
NO ACTION ALTERNATIVE - RMV DEVELOPMENT PLAN		
Build out of the MPAH and the RTP. On site circulation on the RMV property, based on the on site circulation system defined by the RMV for the 14,000 du development plan.	Build out of the General Plans and the 14,000 dus proposed by the RMV Company for the RMV site.	OCP-2000 including 35,888 additional dus in CAA 59, 60 and 70, excluding the 21,000 dus on the RMV site. This Alternative would include the 14,000 dus proposed as part of the RMV development plan.

(1) Assumptions regarding build out of the MPAH or of committed MPAH improvements do not assume construction of the corridor.
Source: Phase II Collaborative (2002).

SECTION 3.0
SOURCES CONSULTED

SECTION 3.0
SOURCES CONSULTED

The records search was conducted at the South Central Coastal Information Center, California State University, Fullerton; the South Coastal Information Center, California State University, San Diego; and at the San Diego Museum of Man. Sources consulted include the National Register of Historic Places, the California Department of Parks and Recreation Office of Historic Preservation California Historical Landmarks, and Historic Property Data File for Orange County, USGS San Juan Capistrano and Santiago Peak 15' historical quadrangle maps, and site records and archaeological survey reports referenced on Information Center maps. Additional sources include previous research by the California Department of Parks and Recreation, the California Department of Transportation, and MCB Camp Pendleton.

The Study Area was defined as the area of disturbance within a distance of 0.8 to 0.4 kilometer (0.5 to 0.25 mile) from the centerline of a particular build alternative.

The following institutions, agencies, and persons were consulted for site records, information about cultural resources, and previous investigations, including previous Greenwood and Associates research for the Foothill Transportation Corridor, (1980 and 1997) a precursor to SOCTIIP:

Danielle Huey, archaeologist for the United States Navy, San Diego
Michael Sampson, archaeologist for State Parks and Recreation, San Diego
Gene Huey, archaeologist/Associate Cultural Resources, Caltrans District 12
George Casen, Associate Cultural Resources, Caltrans District 12, Environmental Planning
Gail McNulty, Native American Heritage Commission, Sacramento
Hans Kreutzburg, State Office of Historic Preservation, Sacramento
Lillian Robles, Juaneño Band of Mission Indians
Carol Serr, Mooney and Associates
Steven Conkling, LSA, Irvine
Philippe Lapin, , Caltrans District 12
Charles Baker, , Caltrans District 12
Smita Deshpande, Caltrans District 12
Glenn Gmoser, Caltrans Headquarters
John Sharp, Caltrans Headquarters
Enid Ericson, archaeologist, Marine Corps Base Camp Pendleton
Julie R. Hurley, archaeologist, Marine Corps Base Camp Pendleton
Stan Berryman, archaeologist, Marine Corps Base Camp Pendleton
Cara Corsetti, paleontologist, SWCA, Mission Viejo
John Cook, archaeologist, ASM
Glen Allen, Arvita (CA-ORA-907 - land owner)
Gary Jackson, Ranch Manager, Rancho Mission Viejo
David Pryor, biologist, CDPR
Wendy Schell, geologist, Leighton and Associates
USA Underground Service Alert

Stephanie Stoermer, Federal Highways Administration, Sacramento
Felicia Taylor, South Coast Information Center, UCLA
Roger Hatheway, Hatheway and Associates (CA-ORA-908)
Philip Hines, archaeologist for State Parks and Recreation
Brian F. Byrd, ASM

The following residents of San Clemente were interviewed between March and April 1996 for information on local history, cultural institutions and specific properties:

Evelyn Caldwell, manager, Mary Cilby Antiques
Sammie Muniz, resident, 708 Ave, De La Estrella

SECTION 4.0
BACKGROUND

SECTION 4.0
BACKGROUND

This section summarizes the physical setting, cultural history, and archaeological study of the general South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) area.

4.1 ENVIRONMENTAL SETTING

Geology

The SOCTIIP area is in the coastal foothills of the Santa Ana Mountains, an element of the Peninsular Ranges that extend from the Los Angeles Basin to the tip of Baja California. The geology of the immediate vicinity is dominated by marine sedimentary deposits of primarily well-consolidated sandstone, shale, and conglomerate of variable late Mesozoic to early Cenozoic age, with some recent alluvial deposits present in major drainages such as San Mateo, San Juan, and Cañada Gobernadora Creeks, and on the Plano Trabuco (Jennings 1977). To the east, and higher in the Santa Ana Mountains, volcanics, metavolcanics, and plutonic rocks of Mesozoic age rise to form the backbone of the Peninsular Ranges. The Cristianitos Fault, which passes north-south through Cristianitos Canyon, is a major geologic cleavage zone in the area that has produced numerous perennial seeps and springs. Camp Pendleton is located on the northern coast of San Diego County in an area characterized by a series of Pleistocene and Holocene marine terraces overlooking long stretches of open sandy beach.

Topography

The SOCTIIP build alternatives are in an area of mixed topography marked by relatively flat knoll tops and bench-like ridge lines sloping generally southward into the major drainages of Cañada Gobernadora and Chiquita, San Juan, Cristianitos, and San Mateo Creeks. Elevations in the SOCTIIP area range from just above mean sea level near the outlet of San Mateo Creek into the Pacific Ocean to about 308 m (1,000 ft) along some ridge lines. The terrain includes valley bottomlands and adjacent low hills, with some more deeply cut drainages and occasional sheer sandstone cliffs, primarily in the area of Trampas Canyon. The two major drainages in the SOCTIIP Study Area are San Mateo and San Juan Creeks, which are fed by lesser drainages including Cristianitos, Chiquita, Gobernadora and Segunda Deshecha Canyons.

In Camp Pendleton the topography is characterized by a rugged interior, reaching maximum elevations of 3,200 ft (970 m) within nine miles (15 km) of the coast. Three major streams drain the area, including San Mateo Creek, San Onofre Creek, and the Santa Margarita River (Rosenthal et al. 2000:1). The Pleistocene and Holocene marine terraces form a broad coastal plain along the southern portions of the base, while to the north the mountains rise steeply from the coast, forming a rather narrow corridor of flat terrain.

Soil development is generally thick and contains a high proportion of clay mixed with sand and some loam. There are few exposures of bedrock. Various lithic materials are available in most drainages in the form of stream-worn cobbles derived from the higher mountains to the east. They include andesite, diorite, rhyolite, porphyry, shale, tufa, quartzite, quartz, and sandstone. Other lithic resources, such as obsidian, jasper, and certain cherts, are not available in the immediate area.

Climate

The present climate is Mediterranean in type, and has remained somewhat stable for the last 3,000 years. With two typical seasons, consisting of wet, mild winters and warm, dry summers, rainfall averages 30 centimeters(12 inches) per year (Kahrl 1979). Rain falls almost entirely during the winter months (Reddy and Byrd 1997). Run-off is generally minimal, and intermittent even in the largest streams with most of the local streams running dry before reaching the coast, or end in a series of sloughs that lie adjacent to the sandy beach (Rosenthal et al. 2000:1). Therefore, seeps and springs represent important sources of water for both wildlife and humans. Prior to the present climatic regime, numerous regional and global fluctuations of the paleoclimates have been documented; these undoubtedly affected earlier human adaptation in this area. Rapid sea level rise during the early Holocene inundated the mouths of many drainages, creating protected estuaries conducive to high densities of both vertebrate and invertebrate species which would have provided greater quantities of food resources to the human inhabitatants. The same sea fluctuations also created extensive tracts of rocky intertidal habitats which were highly productive for human shellfish gathering (Rosenthal et al. 2000:5).

Vegetation

Dominant native vegetation communities in the project area are southern grassland, coastal sage scrub (CSS), and chaparral which is influenced by the low quantities of rainfall (Rosenthal et al. 2000:1). Narrow corridors of woodland, riparian, and perennial freshwater marsh habitats associated with vernal pools, seeps, and along the larger watercourses also exist to a lesser extent (Brandman 1996; Ornduff 1974). Changes in the native plant communities have resulted from the introduction of non-indigenous plants, grazing, wildfires, and agriculture, as well as the creation of lakes, reservoirs, basins, and other recent development.

Areas of native grassland, formerly dominated by bunch (*Poa* spp.) and needle (*Stipa* spp.) grasses have been generally replaced by introduced annual grasses such as wild oats (*Avena fatua*) and other species. Communities of coastal sage scrub (CSS) and chaparral are fairly restricted and tend to exist in undisturbed areas along the steeper slopes. The dominant species of the CSS community include coastal sagebrush (*Artemisia californica*), white and black sages (*Salvia* spp.), laurel sumac (*Rhus laurina*), sugarbush (*Rhus ovata*), several species of buckwheat (*Eriogonum* spp.), and prickly pear (*Opuntia* sp.), among others. Within the chaparral community are chamise (*Adenostoma fasciculatum*), California lilac (*Ceanothus* spp.), and yucca (*Yucca whipplei*), as well as various plants of the CSS group. Plants within the riparian community include harbor sycamore (*Platanus racemosa*), willow (*Salix* spp.), coast live oak (*Quercus agrifolia*), scrub oak (*Quercus dumosa*), and Fremont cottonwood (*Populus fremontii*), as well as stream-side and understory species adapted to well watered locations. Sedges (*Carex*

spp.), bullrushes (*Scirpus* spp.), and cattails (*Typha* spp.) are common in the freshwater marsh communities.

During the SOCTIIP investigation, the project Study Area was found heavily overgrown with vegetation, a factor that affected the results of the cultural resources survey. For the most part, well drained low-lying or gently sloped/flat areas open to grazing were blanketed with grasses, thistles, or mustard, while the upper elevations hosted mature stands of plant species generally associated with southern coastal scrub communities. Riparian species were generally confined to the narrow courses of creek beds and the floodplains of the major drainages (Holland and Keil 1989). Observed native plants varied with location and exposure and included California sagebrush (*Artemisia californica*), mule fat (*Baccharis salicifolia*), giant ryegrass (*Elymus condensatus*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Rhus laurina*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), elderberry (*Sambucus mexicana*), various oak trees (*Quercus* spp.), and prickly-pear cactus (*Opuntia* sp.).

Biology

Wildlife is fairly abundant, and includes terrestrial mammals, birds, reptiles, and insects that were exploited prehistorically. Some of the mammals that occur in the area include several species of mice and bats, desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), desert wood rat (*Neotoma lepida*), bobcat (*Felis rufus*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*) among others (Byrd 1998:4). The coastline and its associated habitats are at the southern end of the alignments of several of the SOCTIIP build alternatives, and offer access to a variety of marine mammals, fish, and shellfish. A wide range of marine resources, including *Donax gouldii* occur along the sandy beaches and offshore. In prehistoric times, the area would have also supported a wide range of estuary and marine resources (Reddy 1996: 22).

4.2 CULTURAL SETTING

The principal culture histories for the SOCTIIP Study Area are those initially developed by Wallace (1955) and Warren (1968) and then later refined by Bryd (1998) and Rosenthal et al. (2000). Wallace and Warren present generalized temporal schemes characterized by the presence or absence of artifact types and span the known prehistoric occupation of southern California. The units used by Wallace are "horizons," which are extensive in space but restricted in time. The units employed by Warren are "traditions," which are restricted in space but have a long time span. The difference between the two approaches is the span of time and the amount of space being utilized by the prehistoric populations of an area (Mason 1984:10-12). A more recent chronological synthesis for southern California has been developed by Koerper and Drover (1983). Wallace's (1955) horizon terminology utilizes radiocarbon dating techniques to order stylistic change observed in the artifact assemblages as temporal indications of cultural change. In Koerper and Drover's study, projectile point styles are used as the most common diagnostic artifact for temporal designations. Although Wallace lacked the advantage of absolute dating techniques in 1955, his chronology remains the most widely referenced in southern California and is summarized below.

4.2.1 EARLY MAN HORIZON

At present, no archaeological sites in Orange and San Diego counties have been confidently dated prior to 10,000 B.C. The earliest local traditions are described by Wallace (1955) as the Early Man Horizon, while Warren (1968) suggests a San Dieguito Tradition, both co-occurring with the Late Pleistocene/Early Holocene geologic periods, dating from about 10,000 to 6,000 B.C. These occupations would be contemporaneous, and share similar technologies, with the Big Game Hunters found farther east.

Early occupants of southern California are believed to have been nomadic, large-game hunters whose tool assemblage included percussion flaked scrapers and knives, large well made fluted or leaf-shaped projectile points, crescents, core tools, hammer stones, and choppers. The absence of milling tools commonly used for seed preparation suggests an orientation toward hunting, possibly of now extinct Pleistocene megafauna such as bison. The limited data available on this horizon suggest that the prehistoric populations moved about the region in small, highly mobile groups with a subsistence strategy based on hunting and foraging. Rosenthal et al. (2000) postulated that excavation data from Camp Pendleton show a clear emphasis on estuary resources, conforming to the traditional view that these habitats were the focus of early coastal occupation. Subsistence and artifact assemblages from these early sites reflect a generalized foraging strategy featuring the exploitation of the most abundant and productive resources (Ibid.:78).

4.2.2 MILLING STONE HORIZON

The Milling Stone Horizon (Wallace 1955) or Encinitas Tradition (Warren 1968), dating from around 6,000 B.C. to 1,000 B.C., characterizes the earliest period of increased human occupation in certain coastal and valley regions of southern California. This horizon is marked by the technological advancements of seed grinding and the beginning of the use of marine resources such as shellfish and marine mammals. Assemblages in the early Milling Stone Horizon reflect an emphasis on plant foods and foraging subsistence systems marked by the presence of hand (manos) and milling stones. The artifact assemblage is similar to that of the previous horizon and includes crude hammerstones, scraper planes, choppers, large drills, crescents, and large flake tools. Large leaf-shaped points and knives, discoidals, cogstones, and hard seed grinding implements (manos and portable milling stones) were added to the previous assemblage (True 1958; Warren et al. 1961). The primary difference between the coastal and inland sites appears to be related to subsistence. Coastal occupants relied more on marine and vegetal resources, hunting was generally less important, and projectile points are rare. The inland population relied primarily on the collection of hard seeds and the hunting of small mammals. Projectile points are more common.

The Milling Stone Horizon subsistence pattern is exemplified by an emphasis on seed gathering. While midden soils may be present, these sites are generally suggestive of seasonal camps. Based on the distribution of sites assigned to this horizon, aboriginal groups may have followed a modified, central-based wandering settlement pattern. In this semi-sedentary pattern, a base camp might be occupied during a portion of the year while satellite camps were utilized by small groups of people to exploit seasonally available resources such as grass seeds, berries, tubers,

and nuts. The degree to which a population remained stationary was based on the proximity, abundance, diversity, and security of exploitable resources.

4.2.3 INTERMEDIATE HORIZON

The Intermediate Horizon (Wallace 1955), or Campbell Tradition (Warren 1968), persisted in Orange County from approximately 1,000 B.C. to A. D. 750. It has been suggested that changes taking place between the previous era and this period were the result of an influxof desert Shoshonean people from the interior to the coastal regions. Others suggest that cultural transition from the Milling Stone Horizon to the Intermediate Horizon reflects progressive economic change (e.g., trade) rather than population replacement (King 1990; Koerper 1981; Moratto 1984:164). In general, settlement patterns remained similar to those of the preceding horizon, but the material culture became more elaborate, perhaps reflecting an increase in socio-political complexity and greater efficiency in subsistence strategies.

The subsistence base for the Intermediate Horizon broadened with the addition of the mortar and pestle, a technological advancement indicating the use of acorns, an important storable subsistence resource. Hunting presumably gained in importance with an abundance of broad leaf-shaped blades and heavy, often stemmed or notched, projectile points being found in association with large numbers of terrestrial and marine mammal bones. Other characteristics of this period include the appearance of bone and antler implements and more frequent use of asphaltum and steatite. The settlement-subsistence patterns and cultural development during this period are poorly understood due to the lack of data. It has been proposed that sedentism increased with the exploitation of storable food resources such as acorns. Concomitantly, the duration and intensity of occupation at the base camps may have increased, especially toward the latter part of the horizon.

Rosenthal et al. (2000) argues that data from the San Mateo drainage and other regional sites show a Middle Period intensification of marine resources, not unlike that witnessed in the Santa Barbara-Channel Island region. This adaptation, a short lived and poorly resolved in the northern San Diego County area, is important, as what they call a site unit intrusion (sensu Warren 1968) from the north and, perhaps a failed attempt to intensify the productivity of the local marine resource base (Rosenthal 2000:78).

4.2.4 LATE PREHISTORIC HORIZON

The Late Prehistoric Horizon (Wallace 1955) dating from approximately A.D. 750 to roughly the time of Spanish contact in approximately 1769, has been called the Shoshonean Tradition by Warren (1968) and related to Uto-Aztecan speaking Great Basin cultures to the east. Reliance on the bow and arrow for hunting (indicated by the use of smaller, finely-shaped projectile points), along with bedrock mortars and milling slicks, marks the beginning of this period.

Late Prehistoric sites are numerous, and diagnostic artifacts include small triangular projectile points, mortars, pestles, steatite containers, circular shell fishhooks, generous use of asphaltum, numerous and varied bone tools, bone and shell ornamentation, and elaborate mortuary customs.

Increased hunting efficiency (through the use of the bow and arrow) and widespread exploitation of acorns and holly-leaf cherry (indicated by the abundance of mortars and pestles) provided reliable and storable food resources, and in turn promoted greater sedentism.

Rosenthal et al. (2000:78) suggest that the Late Period settlement pattern is consistent with the original ideas of True (True et al. 1991). That is, San Luis Rey I appears to represent a forager-like adaptation, where residentual moves were timed to accommondate the changing seasonal productivity of different habitats. During San Luis Rey II times, in contrast, a more fomalized, circumscribed system appears to have developed. On the interior a bipolar residential pattern evolved, which featured seasonal moves between primary upland and lowland villages. On the coast, however, a fission-fusion type system may have developed, where people congregated in primary winter villages on the interior like *Pankey*, but dispersed to the coast and other productive habitats during different times of the year (Ibid: 78).

Related to an increase in resource utilization and sedentism are sites with deeper middens, suggesting central-based wandering or permanent habitation. Some of these may have been the villages *(rancherias)* noted by early European explorers (True 1966, 1970), and reflect accelerated cultural change brought about by increased efficiency in environmental adaptation and the diffusion of technology. Both were encouraged by the strong ethnic patterns developed among native populations in southern California by A.D. 1500. During the latter half of the Late Prehistoric Horizon, pottery, ceramic smoking pipes, cremation urns, and rock paintings appeared, and, after the arrival of the first European explorers in 1542, some European trade goods were added to the assemblage (Meighan 1954).

In what is a notable and healthy debate over settlement patterns of northern San Diego County, Byrd (1998) and Rosenthal et al. (2000) seek explanation of coas tal intensification and coastal decline among the prehistoric inhabitants. The former believes that the late prehistoric uptake of bean clam seems to represent an expansion of diet breadth and an overall intensification of subsistence in northern San Diego County (Byrd 1998). Rosenthal et al. argues that this "overall intensification" was limited to a comparatively brief interval between 2500 and 1500 BP, and that by the Late Period, subsistence activities were focused mainly on terrestrial resources. It is further argued that the bean clam was not a primary focus but the result of "settlement-subsistence reorganization that made the seasonal use of this resource attractive (Rosenthal et al. 2000:78). It is suggested that Byrd's objection to the Coastal Decline concept is based on the lack of supporting data as proposed by Warren and others, but also because it appears to run counter to a general pattern of f" ntensive utilization of littoral resources within hunter-gatherer subsistence regimes [corresponding to] worldwide diachronic trends in coastal adaptations (Byrd 1998:211). Rosenthal et al. (2000:78) believe that an understanding of local environment and prehistory will show that not all areas had such a focus due to differences in the nature of the coastal environment. While it is obvious that there is disagreement, these studies reflect a concerted effort to bring understanding to settlement-subsistence issues in northern San Diego and southern Orange County.

4.3 ETHNOGRAPHY

Because of their association with the Spanish missionary establishment of San Juan Capistrano, the Native American people historically described as occupying the SOCTIIP region have come to be known as Juaneño, just as the term Luiseno indicates groups associated with Mission San Luis Rey. These people, along with their neighbors to the north and south speaking similar languages, the Gabrieliño and the Luiseño, are collectively members of a larger linquistic affiliation known as the Shoshoneans.

The Shoshoneans form a broad band of peoples, speaking variants of Uto-Aztekan languages, that extends from the mountains of Idaho and Montana south into Panama (Kroeber 1970:575). Moving west from the Great Basin area into the Mojave Desert, and subsequently through the San Gabriel and San Bernardino Mountain passes onto the coastal plains, Uto-Aztecan peoples are believed to have been well established in southern California a minimum of 1,200 to 1,500 years ago, and may have arrived as early as 3,000 years ago (Bean and Smith 1978:540; Kroeber 1970:578; Moratto 1984:549). Resident coastal and inland populations were apparently displaced to the west and south with the Uto-Aztecans forming a "wedge" between linguistically similar, Hokan speaking, Chumashan and Yuman peoples.

Uto-Aztecan speakers are represented by a number of languages grouped into three primary branches: Takic, Tubatulabal, and Numic (Shipley 1978:88). The Juaneño are a Takic speaking people described by Kroeber (1970:636) as "wedged in between the Gabrieliño and the Luiseño" with their speech "a dialect of the latter language, not a transition of the two." Studies suggest the Juaneño and their eastern and southern neighbors, the Luiseño, are linguistically and culturally indistinguishable (Bean and Shipek 1978). Both groups share a language belonging to the Cupan group of the Takic subfamily, and are the latest prehistoric inhabitants of the region, preceded by other people(s) whose cultures are known only from the archaeological record. At the time of European contact, the Juaneño occupied an area that extended south from Aliso Creek to the vicinity of San Onofre and Las Pulgas, and inland from the sea to the Santa Ana Mountains (Kroeber 1970:636). The area offered numerous resources (maritime and inland resources, e.g., shellfish and acorns) to the aboriginal inhabitants and allowed for the development of complex social, political, and religious ties between communities.

The Juaneño lived in villages comprised of politically and economically autonomous patrilineal clans, who collectively owned specific territories that were actively protected against trespass. Settlement patterns have been described as consisting primarily of permanently inhabited village sites organized on the basis of clan groupings, augmented by outlying satellite camps that were occupied on a temporary, perhaps seasonal, basis. These temporary camps were employed by small (perhaps family) groups and were located in areas of increased, localized, resource availability (Bean and Shipek 1978:551-552).

Villages were typically located in valley bottoms along streams or near coastal strands, in protected, defensible locations. Each village was controlled by a chief, and his position, as well as those of other specialists, such as shamans, was hereditary. Specific tangible and intangible resources, e.g., oak groves, were owned by families or individuals. Most inland groups had established rights to fishing and gathering sites on the coast, while coastal groups moved inland

for brief periods of time during the fall to collect acorns and other resources. Most food was taken within a day's travel of the largely sedentary villages. The diverse environment afforded access to varied maritime and inland resources, offering not only food but raw materials necessary for tools, clothing, housing and ceremonial structures, items of personal adornment, and other goods. Predominant food sources for inhabitants of the inland valleys and foothills included acorns, sage, yucca, and deer. For the coastal people, shellfish and marine species common to the sandy beaches and offshore kelp beds were additional food sources (Bean and Shipek 1978:551-552).

The San Mateo Archaeological District, and CA-ORA-22 specifically, is located within the former lands that some researchers consider to be the cultural and linguistic territory of the Juaneño. O'Neal and Evans (1980:229) provided the following:

> Boscana (Harrington 1934:62) stated that the sixth rancheria of *Pagna,* signifying "canyada," had been called "San Mateo" since its discovery. Kroeber (1908:150, 1925:PI.57, 1959:287) equated *Pankhe* with San Mateo, placed "*Panhe*" on his map, and said that *Panga* meant "at the water," respectively. Chase (1977:2) reported that the greatest number of baptismal records at San Juan Capistrano Mission were from the village of "*Pange*" or "San Mateo, alias *Pange*," and tentatively identified it with CA-ORA-22.

The village of *Pange* (CA-ORA-22) was estimated to have had a population of 256 people in 1792-1793. *Pange* was considered a large village, and smaller than only a few of the largest Gabrielino villages. Notes by John P. Harrington strongly indicate that the San Mateo Archaeological District was the location of the village of *Panhe* (Hines and Rivers 1991:2). The Juaneño values as expressed by L. Muro and M. Patterson in the Caltrans *Request for Determination of Eligibility* prepared for the San Mateo Archaeological District are quoted as follows:

> The Juaneño representatives believe that the complex of sites involving CA-ORA-22 is the ethnographic village of *Panhe*. This belief stems primarily from their interpretation of historical and anthropological documents, bolstered by a fragmentary oral tradition. They ascribe the following cultural values to the site:
>
> 1. As the physical location of a village within the Juaneños' traditional tribal area, it is essential evidence of their culture and has significance distinct from any scientific value it may or may not (because of historical disturbance) have.
> 2. A burial was discovered during installation of utilities after the construction of I-5, and was preserved essentially in situ by Caltrans and the Juaneño. Juaneño traditions holds places of burial to be sacred, and their beliefs do not allow for the removal of human remains or any associated personal belongings from their original place of internment. They consider it inevitable that there are additional burials on the site, increasing its sanctity.
> 3. *Panhe* was the location of the first close contact between Juaneños and Europeans, when Spaniards of the Portolá expedition camped at a spring in the vicinity during July 1769. Prior contacts had been limited by the fact that the Spanish were traveling

at sea by ship. The contact event is memorialized from the white perspective as the occasion for the first baptism in Californi a.' The Juaneños view the baptism as 'merely the first indication of the culture clash' which was to follow in the years to ahead."

4. Earliest mission records document that our people from *Panhe* were among the first and most numerous of the Indians to be taken from their homes for the purpose of building the [San Juan Capistrano] mission compound and developing the ranches. The descendants of the Ju aneño people from the village of *Panhe* who were able to survive the trauma we have (experienced) can be numbered among us today. We are still here' [Romani 1981:10-11].

The San Mateo Archaeological District is understood as four sites that were found to have a contiguous cultural deposit. They are CA-ORA-22 (CA-SDI-13071/CA-SDI-11703), CA-SDI-4282, -4535, and -8435. This district was determin ed eligible by the Keeper of the National Register of Historic Places on December 31, 1981, under Criteria A and D. Since 1981, additional archaeological fieldwork has been conducted at sites within the District, the District has been subjected to a series of impacts, and new sites have been discovered and test excavated directly adjacent to the District (Byrd 1998:v). Excavations in the mid-1990s resulted in recommendations for expansion of the District to incorporate two newly documented sites (CA-SDI-13,324/H and CA-SDI-13,325) on the valley floor of San Mateo Creek and the newly documented southwestern extent of CA-ORA-22/SDI-13,071 (Bryd 1998:v).

Lacking evidence to the contrary, it is commonly assumed by scholars that European contact for the Juaneño began in 1542 with the voyage of Juan Rodriguez Cabrillo but that it had little cultural effect until 1775 when the Mission San Juan Capistrano was established. With the establishment of the mission system, the native peoples were slowly drawn into the economic sphere of the Spanish colonists, where the introduction of the mission system brought about dramatic changes in the aboriginal way of life.

Between the time of the establishment of the first missions in California (1769) and that of Mexican independence and the secularization of mission lands (1834), ancient life ways gradually disappeared. Villages were abandoned, hunting and gathering activities were disrupted as newly introduced agricultural practices altered the landscape, and large segments of the native population were decimated by European diseases. Father Geronimo Boscana wrote "*Chinigchinich,"* the 1933 classic on the Juaneño which ascribes their origin as a village in Gabrielino country (Johnson 1962:38). Some of the Padre's informants may have been Gabrielinos and modern researchers agree that the basic myths he recorded had their origin among that group, receiving a special impetus, if not the initial one, from the religious genius of the Gabrielinos whose homes were (Johnson 1962:39) to the north.

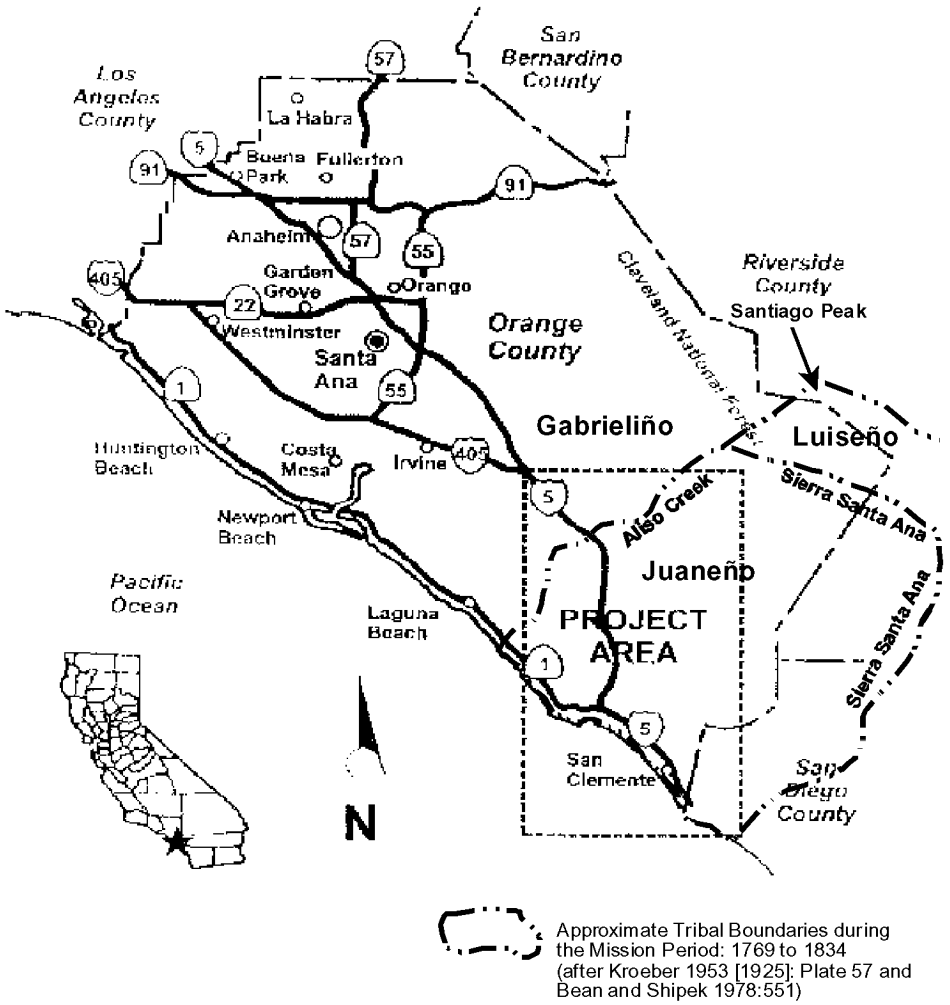
There were approximately 100 Native Americans at Mission San Juan Capistrano when it was secularized. In 1835 the Mexican administration reformulated the mission as an Indian pueblo and its lands were granted to the residents. Within two years, nearly half of the grants had been forfeited by their recipients. Predation by assorted carpetbaggers, thieves, and land grabbers, and political wrangling between religious and secular leaders further degraded the little pueblo. By the time the Americans took over California in 1846, there was little left in Indian hands. The

United States Land Commission declared the Mexican distribution of mission property illegal in 1855 and restored it to the Church (Engelhardt 1922:140-163).

The Indians, again dispossessed of their land, attempted to return to their old village locations or to the restored mission. Those attempting to return to old lifeways were expelled by property owners who considered them trespassers. At least 129 Indians associated with the mission died in the smallpox epidemic of 1862-1863 (Engelhardt 1922:205).

Various estimates of Native American populations from first contact to present time have been offered. Those applicable to the Orange County area have combined Luiseño and Juaneño on the assumption that there was no significant cultural difference between the peoples assigned to the respective missions. Raymond C. White believed the contact period (1542 to 1769) Luiseño population may have been as high as 10,000 (1963). A. L. Kroeber (1953 [1925]:883) suggested that the Luiseño population in 1770 was approximately 5,000, declining to approximately 500 by 1910. Mission records place Luiseño population at 3,683 in 1828 and various sources document a steady decline to a low of 784 in 1894, as the reservation system was being established. By 1960, there were 1,757 Luiseño known to the Bureau of Indian Affairs, of whom 564 were reservation residents (Bean and Shipek 1978:558). As of 1973, there were four Luiseño reservations and one combined Luiseño/Cupeño with a total of 562 residents and 1,292 members.

The differences between the Juaneño and Luiseño people are subtle and complex The names differ because they are derived from assignment to different missions, but there appear to have been geographically discrete cultural differences sufficient to justify separate tribal designations, as well. In 1993, the Juaneño Band of Mission Indians (Acjachemem Nation) was recognized as the "original native tribe of Orange County" and is actively pursuing federal recognition (Demcak and Van Wormer 2003:A-5). The coastal boundary of Luiseño territory extended from Aliso Creek to Agua Hedionda Creek and the inland boundary along the eastern side of the Elsinore Fault Valley to south of Palomar Mountain. The north end of this area, excluding lands east of the crest of the southern Sierra Santa Ana, was Juaneño territory, bounded by Aliso Creek the crest of the southern extension of the Sierra Santa Ana from Santiago Peak to approximately Wildomar, and a line from there to the coast approximately midway between the ends of San Onofre and Las Pulgas canyons (Bean and Shipek 1978:550-551; Figure 4.2-1).



Source: Greenwood and Associates (2003)

Native American Tribal Boundaries

SOCTIIP EIS/SEIR
Phase I Archaeological Inventory

Figure 4.2-1

4.4 HISTORICAL OVERVIEW

The history of the project area and surrounding environs was researched to determine general themes of land use and development which would provide a framework for identifying historic properties, establishing their relative significance, and applying the criteria for listing in the National Register of Historic Places.

4.4.1 SPANISH PERIOD

Juan Rodriguez Cabrillo, a Portuguese sailing under the flag of Spain, is acknowledged as the first European explorer of the Alta California, sailing the coast in the vicinity of Capistrano Bay in 1542. An island off the coast christened Victoria by Cabrillo, after one of his vessels, was renamed San Clemente 60 years later by the Spaniard Sebastian Vizcaino sailing the same waters. This was the name chosen for the City of San Clemente three centuries later.

To consolidate the Spanish claim to Alta California, an expedition led by Gaspar de Portolá was dispatched from Mexico City in 1769. Portolá's objective was to locate mission sites and to establish an overland route between the first Franciscan mission, founded by his party at San Diego, and Monterey Bay. On the eighth day of their march from San Diego, July 22, 1769, the outskirts of San Clemente were reached. In a native village near their encampment, Spanish scouts discovered two young girls, sick and close to death. Father Francisco Gomez accompanied by Father Juan Crespi baptized the children, performing the first such rites in Alta California. Soldiers with the group thereafter called the place Los Cristianitos, the name presently borne by the creek and canyon east of San Clemente. Proceeding northward, the party camped near the present site of San Juan Capistrano on July 24, 1769. As they went, Portolá's group blazed the trail for El Camino Real, "the king's road," later followed by San Clemente's main thoroughfare. As a result of their exploratory expedition, a string of 21 Franciscan missions, along with military presidios and civilian pueblos, was established over the next half century, stretching from Diego to Sonoma (Banks 1930:12-18; Hatheway 1991:4; Heuman 1996:3).

The seventh mission was initially founded in 1775 at San Juan Capistrano by Father Fermin Lasuen, but was quickly abandoned due to a native rebellion at Mission San Diego necessitating the father's immediate return. A year later Father Junipero Serra with Father Lasuen returned to reestablish Mission San Juan Capistrano. An unreliable water supply caused the mission site to be moved to its present location in 1778. The lands surrounding the mission, including the area now occupied by San Clemente, San Juan Capistrano, and the full extent of the present project Study Area came under the mission's stewardship and were used for agriculture, grazing, and other industry. Under mission rule, the Native Americans living in the area surrounding Mission San Juan Capistrano became known as the Juaneños, and were enculturated into the community of mission life. Charged with making the mission self-sustaining, the Franciscans, aided by the Juaneño, engaged in trade in hides and tallow (Banks 1930:22; Hatheway 1991:4).

4.4.2 MEXICAN PERIOD

Beginning in the late eighteenth century, the Spanish colonial government began the practice of granting cattle grazing rights on large parcels of land to soldiers who had participated in the exploration of California and others who had provided services. With Mexican independence in 1821 came accelerated debate between civic and religious authorities over the disposition of mission lands in Alta California. The mandate for secularization was issued in 1826, but not acted upon until 1833. The vast holdings of the missions, often the finest lands, were then opened for dispensation to private citizens. Grants were made to individuals willing to work to make the land productive, and were often used as incentive for settlement of underpopulated areas. The number of grants rose markedly in the mid-1840s as the Mexican government acted to place as much of their California lands into private ownership as possible prior to the imminent takeover by the United States. More than 600 private rancho grants had been made by 1846 (Hatheway 1991:4).

The current SOCTIIP project Study Area lies within the boundaries of several Mexican land grant ranchos. The southernmost portion of the Study Area lies within Rancho Margarita y Las Flores, the northern boundaries of which form the present limits of San Diego County. The bulk of the project Study Area falls within Rancho Mission Viejo, an inland rancho the southeast corner of which forms the boundaries of San Diego and Riverside counties. The western extent of the rancho forms the eastern limits of the City of San Juan Capistrano. It extends northward as far as the Oso Parkway/I-5 junction, and eastward to Cleveland National Forest. The former boundaries of Rancho Trabuco contain the northernmost portion of the SOCTIIP Study Area. It was enveloped on the south and east by Rancho Mission Viejo. Rancho Los Desechos included most of present day San Clemente, while the northern portion of the city was within the limits of Rancho Boca de Playa. The rancho lands were used for grazing of cattle, and later sheep, during Spanish, Mexican, and early American periods. Houses, gardens, and fields were largely confined to banks of drainages (Banks 1930:40-43; Hatheway 1991:5; Robinson 1962:2-18).

Rancho Mission Viejo was granted by Pio Pico on April 4, 1845 to Augustin Olvera. Olvera almost immediately sold it to John (Juan) Forster, who had already been using it for grazing. Forster was an Englishman and former ship's captain who married into the family of Mexican Governor Pio Pico. He also owned Mission San Juan Capistrano, which he bought at auction with a partner in 1845 for 710 dollars. He lived in the mission from 1845 until 1864, when he acquired Rancho Santa Margarita y Las Flores and took up residence there. Rancho Los Desechos, a coastal property later the site of San Clemente, was granted to Felipe Carillo in 1846. The 6,000-acre Rancho Boca de la Playa was granted by Governor Pico on May 7, 1846 to Emigdio Vejar. After several changes of ownership, it landed in the hands of John Forster's son, Marcos, in 1878. By 1887, the Forsters had gained control of the adjoining Rancho Los Desechos as well. Rancho Trabuco's "5 square leagues" were first granted by Gov. Juan Alvarado to Santiago Arguello in 1841. In 1843, Arguello sold his interest to Juan Forster, who received a grant to an additional three square leagues from Pico in 1846. By the 1880s the Forster family holdings in southern California totaled more than 80,940 hectares (200,000 acres) (Robinson 1962:2-18; Walker 1987:88-91).

Throughout the Spanish-Mexican period, San Juan Capistrano was the lone settlement for 80.5 kilometers (50 miles) around. It contained the only administrative offices and court of the Mexican government between Mission San Gabriel and San Diego. The few residences in between were located at old Santa Ana on the Santa Ana River near the community of Olive (City of Orange). In 1841, San Juan Capistrano was declared an official *pueblo*. The community flourished with increased American settlement, particularly during and after the 1849 Gold Rush brought huge demand for the surrounding ranchos' primary product, cattle.

4.4.3 THE AMERICAN PERIOD

In 1848, California was ceded to the United States, achieving statehood in 1850. American settlement of the western frontier was given impetus by the 1849 Gold Rush; many '49ers remained to populate the state. The momentum of settlement increased with the completion of the transcontinental railroad in 1869. Its extension into southern California in 1876 set the stage for a massive real estate boom, which resulted in the founding of hundreds of new towns. Through the 1886-1888 peak of development, the subsequent depression of the 1890s, and the first quarter of the twentieth century, however, the land of the present Study Area remained largely rural and undeveloped. It was traversed by the stagecoach route that followed El Camino Real, between San Diego and Los Angeles, and by the Santa Fe Railroad, which had connected San Juan Capistrano with the north in 1887, and with San Diego in 1888. Free weekend excursions on the new rail connection lured Angelenos to the area and brought sporadic development to the San Juan Capistrano area. The beach community of San Juan-By-The-Sea, later called Capistrano Beach, was developed in 1887, but was short lived. San Juan Hot Springs' healing waters enticed large numbers of visitors to make the 19.3-kilometer (12-mile) inland trek up San Juan Canyon and across the present SOCTIIP Study Area along the current route of Ortega Highway. The springs were a popular destination through the 1890s. Several other Orange County communities grew or developed during this era as a result of railroad related speculation, including Fullerton and Newport Beach. San Juan Capistrano saw increased tourist interest with the restoration of the mission in 1895 and construction of a new railroad station in 1896 (Hallan-Gibson 1986:141; Walker 1987:92-104).

The great droughts of the 1860s and 1870s decimated the region's cattle herds and instigated the transition to irrigated agriculture in Orange County, which came to lead the world in production of walnuts, oranges, and lima beans. By the turn of the century, bean fields extended along the coast from Newport to San Onofre in a nearly continuous band. Cattle grazing remained the primary use for the rugged inland hills of Rancho Mission Viejo and Rancho Trabuco in the project Study Area (Walker 1987:90-94).

The 1920s brought the region's second boom and renewed efforts in development of the Orange County coast. Coast Royale, near Dana Point, was opened in 1921. Preceding San Clemente by two years, the San Juan Point development of 1923-1924 was the first coastal community in the region to use a Spanish theme. The initial development of Dana Point commenced in 1927, only to fail two years later with the stock market crash and subsequent depression (Hallan-Gibson 1986:191; Walker 1987:102-105).

In 1920, ownership of a large portion of the Rancho Los Desechos, including all of future San Clemente, passed from the Forster family to a pair of Los Angeles distillers and wine makers, Max and Herman Goldschmidt. The enactment of prohibition ended the Goldschmidts' prosperity, and they were forced to relinquish title to a syndicate of 46 individuals and a trust company led by Los Angeles oilman and real estate developer H. H. Cotton. Onto this scene in 1925 came Ole Hanson (Banks 1930:44).

The conception, founding, and initial development of the City of San Clemente were overwhelmingly due to the vision and initiative of one man: Ole Hanson. The son of Norwegian immigrants, Hanson was born in 1874 in Racine, Wisconsin. Employed while still a teenager as a teacher and a retail clerk, he passed the Wisconsin bar at the age of 19. After a brief career in the manufacture of druggists' sundries and a near fatal train wreck, Hanson moved his young family west, eventually settling in Seattle. There, Hanson briefly operated a grocery store and began his career in what would become his life's passion: real estate. His interest in community building lead to involvement in local politics, and his election to the Washington State Legislature in 1908 was followed by a term as Seattle mayor in 1916. Hanson also found time to travel extensively in North America and Europe and published his impressions in a syndicated newspaper column.

Hanson lost much of the wealth accumulated in Washington real estate in the wartime slump and journeyed to Mexico to recoup his losses. Having gained and lost another fortune in a Mexican oil venture, he returned to California in time to join in the expanding real estate boom of the early 1920s. Hanson's first venture into southern California real estate was the Slauson Avenue Tract in Los Angeles. He next became involved in a Santa Barbara development. After it was devastated by a 1925 earthquake, planners took the opportunity to reinvent the community as a Spanish town. Here, Hanson refined his holistic city planning philosophy, becoming convinced of the benefits of a unified and controlled approach. In Santa Barbara, Hanson also met the young architect and planner, J. Wilmer Hershey, who would allow his city building ambitions to come to fruition.

Ole Hanson believed that the ideal community should offer an alternative to what he saw as the chaos, ugliness, and lack of amenities resulting from organic, unplanned, and under-regulated growth as typified by many tract developments sprouting across the Southland. In a letter to a friend he expressed his goals for the new seaside community he was determined to establish:

> I vision a place where people can live together more pleasantly than any other place in America. I am going to build a beautiful city on the ocean where the whole city will be a park; the architecture will be all of one type, and the homes will be located on sites where nearly everyone will have his wonderful view preserved forever. The whole picture is very clear before me. I can see hundreds of white-walled homes bonneted with red tile, with trees, shrubs, hedges of hibiscus, palms and geraniums lining the drives, and a profusion of flowers framing the patios and gardens. I can see gay sidewalks of red Spanish tile and streets curving picturesquely over the land. I want plazas, playgrounds, schools, clubs, swimming pools, a golf course, a fishing pier and a beach enlivened by people getting a healthy joy out of their life [Banks 1930:58]

Various accounts relate that Ole Hanson first recognized the possibilities of the San Mateo Point (future San Clemente) region while passing through the area in 1900. This may be true, but the fact that 25 years later the land was held by a syndicate led by friend and former business associate H.H. Cotton, may have been a consideration as well. On November 8, 1925, the *Los Angeles Examiner* announced Hanson's purchase of an 809.4-hectare (2,000-acre) tract 9.7 kilometers (sixmiles) south of San Juan Ca pistrano where he would found a new city to be known as "San Clemente, the Spanish Village." With its broad beaches and coastal hills, it fulfilled Hanson's requirements for beauty. With the assistance of Prof. Leonard S. Smith, Chairman of the University of Wisconsin City Planning Department, the layout of the community was developed. Engineer Horace N. Taylor surveyed the tract and set out the streets to Hanson's specifications –24.4 meters (80 feet) wide and following the contours of the land rather than the traditional grid -- an unheard of waste of acreage in a new development. Ground was broken by the street grading crew, under the supervision of contractor Oscar F. Easley, on November 25, 1925 (Banks 1930:44; Heuman 1995:6; Walker 1987:111).

The tent-style mass marketing approach employed for San Clemente, featuring Hanson's sincere, nuts-and-bolts sales pitch, proved highly successful; more than 1,000 people appeared on the rainy first day of sales in December 1925. Totals for the day exceeded $25,000, with lot prices starting at $00. In less than a year the entire 149.7-hectare (370-acre) first unit, Tract 779, had been sold out, and a second unit was opened for sales. By the beginning of 1929, combined sales had reached $,500,000. Eighteen tracts in all had been platted over 1335.5 hectares (3,300 acres) and the new community's populat ion approached 1,000 (Banks 1930:54-56).

The sales success of Hanson's organization was all the more remarkable considering a clause included in each sales agreement requiring all plans to be submitted to an Architectural Board for approval, and that the exterior of all buildings, regardless of use, adhere to these guidelines:

> Any house, building or structure to be erected or placed upon any said residence or building lots in said tract shall be of Spanish type and the roofs of any such buildings or structures shall be covered with hand-made tile, and that there shall be no building, house, or structure erected on this tract of more than four stories in height, exclusive of towers [Banks 1930:62].

Every new building was reviewed, and a certificate with instructions to post in a prominent place was issued upon the Committee's approval.

Santa Barbara architect J. Wilmer Hershey was engaged to design San Clemente's public buildings, and to provide guidance on the massing of the buildings and the architecture of the individual residences. Hanson set a standard for developers by personally financing nearly all civic construction, including the municipal pier, beach club, water works, hospital, and school, all integral to Hanson's comprehensive view of San Clemente. Gravely ill from the outset, Hershey formed a partnership with two other Santa Barbara architects, Richard Sears and W.E. Hill, who together designed the first buildings constructed, an administration building at the northwest corner of Del Mar and El Camino Real, the Community Clubhouse, and the schoolhouse. Virgil Westbrook, an architect who had also worked in Santa Barbara, was brought

in to assist after Hershey's death, and ultimately became early San Clemente's most prolific architect, designing numerous private homes, and public buildings. He was also responsible for many of the commercial buildings in the city's growing business district focused along El Camino Real and Avenida Del Mar. Among his credits is the Moorish influenced, National Register listed Oscar Easley Block of 1929 which contained Hanson's offices and the Chamber of Commerce (Banks 1930: 59-61; Heuman 1995:7).

Construction activity remained brisk into 1929. Roughly 500 buildings had been erected, but the community was still by no means densely developed. Gaps remained in the city's fabric, with numerous unimproved lots separating isolated pockets of housing in some areas. The stock market crash of October 1929 drastically slowed the momentum of growth, although eight new subdivisions were recorded between 1929 and 1931. As the Depression deepened, construction in San Clemente came to a standstill (Heuman 1995:7).

The Great Depression had a devastating impact on San Clemente. Much of the city's population was out of work and bank foreclosures on property were widespread. Construction and construction related enterprises had been the bulwark of the local economy, and with the near halt in building, the industry was in a state of collapse. Many found themselves compelled to leave and the population dropped to 250. Ole Hanson himself, his fortunes bound to the fate of San Clemente, was forced to part with his estate; and moved from the City in 1932.

A large portion of the City was now under the control of the Bank of America (formerly Hellman Bank) due to foreclosures and quitclaims. Believing that Hanson's building restrictions had hindered development and anxious to revive stagnated growth, the Bank petitioned the City to rescind all limitations on construction. The principles which had guided the first phase of San Clemente's development were abandoned in 1937 (Walker 1987:114).

By the late 1930s, war loomed on the horizon, and southern California experienced an upturn in construction activity as the country prepared for a possible war. The establishment of the 50,992.2-hectare (126,000-acre) Camp Pendleton Marine base immediately south and east of San Clemente during the early days of World War II spurred a modest resurgence of the community's economic fortunes. The Camp provided a steady flow of customers for San Clemente's businesses and beach attractions, pumping much needed income into the local economy. By the end of the war, San Clemente was showing new signs of life, setting the stage for its participation in southern California's post-war construction boom (Heuman 1995:10; Walker 1987:114-116).

The story of San Clemente's turn-around in the years following World War II is nothing short of spectacular. After recording no new subdivisions from the end of 1931 until 1946, San Clemente was reported to be the third fastest growing community in the country by 1954. Its population jumped 121 percent, climbing from 2,009 to 4,435 between 1950 and 1952, and has continued to climb steadily. By 1978 the population had reached 30,000 and is now approaching 45,000 residents. Demographically, San Clemente has evolved from a semi-retirement community to a younger bedroom community, its ideal climate and unsurpassed surfing beaches remaining major draws (Heuman 1995: 11). Unit development and tracts of single-family homes have now filled the lots left vacant after the "Spanish Village" era subdivisions. Multi-family residences have

also been very popular since the 1950s. A consequence of the post-war growth of San Clemente has been the accelerated loss of the early Spanish style architecture that embodied Ole Hanson's vision for the city. This has occurred both through building turnover and infrastructural improvements. Interstate 5 was completed in the early 1970s, replacing El Camino Real/Route 101 as the primary thoroughfare and making the community more accessible, but also bisecting the City and eliminating areas of residential development. In spite of the modern evolution of San Clemente, much evidence of the Spanish Village remains.

The former Cotton estate at San Mateo Point was purchased in 1969 by President Richard M. Nixon. He rechristened the property "La Casa Pacifica," and there established his "Western White House." Nixon's presence brought international attention and distinguished visitors to San Clemente during his presidency.

Development in the SOCTIIP Study Area outside the City of San Clemente since the 1920s had been minimal until recently. Portions of the former Rancho Santa Margarita y las Flores in the south (San Diego County) portion of the project Study Area on both sides of Interstate 5 have been established as San Onofre State Beach, and several modern park related structures and a campground (built in 1990) fall within the project limits. A portion of MCB Camp Pendleton adjacent to the interstate is also inside the project limits, including several Base services and commercial structures along Basilone Road erected in the late 1980s. The northern section of the SOCTIIP Study Area is encompassed by Rancho Mission Viejo Company and has experienced light development around areas where the alignments cross Ortega Highway. Nursery and concrete manufacturing facilities, in addition to minor ranch related development, all established within the last 30 years, exist in these areas (Broming 1996, personal communication). Areas inland from established coastal population centers have been developing at increasing rates in the last decade. The I-5 Alternative includes San Juan Capistrano, Laguna Hills and other communities.

Rancho Mission Viejo remained in the hands of the Forster family until 1882, when it was purchased by James Flood and Harold Blumgartner. Blumgartner was soon replaced in the partnership by Richard O'Neill, whose descendants controlled all of the Rancho by the early years of the century and still retain a substantial interest. Cattle ranching has been the mainstay of Rancho Mission Viejo from its inception to the present day. Dry farming has been an element of the Rancho's activities in the project Study Area since the 1890s, with barley currently the primary crop. Sand and gravel operations in the San Juan Creek basin began roughly 60 years ago, and also remain an aspect of Rancho operations. Experiments in grape cultivation in Cañada Gobernadora began in the 1970s and were terminated in the mid-1980s. Cut crops were also cultivated in the San Juan Creek bottom beginning early in the century and continuing until around 1980, when the practice was halted for reasons of wetlands protection (Broming 1996, personal communication).

4.5 THEORETICAL OVERVIEW

In the last two decades, numerous archaeological investigations have emphasized the need to define the settlement and subsistence systems that operated among Native American populations in southern California, prior to the advent of the missions in 1769. The study of settlement

systems involves an examination of site function, and the relationship of site function to environmental variables and other identified sites within a given region. Examination of site function relative to subsistence practices (food collection, processing, and consumption) allows for the study of a combined settlement/subsistence system. For hunter-gatherer societies, like those prehistorically inhabiting southern California, the study of settlement/subsistence systems requires reconstruction of the seasonal round of food procurement activities. The goal of these studies is to determine what types of resources were exploited by what size group, from which sites, and at what time of year (Mason 1984:13).

During the Intermediate and Late Prehistoric Horizons, the native populations of southern California increased their knowledge of the natural resources available in various habitats, and with that knowledge developed new technologies and began exploiting more varied environments and sources of subsistence. Although other factors were undoubtedly involved, shifts in the exploitation of resources resulted in changes to the cultural system. One model currently accepted by many researchers is based on the increased sedentism of prehistoric populations. For example, Hudson (1969, 1971) suggests that the settlement system of the Late Prehistoric, in what is presently Orange and Los Angeles Counties, was quite similar to the prototype "Central Based Wandering" model. In this model, the pattern of village and seasonal camp locations depended on the number and nature of individual ecological systems present (or, environmental niches) within a given territory. Hudson (1971) predicted that villages were more likely to be located near the coast, and more specialized camps and smaller villages located inland. To date, however, Hudson's model has not been adequately tested or proven through the archaeological record.

In 1976, Rice and Cottrell proposed a settlement model for the area around Newport Bay based on the earlier work of Hafner et al. (1971). They postulated that the pattern reflected during the Late Prehistoric represented "dispersed sedentism." Late Prehistoric sites tended to be smaller than those of the Milling Stone Horizon and located in areas of multiple environmental resources where a greater resource base was available. In particular, sites tend to be located near estuaries or along the foothills. The model goes further to suggest that interactions between differing communities increased (possibly in the form of trade), and that exchange led to greater resources accessibility. The difference between Hudson's (1971) model and that proposed by Rice and Cottrell (1976) lies in the degree of sedentism expressed. In Hudson's construct, native populations resided in temporary camps for at least a portion of the year; in the model proposed by Rice and Cottrell, they did not.

In regard to trade, Koerper (1981:219-220) postulates distribution of food, goods and other products at intra-rancheria, inter-rancheria, regional, and intertribal levels. Rancheria is a colonial Spanish term that translates as "rural encampment." It designates a small cluster of probably temporary dwellings and is not to be confused with the more populous, structured and durable kinds of settlements described as villages or pueblos (Dillon and Bork 1989:157). At the rancheria level, hunters and fishermen would not eat the animals they procured, but would distribute them to others, thus insuring that less productive persons would have food. The moiety system, which organized the tribe into two basic social units based on kinship, was probably linked to ritual reciprocity, which regulated food distributions. Rancherias within a region might trade food and other items. Trade involving food and raw materials between inland

and coastal regions and the coast, and at least one of the Channel Islands, is well documented. Intertribal trade in various goods, including foods, is similarly documented.

An examination of previous studies of Camp Pendleton sites attempted to evaluate the relative merits of Coastal Decline and Coastal Intensification settlement pattern models for the region (Rosenthal et al. 2000:54-78). The Coastal Decline model argues that late Middle period siltation of the estuarine environments in the area reduced available estuarine resources and caused a shift to exploitation of inland food sources such as acorns and terrestrial fauna. The Coastal Intensification model posits increasing reliance on the riverine bean clam (*Donax* sp.), enabling intensified Late period use of the coastal environment comparable to other areas along the California coast. Neither model provided adequate explanation of the differences in materials recovered from Early, Middle, and Late period sites on the Base. Early and Late Period sites indicated reliance on terrestrial and estuarine subsistence resources, but Middle period sites yielded evidence of a short-lived but vigorous exploitation of marine resources, probably obtained through maritime adapted technologies such as sturdy watercraft and circular shell fish hooks. Rosenthal et al. also evaluated differences between inland and coastal Late period sites. They found evidence for increasing reliance on terrestrial resources, partial sedentism in the form of permanent settlements occupied for substantial periods of subsistence availability, and exploitation of seasonal resources in the form of temporary camps. Utilization of coastal resources appears to have been opportunistic and not a central feature of Late period subsistence strategy.

The artifacts, sites, structures, features, and refuse deposits associated with the early explorers, the Mission, and the Spanish/Mexican ranchos contribute to understanding cultural and economic interactions between the Euro American and Native American populations, early trade networks, and the environmental impacts of changing land use patterns. This period of contact has received very little attention in the past, when archaeological sites were arbitrarily labeled either prehistoric or historical. American Period artifacts, sites, structures, features, and refuse deposits associated with the Gold Rush, farming, residential development, railroads, and military and industrial activities, enhance understanding of more recent social, economic, and environmental history of the region. Structures may exemplify the evolution of regional architecture or be associated with historically significant persons, events, or industrial development.

SECTION 5.0
FIELD METHODS

SECTION 5.0
FIELD METHODS

5.1 INTRODUCTION

Project field work began on April 16, 2000 and continued through May 8, 2001. It consisted of a pedestrian survey of undeveloped landforms in underdeveloped and vacant areas within 0.40 to 0.80 kilometers (0.25 to 0.5 miles) of the centerlines of the build alternatives and a cursory examination of recorded site locations in developed areas and along arterial corridors. In undeveloped areas where new corridors are proposed, survey reference points were identified using detailed aerial photographs.

5.2 METHODS

The survey Study Area was determined on the basis of potential construction disturbances defined for the alignments of the build alternatives. These corridors vary in width according to engineering requirements with expansion or contraction of the impact area occurring at intervals as deemed necessary. The alignments of the staked corridor alternatives were examined individually, generally from north to south, by walking a series of evenly spaced parallel transects. Transects were spaced 10 to 15 meters (32.8 - 49.2 feet) apart and oriented to cross the landform most easily and effectively.

An attempt was made to revisit and confirm the location of all previously recorded archaeological sites within the Study Area for the SOCTIIP alternatives. This was accomplished with the assistance of a hand-held ground positioning system (GPS) receiver, using Universal Transverse Mercator (UTM) coordinates provided by the original recorders, and confirmed with the help of resource base maps generated as part of the records search. The field teams utilized 1:200 scale aerial photographs to locate centerlines, boundaries of disturbance, and site locations. Since individual bushes and trees were evident on the aerials, there was a high degree of confidence in determining position and location.

Vegetation in the SOCTIIP Study Area was extremely dense, often precluding direct examination of the ground surface and impeding passage on foot. Stands of mustard (*Brassica nigra*) and wild artichoke (*Cynara cardunculus*) in excess of 1.8 meters (six feet) tall and waist-high grasses were not uncommon. The efforts to relocate previously recorded sites were further hindered by the fact that many of the sites had been surface collected, leaving no visible evidence, and some were described in reports as destroyed. For these reasons, beyond attempting to affirm the presence or absence of cultural materials at any given location, no attempt was made to justify or establish boundaries at previously recorded site locations.

5.3 FIELD SURVEY PERSONNEL

James J. Schmidt, Field Director. BA, Anthropology, University of California, Santa Barbara. Sixteen years experience in California archaeology.

Andrew Kinkella, Field Co-Director. MA, Anthropology, California State University, Northridge. Ph.D. candidate at University of California, Riverside. Eight years experience in archaeology: California, Belize, Germany, Mexico, and Arizona.

H. Cory Cooper, Field Technician. MA, Anthropology, University of Arkansas, Fayetteville. Eight years experience in archaeology: Alaska, Arkansas, and California.

Adrian Lopez, Field Technician. BA, Anthropology, California State University, Fullerton. Two years experience in archaeology: Belize and California.

Edward McIntyre, Field Technician. Certificate in Archaeology, University of California, Los Angeles. Two years experience in California archaeology.

Mary Hillis Shockley, Field Technician. Graduate student, Anthropology, California State University, Fullerton. One year experience in California archaeology.

Susan Graling, Field Technician. Graduate student, Anthropology, California State University, Fullerton. One year experience in California archaeology.

SECTION 6.0
FINDINGS AND CONCLUSIONS

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FINDINGS AND CONCLUSIONS

The SOCTIIP study efforts resulted in the identification of a number of archaeological sites within the 0.4 to 0.8 km (0.25 to 0.5 mile) area along the alignments of the build alternatives. Eighty two of these are in the projected area of disturbance. One is listed on the NRHP: the San Mateo Archaeological National Register District, comprised of sites CA- CA-ORA-22, CA-SDI-4282, CA-SDI-4535, CA-SDI-8435, CA-SDI-11703, CA-SDI-11929 and CA-SDI-13071. CA-ORA-1271H is a two component site. The prehistoric component is at least partially destroyed. The historical component, the Forester Mansion, is listed on the NRHP and may retain associated historical archaeological deposits. For this report, the prehistoric/historical components of the site and condition will be counted in the tabulations. Of the remaining sites that have been evaluated for NRHP eligibility: 11 were found potentially eligible for nomination to the NRHP and 30 were found not eligible. The NRHP status of the rest of the sites is either not determined or not known. Nine of the sites have been confirmed destroyed and 26 have been described as partially destroyed or mechanically disturbed. Of the 82 sites in the disturbance area, the survey confidently relocated 20 of the previously recorded sites that had been left undisturbed or uncollected by previous researchers.

More than 160 archaeological sites lying outside the limits of disturbance are part of the study area [0.4 to 0.8 km (0.25 to 0.5 mile)] and were reviewed to determine if they would be directly impacted as a result of the project.

The survey located no new archaeological sites but did identify four isolated artifacts. The isolated artifacts were, in order of their recording: (1) a rhyolitic multi-directional core measuring 7 x 5.5 x 3 cm (2.8 x 2.2 x 1.2 in) overall; (2) a lateral fragment of a granitic shallow basin milling stone measuring 10 x 15 cm (3.9 x 5.9 in) overall, and 2.5 to 5 cm (1.0 to 2.0 in) in thickness; (3) a unifacial mano made on a granitic cobble measuring 10 x 7 x 5 cm (3.9 x 2.8 x 2.0 in) in greatest outside dimension; and (4) a large piece of chipped stone debitage measuring 3.5 x 2 x 0.75 cm (1.4 x 0.8 x 0.3 in) of a fine-grained igneous material, produced by hard hammer reduction techniques. Formal records of these occurrences are included in Appendix B. While of little interpretive value individually, taken together the isolated artifacts provide further evidence of the widespread nature of aboriginal habitation in the SOCTIIP area.

The archaeological sites include places used for habitation, procurement, and processing as represented by formal tool types and waste materials. These range in size and complexity from isolated surface artifacts to historically described village sites with well developed midden deposits, and associated human burials. The archaeological sites are described below, according to their sequential number. Table 6.1 summarizes data for the archaeological resources potentially impacted by the proposed initial and ultimate SOCTIIP Alternatives. Table 6.2 lists the resources and the Alternatives with which they are associated. Table 6.3 lists the project Alternatives and the resources potentially impacted by each. Site location maps are in Appendix A. Site descriptions are based on an exhaustive review of site records and available inventory reports, testing and evaluation documents, and data recovery information. The nature of the

information is not consistent and reflects the year compiled as well as the level of training, orientation of the recorders, and theoretical background of the principals. Every attempt has been made to present the information as accurately as possible. The San Mateo Archaeological District is listed as a single unit, followed by sites in Orange and San Diego Counties.

6.1 THE SAN MATEO ARCHAEOLOGICAL NATIONAL REGISTER DISTRICT

The San Mateo Archaeological National Register District contains several sites within its boundaries: CA-ORA-22, CA-SDI-4282, CA-SDI-4535, CA-SDI-8435, CA-SDI-11703, CA-SDI-11929 and CA-SDI-13071. Of these, all but CA-SDI-8435 are within the disturbance limits of the FEC-Initial Alternative. The District was briefly revisited as part of the current SOCTIIP investigation.

Described as the location of the ethnohistorically documented Juaneño village of *Panhe,* the complex of sites is a series of contiguous occupations along adjacent landforms overlooking San Mateo Creek to the north and west (Byrd 1998; Romani 1980; Romani and Romani 1997; Strudwick and Gallegos 1994). The District was nominated to the NRHP in 1981 (Romani 1981), and has been the subject of much subsequent discussion regarding the original extent of the occupation, the juxtaposition of discrete deposits in the general area, and the extent and nature of disturbance suffered through either removal or redeposition of cultural deposits across the recorded site boundaries. Details regarding the history of past investigations within and adjacent to the District have been summarized in Byrd (1998:41-67) and Romani and Romani (1997:21-31).

CA-ORA-22

Under the auspices of the Works Progress Administration (WPA), the Orange County Anthropological Society (OCAS) located and briefly described more than 75 Indian sites in the spring of 1935. John Romero may have located CA-ORA-22 during this project. Ashby and Winterbourne published a list of Orange County burial types in 1939, based on the OCAS project. Their site # 16, which contained two possible flexed burials, was located in the proximity of CA-ORA-22, near the coast by the Orange/San Diego County line. R. J. Briggs completed a U.C. Berkeley Site Survey Record for CA-ORA-22 in 1949, based on Romero's 1935 work (Hines and Rivers 1991:21). The only information included was a brief description of location. The site extended from Orange County, southeast to San Mateo Creek in San Diego County, to the creek's outlet where it formed a lake (Briggs 1949).

The site has subsequently sustained numerous impacts. Much of the Orange County portion was destroyed by a housing project, and construction of the Interstate-5 affected areas in both Orange and San Diego counties. Further damage resulted from the construction of a Conservation Corps Camp on the lower portion of the marine terrace, west of and above San Mateo Creek, north of the highway in San Diego County (Hines and Rivers 1991:21; Romani and White 1980:8). There was apparently no recorded damage, however, from the construction of the San Mateo Campground at San Onofre State Beach. Since the original recording, multiple delineations of the boundaries have been presented.

CA-SDI-4282

CA-SDI-4282, recorded by J. W. Foster on October 10, 1975, was described as a long, narrow site, located on a broad terrace west of and above San Mateo Creek. The site extended from a high knoll, south along the terrace to CA-ORA-22. It measured 1600 ft (480 m) south-southwest-north-northeast x 200 ft (60 m) northwest-southeast. Described as a large lithic scatter, it contained numerous percussion-flaked chert scrapers, cores, small utilized flakes, chopper-cores, debitage, manos, shell (*Haliotis* sp.), and one Tizon Brown Ware sherd. Foster (1975) suggested that the site was intermittently used from the San Dieguito Period, based on the patination on some of the chopping tools, to the Late Period, based on the ceramic fragment.

CA-SDI-4535

CA-SDI-4535 was recorded on April 19, 1971, by P. H. Ezell. The site, west of and adjacent to CA-SDI-4282, is situated on an upper and lower terrace, above San Mateo Creek. It measures approximately 300 m north-south x 30 m east-west. Ezell believed the upper terrace contained older, surface materials, possibly of the San Diegito or La Jollan time periods, whereas the lower terrace was occupied at a later time, based on the presence of a ceramic fragment. Subsurface depth was estimated at 12-15 inches (30-43 cm). Although a surface collection was conducted, the materials were not described.

CA-SDI-8435

J. Romani recorded CA-SDI-8435 in October 1980. The site was described as a buried shell midden deposit 40 m long. Situated on a low river terrace on the west bank of San Mateo Creek, it is northeast of the three aforementioned sites. Felsite and andesite flakes, flaked tools, cores and core scrapers were observed in the bank cut from southeast of the buried midden to CA-SDI-4282 and CA-ORA-22. The midden consisted of two distinct cultural lenses, buried beneath 80 cm of alluvial overburden. The upper deposit, which primarily contained *Protothaca* sp., was approximately 95 cm thick. A 160 x 60 cm earth oven was also exposed in the upper stratum, below 30 cm of alluvium. The lower stratum was separated from the upper component by 15-20 cm of sterile sand. The lower lens, a distinct dark gray deposit, contained a greater density of shellfish that included *Protothaca* sp., *Mytilus* sp., *Chione* sp., and *Tegula* sp; no artifacts or bone were observed. Approximately 200 m north, a light shell deposit and a felsite core were recorded in the bank cut. A single felsite flake was located on the surface of the terrace, above CA-SDI-8435 (Romani 1980, 1981:5-7; Romani and White 1980:16-18).

CA-SDI-11,703

During a cultural resource inventory of three proposed navy housing properties, Cook and Serr (1990a, 1990b) identified a small lithic scatter, CA-SDI-11703, south-southwest of I-5. This was a previously unsurveyed area, partially disturbed by the construction of a U.S. Coast Guard Station, which was later used by the Secret Service to protect former President Nixon's "Western White House" estate. Cook and Serr (1990b) recommended a test excavation to determine eligibility to the National Register of Historic Places. U.S. Navy Representative Lowell Martin recognized that the San Mateo Archaeological District was located across I-5, immediately to the

north. Gallegos & Associates conducted a boundary test for CA-ORA-22 (CA-SDI-13071/CA-SDI-11703) within the San Mateo Point Area of Potential Effect (APE) in 1994 (Strudwick and Gallegos 1994:IV). The work included a survey of the 42 acre APE and the excavation of 44 shovel test pits (STPs) and 10 1 x 1 m units. Although cultural resources were found throughout the APE, only three localized areas contained intact subsurface deposits. They are located along the east-central side, the southern area near the bluff, and in the northeast. The cultural materials were identified as Late Prehistoric, and considered to be part of the complex of sites associated with the village of *Panhe* (Strudwick and Gallegos 1994:V, 3-27).

CA-SDI-11,929

This designation was given by the South Coast Information Center to a remnant of ORA-22 on an updated site form for ORA-22 prepared in 1986 by Hines. This portion of ORA-22 covers 15,575 m2 near the corner of Christianitos Road and El Camino Real. The area includes a remnant shell midden, a fragment of a slick on a boulder, a burial location, and re-internment location (Hines and Rivers 1991:21-23). This site number is redundant with ORA-22 (Byrd 1998:73).

CA-SDI-13,071

This designation was also given by the South Coast Information Center to a remnant of ORA-22 using the same updated site form prepared in 1986 by Hines. As with SDI-11,929, this portion of ORA-22 covers 15,575 m2 near the corner of Cristianitos Road and El Camino Real. The area includes a remnant shell midden, a fragement of a slick on a boulder, a burial location and re-internment location (Hines and Rivers 1991:21-23). Presumably, this ORA-22 update form was submitted twice to the Information Center, once in 1986 and later around in 1992. Subsequently, this site number (along with SDI-11,703) were listed as additional designations for ORA-22 during Strudwick and Gallegos (1994) testing west of Interstate-5 (Byrd 1998: 73).

District

The investigation of the northwestern portion of the district by GandA (Romani and Romani 1997) focused on the reevaluation of sites along the CP alignment (now the FEC-Initial Alternative alignment) of the Foothill Transportation Corridor. These same site areas (CA-ORA-22, CA-SDI-4282, and CA-SDI-4535) are along the FEC Alternative. Field efforts focused on Phase II reevaluation occurred in May 1996, with intensive mapping and surface scrapes, STPs, and excavation units across three arbitrarily divided topographic areas (Romani and Romani 1997:50-51). The results of the field investigation suggested wide-spread disturbance within the northwestern portion of the District, where only some 16 percent of the area was found to retain a degree of spatial and vertical integrity, and prompted agreement with an earlier recommendation by Caltrans to deaccession sites CA-SDI-4282 and CA-SDI-4535 and include them within the boundaries of CA-ORA-22. Citing limited data potential and integrity, the northwestern portion of the District in the area tested seemed to lack the characteristics that had originally qualified it for listing on the NRHP under Criterion D, although possibly still qualifying for inclusion on the basis of its consideration as a traditional cultural property under Criterion A (Romani and Romani 1997:109-110). In a follow-up reevaluation of the District,

Byrd (1998:92) believed the complex "should be maintained" and that "the upper component and lower component remain contributing properties." Byrd acknowledges that "impacts to the archaeological material in the upper component of the District have been extensive and continuous over the last half of the century" (1998:83), but concluded that the existing NRHP boundaries should be maintained (1998:92).

6.2 ORANGE COUNTY SITES

CA-ORA-26

CA-ORA-26, a purported village site of unknown dimension, was originally recorded in 1949 and the site record was updated in 1977 by Schuster. His description suggested a widespread knoll top occupation, spanning Ortega Highway on the south side of San Juan Creek, that has for the most part been destroyed by agricultural development and road construction (Romani 1986:4; Toren 1997:10).

The site was revisited in 1980 by ARMC and found much as earlier described. Considerable disturbance was noted (attributable to earthmoving), as was the presence of a wide scatter of associated artifacts and two previously unrecorded nearby activity areas. Artifacts observed in the vicinity of the main site area (now termed Locus A) included manos, milling stone fragments, hammerstones, cores, and flake tools. The newly encountered locations (Locus B and Locus C) were described as 150 m (492.1 ft) east of, and 500 m (1,640.4 ft) south of Locus A, respectively. The first was represented by a mano, two hammerstones, and several flakes, and the second as a possible quarry marked by cores and flakes of a white quartz material apparent in associated bedrock outcrops (ARMC 1980:12-15).

Romani revisited CA-ORA-26 in 1986 during an archaeological survey for the proposed widening of Ortega Highway and found perceived intact deposits associated with Locus A on both sides of the highway, and Locus B destroyed by grading. Ground stone tools and fragments, cores, core tools, flakes and flake tools were observed in disturbed contexts along the south side of the highway, and milling stone fragments, mano fragments, flakes, and a core were found lining a fence on the north side. The greatest concentration of artifacts was along the western site boundary where large piles of surface soils had been pushed by grading. Conceding that CA-ORA-26 had suffered extensive mechanical disturbance, compromising the integrity of the represented deposit, the potential for a subsurface component was expressed, and recommendation made for additional study prior to construction (Romani 1986:1,4-5,12, 15-16).

Locus A was tested by Caltrans later in 1986 and found to be largely destroyed (Romani and Wlodarski 1986; Toren 1997:10). The locus was ultimately found ineligible for inclusion on the NRHP because of its lack of integrity (Caltrans 1987b:Attachment A).

Including the current effort, the recorded area of CA-ORA-26 has been visited by survey crews five times (Brown 1989a; Demcak 1994b, 2000a; Romani 1986; Van Bueren et al. 1988) since the Caltrans investigations and has been tested twice (Demcak and Velachovsky 1996; Toren 1997). In all these cases, a paucity of surface artifacts and widespread mechanical disturbance

were noted. The lack of integrity and data potential were confirmed, as was the earlier assessment of ineligibility for nomination to the NRHP.

CA-ORA-362

Some 50 to 100 m (164.0 to 328.1 ft) south of the boundaries of CA-ORA-363, CA-ORA-362 was recorded by Riddell in 1972. The site was described as a limited use area, with no apparent depth, marked by one core and a scatter of flakes within a 30 x 15 m (100 x 50 ft) area.

Subsequent investigation of the site area included surveys by ARMC of the Talega Parcel in 1980 (Cooley and Cottrell 1980); in 1986 for the Cristianitos Segment of the Foothill Transportation Corridor (Demcak et al. 1984); by Hatheway and McKenna as part of the archaeological assessment of the Talega Valley Properties (Mckenna et al. 1988); by RMW during pipe and transmission line investigations (Bissell 1988; Brown 1992 and 1989a); and by GandA (Toren 1997).

ARMC personnel found the recorded location and encountered a number of flakes along a graded road but were unable, due to dense vegetative cover, to establish the full horizontal extent of the surface deposit (Cooley and Cottrell 1980:18; Demcak et al. 1986:11). Hatheway and McKenna (1988a) relocated the site and updated the record on the basis of a more substantial surface scatter of artifacts than noted by previous researchers. One mano, two milling stones, seven core tools, and 22 pieces of debitage were identified at this time, the site boundaries were expanded to 173 x 77 m (567.6 x 252.6 ft), and archaeological testing was recommended (Hatheway and McKenna 1988a; McKenna et al. 1988:37, 65). Archaeologists from RMW also encountered CA-ORA-362 and while making no mention of the number or nature of artifacts encountered, made recommendations for further treatment should impact become unavoidable (Bissell 1988:20-21; Brown 1989a:19, 24, 1992:36).

Extended Phase I investigation of CA-ORA-362 was conducted by GandA in 1996. Included were surface collection, mapping, and the excavation of 10 STPs. With most of the area obscured by vegetation, the surface collection recovered only 14 artifacts (seven cores and seven flakes), all from a graded road crossing the site. Given the density of the vegetation, it was elected to concentrate the STP excavations along the northern boundary of the site, within the Area of Potential Effect (APE) of the proposed Foothill Transportation Corridor, to determine whether associated deposits extended into the construction easement (Toren 1997:28). STP excavations revealed that the site deposits did not extend into the proposed disturbance limits for project corridor, and no further attempt to establish site boundaries was attempted. It was suggested that either the site was smaller in physical extent, or located farther south, than recorded by Hatheway and McKenna (Hatheway and McKenna 1988a; McKenna et al. 1988:37; Toren 1997:28). Citing the fact that cultural materials did not extend into the corridor disturbance limits, and that no effect was expected as a result of construction activities, further testing was deemed not warranted. Phase II evaluation of CA-ORA-362 was, however, recommended should project design changes or future projects threaten impact beyond the area tested (Toren 1997:52).

CA-ORA-363

Set along the west bank of Cristianitos Creek, near the end of Avenida Pico, CA-ORA-363 was originally recorded by Riddell (1972b) as an area of limited and special use. Two cores (scraper planes) and a core hammer were collected at that time from a site area estimated at 45.7 m (150 ft) in diameter.

Later visits to the site included an unsuccessful attempt by WESTEC Services in 1978 to relocate the property (Cooley and Cottrell 1980:19; Demcak et al. 1986:12); ARMC surveys in 1980 of the Talega Parcel (Cooley and Cottrell 1980) and 1986 for the Cristianitos Segment of the Foothill Transportation Corridor (Demcak et al. 1984); Hatheway and McKenna as part of the archaeological assessment of the Talega Valley Properties (McKenna et al. 1988); RMW as part of a series of pipe and transmission line investigations (Bissell 1988; Brown 1992 and 1989a); and by GandA (Romani and Slawson 1997; Toren 1997; Toren and Greenwood 1997).

When visited by ARMC in 1980, some 30 percent of the site was recorded as destroyed by a borrow area. Cultural materials were at that time encountered in a recently graded area and along an established dirt road crossing the site. These included items of chipped and ground stone within an area measuring 50 x 75 m (164.0 x 246.1 ft). Depth of the deposit was estimated at approximately 30 cm (11.8 in) based on strata exposed in the bank of Cristianitos Creek (Cooley and Cottrell 1980:19; Cooley and Grove 1980; Demcak et al. 1986:12; Toren 1997).

When the site record was updated by Hatheway and McKenna in 1988(b), CA-ORA-363 was described as a relatively dense scatter of chipped stone artifacts that included cores, scraper planes, flake tools, debitage, a hammerstone, and thermally altered rock. The site boundaries were expanded to 190 x 140 m (623.4 x 459.3 ft), and recommendations made for archaeological testing (McKenna et al. 1988:37, 65).

Investigation of the site by RMW generally confirmed the findings of previous investigators. Noting the effect of past construction events on the site, they suggested the possibility of intact deposits, albeit of low potential significance, and recommended surface collection and test excavation prior to considering project related impacts (Bissell 1988:27, 31; Brown 1989a:19, 24, 1992:23, 37).

Extended Phase I investigations at CA-ORA-363 were conducted by GandA in 1996, followed by Phase II assessment in 1997. The Extended Phase I efforts entailed the surface collection of artifacts and excavation of 10 STPs intended to refine the site boundaries. Evidence of wide spread mechanical disturbance, including fill episodes, was found, but the presence of intact subsurface deposits was confirmed. Based on the Extended Phase I study, the site boundaries were established as 160 m (524.9 ft) N-S x 80 m (262.5 ft) E-W, generally bound on the east by Cristianitos Creek, and the depth of the deposit as attaining a maximum of 60 cm (23.6 in) below surface (Toren 1997:31-34).

Prompted by these findings, Phase II investigations were instigated. These included a second surface collection following recent regrading of dirt roads through the site, two additional STPs, and four 1 x 1 m (3.3 x 3.3 ft) excavation units. Together the two phases of investigation

conducted at CA-ORA-363 accounted for the recovery of 34 chipped stone tools (12 cores, eight utilized flakes, four scrapers, three core scrapers, two core hammers, two hammerstones, and one flake scraper), 323 pieces of chipped stone debitage, six fragments of faunal bone weighing 2.78 g (0.1 oz), and one fragment of marine shell (Toren and Greenwood 1997:11-18).

Based on all the data, CA-ORA-363 was interpreted as representative of a temporary use site with no explicit evidence of occupation, function, or age, possibly focused toward limited plant processing or lithic reduction activities. Noting that the data potential of the site was extremely limited, lacking in datable material and temporally diagnostic artifacts, and that further excavation would likely provide redundant information, the investigators suggested that CA-ORA-363 did not appear eligible for inclusion on the NRHP under Criterion D (Romani and Slawson 1997:32-33; Toren and Greenwood 1997:30).

CA-ORA-504

CA-ORA-504 was a surface scatter of chipped and ground stone artifacts recorded in 1974. No shell was present. The site area was approximately 61 m (200 ft) square and estimated to extend to approximately 60 cm (2 ft) below surface. It was located on a knoll on the southeast side of Deshecha Cañada Creek 91.4 m (300 ft) northwest of Avenida Pico at 1.13 km (0.7 m) northeast of the San Diego Freeway on the Reeves Ranch (Cameron and Tadlock 1974). CA-ORA-504 appears to have been built over.

CA-ORA-599

CA-ORA-599 was recorded by Jertberg (1976) as a 310 m (1,000 ft) long shell midden in evidence along both sides of the Marquita storm channel in a residential area south and west of I-5. No mention of other cultural constituents or depth of deposit was provided at that time, and no record of further examination was encountered during the SOCTIIP research at the Information Center in 2001. CA-ORA-599 appears to have been destroyed.

CA-ORA-638

CA-ORA-638 was recorded as a 40 x 50 m (131 x 164 ft) midden site with chipped and ground stone artifacts and *Mytilus* shell (Langenwalter 1977). It was located on the first and second terraces north of Segunda Deshecha Creek, near the intersection of Antonio Parkway/Avenida La Pata and Avenida Pico, west of CA-ORA-639. The site record includes a notation that CA-ORA-638 may have been destroyed, but this should be verified by a field check.

CA-ORA-639

CA-ORA-639 was recorded in 1977 as part of a resource assessment for a proposed regional park in the Segunda Deshecha Cañada (Langenwalter 1977; Langenwalter and Langenwalter 1979) and appears to have been destroyed or obscured by subsequent development. It was described as a heavy surface scatter of chipped and ground stone artifacts associated with an apparently well developed midden deposit on the east bank of the Cañada (Langenwalter 1977:8).

CA-ORA-639 underwent archaeological testing in 1979 during cultural resource investigations at Visbeek Ranch (Stickel et al. 1979) and in 1984 (Cameron 1987), and salvage excavations in 1985 (Cameron 1987). The site was then described as a significant resource suggestive of either a major activity center (Stickel et al. 1979:3-3) or a large habitation site marked by two distinct loci (Cameron 1987:188). The 1985 excavations were eventually considered as mitigative in nature and construction of the Plaza Pacifica Project was completed with an RMW archaeological monitor in attendance (Brown 1996). The monitoring report suggests that during construction, some 24.6 m (80+ ft) of fill soils were placed in the vicinity of CA-ORA-639.

CA-ORA-640

CA-ORA-640 was subjected to archaeological testing in 1980 as part of a NRHP assessment program conducted for SCE and San Diego Gas & Electric (McCoy and Phillips 1980), and again in 1985 as part of archaeological investigations on Rancho San Clemente (Cameron 1987). The site was judged ineligible for inclusion on the NRHP (McCoy and Phillips 1980:339) and the area was developed in commercial uses. No record of any further study or monitoring program for this site was found at the Information Center in 2001.

CA-ORA-640 and CA-ORA-639, and CA-ORA-638, were recorded in 1977 as part of a resource assessment for a proposed regional park in the Segunda Deshecha Cañada (Langenwalter 1977; Langenwalter and Langenwalter 1979) and appear to have been destroyed or obscured by subsequent development. CA-ORA-640 was originally described as a light scatter of artifacts (bifacial manos, basalt flakes, and a chopper) on a low slope in a fork of the creek in the Segunda Deshecha, and CA-ORA-639 as a heavy surface scatter of chipped and ground stone artifacts associated with an apparently well developed midden deposit on the east bank of the Cañada (Langenwalter 1977:8).

CA-ORA-656

CA-ORA-656 was recorded in 1973 as a deep (4 feet), extensive (200 by 800 feet) site immediately south of Ortega Highway and west of an Owens-Illinois sand operation. Site constituents included abundant midden shell, and chipped and groundstone artifacts. The site had been deeply plowed and the south margin had been impacted by a road cut (Peak 1973). It is immediately west of CA-ORA-1111.

The National Register status of CA-ORA-656 is unknown.

CA-ORA-700

CA-ORA-700 was recorded in 1977 during a transmission line study conducted by Cultural Systems Research, Inc. (CSRI), and described as a milling station with an associated flake scatter occupying a 100 m (3228.1 ft) diameter area on a flat bench overlooking Prima Deshecha Creek. Observed artifacts included milling stone fragments, a fragmented discoidal, flake tools, and flakes in sufficient quantity to suggest some depth to the deposit (>10 cm; >3.9 in) and recommendation of test and mitigation efforts (CSRI 1979:[9]17; Schuster and Jacobs 1977).

In 1980, WESTEC Services, Inc. conducted a NRHP assessment program for Southern California Edison Company (SCE) that included surface collection of artifacts, one test unit, and a mechanical trench at CA-ORA-700. Seven surface artifacts (six flakes and a mano) and 19 artifacts (15 flakes, three flake tools, and one mano) from subsurface contexts were recovered. The excavations suggested a depth of 50 cm (19.7 in) for the deposit in a reduced site area of 43 x 15 m (141.1 x 49.2 ft). Noting evidence of extensive mechanical disturbance in the form of a dirt access road across the site area and repeated agricultural discing, and the paucity of artifacts recovered, CA-ORA-700 was assessed as ineligible for inclusion on the NRHP (McCoy and Phillips 1980:237-242, 339).

In addition to the current SOCTIIP effort, three archaeological surveys have occurred in the vicinity of CA-ORA-700 since the WESTEC test. These have had no success relocating the resource and appear to corroborate interpretation of the site as lacking in data potential (Brown 1989a:18-19; Whitney-Desautels 1993:15; Whitney-Desautels and Sundberg 1992:6). Despite these findings, Brown (1989a:19, 24) recommended additional test excavations should further impact threaten the area.

CA-ORA-779

CA-ORA-779 was recorded by CSRI in 1979 as two porphyritic flakes in an access road along a narrow ridge south of CA-ORA-780 and west of CA-ORA-907/908 (Allen 1979a). The site area was revisited in 1980 during the ARMC survey of the Talega Parcel, and the site description and represented artifacts confirmed (Cooley and Cottrell 1980:21). Subsequent survey efforts, including the current SOCTIIP investigation, found no evidence of cultural material at this location (Brown 1989a; Van Bueren et al. 1988).

Extended Phase I investigation of the site in 1996 by GandA included an intensive survey of the area, surface collection of artifacts thus identified, and excavation of six STPs. One flake was recovered from the surface and one andesite core from the first 10 cm (3.9 in) of soil excavated at STP 5. With the low density of artifacts recovered and the general lack of a subsurface component, the site was considered of limited data potential, and assessed as apparently ineligible for inclusion on the NRHP (Toren 1997:i, 10-11, 21-22, 51).

CA-ORA-781 AND CA-ORA-780

Sites CA-ORA-781 and CA-ORA-780, now considered as isolated artifacts, were recorded in 1979 by CSRI during a transmission line survey conducted for SCE (Toren 1997:51-52). They were originally described as an isolated porphyritic core (CA-ORA-781) found on a knoll top overlooking the Prima Deshecha Cañada, and a single mortar fragment (CA-ORA-780) found in a ravine (Allen 1979b and c). The site areas have been revisited as part of a series of surveys through the area that had little success relocating the cultural material (Brown 1989a; Cooley and Cottrell 1980; Van Bueren et al. 1988; Whitney-Desautels 1993; Whitney-Desautels and Sundberg 1992), and were the subject of Extended Phase I investigation conducted in 1996 by GandA (Toren 1997).

As the UTM coordinates provided by the original record are unclear, Toren relocated the site areas on the basis of verbal description, site location map depictions, and field observation, although no surface artifacts were observed at either location. At CA-ORA-781, six STPs were excavated to 60 cm (23.6 in), and auger tests conducted to 130 cm (426.5 in). At CA-ORA-780, seven STPs to 60 cm (196.9 in), with auger tests to 135 cm (53.1 in), were placed. No subsurface artifacts were recovered. Citing a lack of data potential, no additional investigation was deemed warranted and the sites were assessed as ineligible for inclusion on the NRHP (Toren 1997:i, 23-28, 51-52).

CA-ORA-837 AND CA-ORA-838

These sites were originally described by Wallace in 1958 and recorded by Wallace and McKinney (1979a, b). Set along the western side of I-5, the sites were represented by surface scatters of lithic debitage and tools and were reportedly excavated in 1958 (Bissell 1991; Cottrell et al. 1986). In 1991, Huey found no evidence of any archaeological deposit at these locations and suggested the sites had been destroyed by grading associated with construction of I-5 and use as a storage area for imported fill materials (Huey 1991:5).

CA-ORA-882

CA-ORA-882 was recorded in 1980 during the archaeological assessment of the Horno Parcel and described as a flake scatter of indeterminate extent and depth on the north bank of San Juan Creek (ARMC 1980:21; Cooley 1980). In 1985, the site was reexamined, shellfish remains were found in association with the lithic scatter, and test excavations implemented as part of the Chiquita Canyon Water Reclamation Project (Demcak et al. 1986:16; Van Bueren et al. 1988:41).

The test and salvage (mitigation) investigations conducted by ARMC included surface collection of artifacts and excavation of five test units. Three units were used to test areas outside the proposed corridor of the project access road and pipeline, and two were placed in the construction easement (Demcak 1987:25). Excavations encountered five stone features interpreted as hearths and recovered cultural materials (lithics, shell, and bone) to approximately 200 cm (656.2 in). Radiocarbon samples suggested a Late Horizon (ca. A.D. 1500) occupation, an interpretation that was supported by recovered projectile point types. Described as a small camp site measuring 25 x 50 m (82.0 x 164.0 ft), of low artifact and ecofact density representative of a "non-intensive" though long term occupation, construction through the sampled site area was allowed with an accompanying archaeological monitor. Monitoring at the site found no additional cultural materials (Demcak 1987:25-33).

In 1988 (Van Bueren et al. 1988:41), 1992 (Brown 1992:32-33), and during the SOCTIIP investigation, no cultural materials were observed at the recorded location of CA-ORA-882. In 2000, however, ARMC found a single chalcedony flake at the site (Demcak 2000a:11). Demcak considers the property eligible for inclusion on the NRHP based on Criterion D and recommended additional data recovery in the event of future development (Demcak 2000a:11, 37).

CA-ORA-895, CA-ORA-893, CA-ORA-886, CA-ORA-881, and CA-ORA-902 were recorded by ARMC in 1980, and the sixth (CA-ORA-1335) by RMW in 1992. All have been mechanically disturbed or destroyed by construction of Antonio Parkway and associated landscaping.

Varying in density and extent, the sites were originally described as surface scatters of chipped and ground stone artifacts generally occupying elevated positions overlooking the major drainages of the area (Brown and Shined 1992; Cooley 1980a, b, c; Cooley and Clevenger 1980; Cooley and Sullivan 1980; Demcak 1997). All the sites have been subjected to archaeological testing (Allen and Demcak 2000; Demcak and Velechovsky 1996) and two (CA-ORA-893 and CA-ORA-1335) were found to represent significant archaeological deposits and subjected to salvage/mitigative excavation (Demcak and Velechovsky 1997). Archaeological monitoring was subsequently recommended for all of the properties. No report of the findings of the monitoring program was available at the Information Center at the time of the records search (February 14, 2001).

CA-ORA-903

CA-ORA-903 was recorded as a temporary campsite with sparse chipped and ground stone artifacts. It was located between Avenida Pico and Segunda Deshecha Creek on a knoll southeast of the Creek and across Avenida Pico from a high school parking lot. Test excavations by SRS in 1979 defined CA-ORA-903 as 90 x 40 m (295 x 131 ft), extending to 20 cm (7.9 in) below ground surface (Malone 1979).

The site record includes a notation that CA-ORA-903 has been destroyed.

CA-ORA-907/908

Sites CA-ORA-907 and CA-ORA-908 are described here as a combined property because of the number of investigations conducted in the area (Table 6.2), the expansion of the site boundary of CA-ORA-908 northward to meet that of CA-ORA-907 (McKenna et al. 1988:40), and the depiction of the two as a continuous occupation area on Information Center maps. Both sites are on creek-side terraces in Segunda Deshecha Cañada and were originally recorded as part of the Talega Parcel archaeological assessment conducted by ARMC (Cooley and Cottrell 1980). CA-ORA-907 was at that time described as a large, substantially undisturbed village site represented by two distinct loci, and CA-ORA-908 as a small chipped stone scatter of six artifacts (Grove et al. 1980a and b). Of the two, CA-ORA-907 has received the greater attention.

CA-ORA-907

CA-ORA-907 is set on a low-lying terrace, at the confluence of two drainages, and consists of two loci, one on either side of the canyon. Locus A (the main site area) was originally viewed as an area measuring 500 m (1,640.4 ft) E-W x 150 m (492.1 ft) N-S, and Locus B, 75 m (246.1 ft) N-S x 50 m (164.0 ft) E-W. An estimated depth of 20 to 30 cm (7.9 to 11.8 in) was suggested on the basis of mechanical and erosional exposures. Cultural materials observed included a clay smoking pipe, a pestle fragment, pieces of unidentified ground stone, fire-altered rock, and flakes

of quartz, felsite, basalt, chert, and obsidian. Historical disturbance at Locus A has included construction of two concrete water troughs in its center, and a graded dirt road across its center from east to west. At Locus B, an abandoned concrete foundation and water trough were noted (Cooley and Cottrell 1980:22-23).

The site was visited during archaeological surveys twice in 1988, once by Hatheway and McKenna for the Talega Valley Properties (McKenna et al. 1988:39-40), and once by GandA for the Foothill Transportation Corridor (Van Bueren et al. 1988:41-42). Both filed site record updates (Hatheway and McKenna 1988c; Van Bueren 1988a).

Beyond the cultural materials noted by ARMC at Locus A (Cooley and Cottrell 1988:22-23), Hatheway and McKenna found an extensive scatter of stone artifacts and shellfish remains, with surface densities suggestive of concentration in the southwestern portion of the site. Artifacts observed included a variety of chipped stone tools and debitage, milling stone fragments, a mortar, two manos, fire-altered rocks, and four shell beads. The dimensions of Locus A were at that time estimated at 475 m (1,558.4 ft) E-W x 122 m (400.3 ft) N-S, and the depth of the deposit suggested as exceeding 60 cm (23.6 in) on the basis of artifacts observed eroding from the creek bank (Hatheway and McKenna 1988c; McKenna et al. 1988:39-40).

At CA-ORA-907 Locus B, Hatheway and McKenna found evidence of a much more substantial deposit than previously observed (Cooley and Cottrell 1980:23; Grove et al. 1980a). In an area now estimated as measuring 200 m (656.2 ft) N-S x 70 m (229.7 ft) E-W, they encountered random concentrations of artifacts that included two milling stones, a mano fragment, chipped stone tools, and debitage (Hatheway and McKenna 1988c; McKenna et al. 1988:39-40).

An extensive scatter of ground and chipped stone artifacts covering 600 x 160 m (1,968.5 x 524.9 ft) and some marine shell were noted in 1988 during the GandA survey at CA-ORA-907. Concentrated on the northern stream terrace (Locus A), the surface deposit appeared dominated by chipped stone debitage in densities ranging from 5 to 15 flakes per square meter (1.2 square yard). Formal tool types included various ground stone implements, flake tools, biface fragments, cores, and three small triangular projectile points identified as San Luis Rey style and indicative of late prehistoric occupation. Noting that the site exhibited the highest density and greatest diversity of cultural materials encountered during the survey, the data classes represented were suggested as suitable to addressing a broad spectrum of research issues and further study was recommended (Van Bueren 1988a; Van Bueren et al. 1988:41-42).

A Phase II investigation of CA-ORA-907 was conducted by BMA in 1989 prior to development of the Talega Valley Project (Gross et al. 1988; Shackley et al. 1989). During a boundary examination pursuant to that study, a third locus was identified 120 m (393.7 ft) south of, and across the drainage from, Locus B. Consisting of a 15 x 25 m (49.2 x 82.0 ft) flake scatter, it was designated as Locus C and surface collected. Nine surface artifacts (eight flakes and a crude unifacial tool) were recovered from Locus C and a 1 x 1 m (3.3 x 3.3 ft) excavation unit was placed in the perceived center of the deposit. The unit was excavated to 30 cm (11.8 in) below surface and recovered cultural materials (flakes and fire-altered rock) from the first two levels. Soils were riddled with rodent disturbance, and the subsurface artifacts were all recovered from

burrow fill soils. Citing a lack of, or negligible, subsurface deposit at Locus C, Gross et al. (1988:30, 105) assessed the locus as ineligible for inclusion on the NRHP.

Subsequent Phase II investigation at Loci A and B included surface collection, mapping, and excavation. At Locus A, 21 1 x 1 m (3.3 x 3.3 ft) and nine 1 x 2 m (3.3 x 6.6 ft) units were excavated within a site area now defined as 415 m (1,361.5 ft) NE-SW x 115 m (377.3 ft) NW-SE. Cultural materials in some quantity were recovered to a depth of 110 cm (43.3 in) below surface. At Locus B, six 1 x 1 m (3.3 x 3.3 ft) units were placed in an area measuring 190 m (623.4 ft) N-S x 70 m (229.7 ft) E-W, with artifacts recovered to 70 cm (27.6 in) (Romani et al. 1997:38; Shackley et al. 1989:27, 43).

Time sensitive artifacts, obsidian hydration analysis, and a radiocarbon sample were cited to suggest a late prehistoric, post ca. A.D. 1450, occupation at Locus A. Function of Locus A as a long-term base camp or village site was suggested on the basis of the wide range of tools recovered and their use in a broad base of applications. Noting the comparative prevalence of ground stone items, the authors interpreted Locus B as a specialized activity area related to plant processing efforts and possibly indicative of gender-based spatial organization (Romani et al. 1997:38; Shackley et al. 1989:43, 65, 200-201).

Both loci were found to have the potential to yield additional important archaeological data, and were considered as potentially eligible for inclusion on the NRHP (Shackley et al. 1989:201). Mitigation recommendations, including data recovery and capping, were made but no report of such activities is on file at the Information Center, and no determination of eligibility for inclusion on the NRHP appears to have been made (Romani et al. 1997:38).

At the time of the SOCTIIP investigation, both loci appeared to have been affected to some degree by previous and ongoing construction efforts. Due to the density of the vegetation in the area, efforts to establish the degree of impact suffered by the surface area were not successful. However on the basis of visual inspection of the landform, from adjacent ridge lines, it would appear that much of the northeastern extent of Locus A, and most if not all of Locus B, has been destroyed or covered by previous and ongoing construction.

CA-ORA-908

Originally recorded at the base of a knoll on the east side of Segunda Deshecha Cañada, CA-ORA-908 was described as a small scatter of chipped stone artifacts in an area approximately 75 m (246.0 ft) in diameter. Cultural materials (a hammerstone, cores, flake tools, and flakes) were observed only in disturbed contexts along road cuts, gullies, and the creek bank, a factor that was taken to suggest a deposit less than 20 cm (7.9 in) in depth (Cooley and Cottrell 1980:23; Grove et al. 1980).

In 1988, Hatheway and McKenna revisited the site and updated the record. Finding evidence of a much more substantial surface deposit of artifacts, they expanded the site boundaries some 350 m (1,148.3 ft) to the north to meet the southern border of CA-ORA-907 Locus B. Observations included 23 flaked lithic artifacts (tools and flakes), two manos, and four pieces of fire-altered rock found in a road cut and along a series of mechanically disced transects. Although in

arguably lesser density, citing the similarity of form and material represented to that observed at CA-ORA-907 Locus B, testing was recommended should impact become imminent (Hatheway and McKenna 1988d; McKenna et al. 1988:40, 65).

During the GandA reexamination of the site in 1988, only one large flake was observed on the surface at CA-ORA-908, possibly because of the heavy vegetative cover. It was postulated at that time that some relation might exist between CA-ORA-908 and outlying elements of CA-ORA-907 (Romani 1997:6; Van Bueren et al. 1988:42).

Still later in 1988, BMA conducted a Phase II investigation of CA-ORA-908, with mapping, surface collection, and excavation of six 1 x 1 m (3.3 x 3.3 ft) units. Ten surface artifacts were recovered including four cores or core fragments, three crude unifacial implements, a non-diagnostic flake-based biface knife, and two flakes. The site boundaries were subsequently reduced to 140 m (459.3 ft) N-S x 80 m (262.5 ft) E-W, and the units excavated to 30 cm (11.8 in) with no subsurface recovery. The site was described as lacking in data potential and ineligible for inclusion on the NRHP (Gross et al. 1988:30, 32, 105).

Extended Phase I investigations conducted by GandA in 1996 as part of field efforts for the Foothill Transportation Corridor confirmed the findings of previous investigators. Intensive site survey and excavation of seven STPs found no artifacts, above or below ground, and reiterated the lack of data potential expressed at CA-ORA-908 (Romani 1997:9, 15, 17).

During the current SOCTIIP investigation, the recorded location of CA-ORA-908 was found to have been impacted by construction to an unknown degree. It appears that the site area has either been destroyed or capped with fill soils.

CA-ORA-909

CA-ORA-909 was recorded as a 150 m long surface scatter of chipped and ground stone on a low ridge west of Segunda Deshecha Cañada (Grove, Schwartz, and Cooley 1980). In 1988, Hatheway and McKenna relocated it just north of Pico Avenue, describing it as a 400 by 450 m (1,312.3 x 1,476.4 ft) surface scatter heavily impacted by construction of Pico Avenue, a dirt road, and rodent activity. No shell or bone was observed. Site boundaries were expanded in the 1980 survey by Van Bueren et al. (1980:42). The current condition of CA-ORA-909 and its evaluation status are unknown.

CA-ORA-912

Grove and Cooley (1980a) recorded CA-ORA-912 atop a southeasterly sloping knoll, west of Cristianitos Creek. The site was described as a small scatter measuring 50 x 75 m (164.0 x 246.1 ft) containing cores, core tools, flake tools, and hammerstones. Considered as a temporary procurement or special use area, the site was recommended for testing should development threaten the deposit (Cooley and Cottrell 1980:26, 33-34).

When visited by Hatheway and McKenna (1988e), additional artifacts were observed and the site boundaries expanded to encompass a 140 x 70 m (459.3 x 229.7 ft) area. Artifacts observed at

this time included 14 chipped stone tools, eight flakes, and four hammerstones (McKenna et al. 1988:42). A multi-directional chert core was observed in this location during the SOCTIIP investigation.

CA-ORA-914 AND CA-ORA-915

CA-ORA-914 and CA-ORA-915 are set on adjacent, southeasterly trending, ridgelines overlooking Cristianitos Creek. The two sites were recorded by ARMC as part of the archaeological assessment of the Talega Parcel (Cooley and Cottrell 1980; Grove 1980a; Grove and Cooley 1980b), and described as open-air knoll top occupations.

CA-ORA-914, the larger of the two in surface extent at 75 x 75 m (246.1 x 246.1 ft), was described by the recorders as different from other knoll top occupations in the immediate vicinity in that it exhibited a greater number of ground stone artifacts (Grove and Cooley 1980b). Cultural materials observed at that time included manos, milling stones, chipped stone tools, and debitage. Subsequent surface investigation of the site area (McKenna et al. 1988:42) confirmed the nature of the surface deposit and expanded the site boundaries to the northwest along the ridgeline (Hatheway and McKenna 1988f). These studies ultimately resulted in recommendations that CA-ORA-914 be subjected to archaeological test investigations pursuant to establishing NRHP eligibility (Bissell 1988:31; Brown 1989a:24; McKenna et al. 1988:65).

Site CA-ORA-915 was originally described as a sparse scatter of artifacts (one milling stone fragment and nine pieces of debitage) within a 50 x 60 m (164.0 x 196.9 ft) area (Cooley and Cottrell 1980:28; Grove 1980a). Later site visits found surface materials in this location, albeit of no greater extent than originally recorded, and prompted recommendation of subsurface testing efforts (Bissell 1988:31; Brown 1989a:24; McKenna et al. 1988:42, 65).

Both sites were subjected to surface collection and test excavation by Brian F. Mooney Associates (BMA). At CA-ORA-914, 28 surface artifacts, including a variety of chipped and ground stone tools, were collected and mapped and the site boundaries described as 155 m (508.5 ft) NW-SE x 45 m (147.6 ft) NW-SE. At CA-ORA-915, only four surface artifacts (three flakes and one core) were recovered (Schackley et al. 1989:24-26).

Two 1 x 1 m (3.3 x 3.3 ft) excavation units were completed at each site. These were excavated from 20 to 30 cm (7.9 to 11.8 in) below the surrounding surface and were found devoid of cultural materials. Because of the lack of a subsurface component at both sites, the areas were recommended for no further testing and described as lacking in data potential necessary for inclusion on the NRHP (Shackley et al. 1989:26-27, 200).

During the SOCTIIP investigation, two hammerstones, one flake, and fragments of marine shell (*Donax* sp.) were observed in a mechanically disturbed context along the northwestern boundary of CA-ORA-914, and a bedrock milling feature (slick) was noted at CA-ORA-915.

CA-ORA-916

Recorded by ARMC as part of the archaeological assessment of the Talega Parcel (Cooley and Cottrell 1980:28-29; Grove 1980b), CA-ORA-916 was portrayed as a scatter of chipped stone tools and debitage on a wide, southeasterly trending, knoll west of Cristianitos Creek. Cultural materials were noted within an area 200 m (656.2 ft) N-S x 75 m (246.1 ft) E-W with no depth of deposit apparent.

The site was revisited by Hatheway and McKenna in 1988 (Hatheway and McKenna 1988h; McKenna et al. 1988:42-43). Aided by a discing program to remove heavy vegetation, a scatter of chipped stone tools, debitage, and thermally altered stone was noted. Described as a substantial surface deposit, possibly associated with two newly recorded loci in the immediate vicinity, the site boundaries were at that time expanded to some 400 m (1,312.3 ft) E-W x 200 m (656.2 ft) N-S and the area was recommended for archaeological testing.

BMA subsequently conducted an evaluation of CA-ORA-916 that included an intensive site survey, surface collection, and subsurface testing. Only 13 surface artifacts were located within the recorded site boundaries and no evidence of any associated subsurface deposit was found. Based on this investigation, the site was determined to lack sufficient data potential to justify a data recovery program and thus ineligible for inclusion on the NRHP (Shackley et al. 1989:27-28, 200).

A second Phase II investigation was conducted at the site by GandA during determination of eligibility studies for the Foothill Transportation Corridor-South (Romani et al. 1997:63-67). An additional surface collection was conducted, and 19 surface scrapes, each 1 x 1 m (3.3 x 3.3 ft) with an accompanying STP, were placed. Only five surface artifacts were recovered, and no evidence of an intact subsurface deposit was encountered in the excavations. The lack of data potential at the site was confirmed and the site was described as not eligible for the NRHP under Criterion D (Romani et al. 1997:126). No cultural materials were observed at CA-ORA-916 during the SOCTIIP investigation.

CA-ORA-917

CA-ORA-917 was recorded by ARMC as part of the archaeological assessment of the Talega Parcel (Cooley 1980b; Grove and Cooley 1980c and d). In close proximity to CA-ORA-919 and CA-ORA-920, it occupies a ridge top location between the Segunda Deshecha Cañada and Cristianitos Creek drainages and is represented as a light scatter of chipped stone tools and debitage (Cooley and Cottrell 1980:29). Located south and east of CA-ORA-920, along an adjacent ridgeline, CA-ORA-917 was described as a chipped stone and artifact scatter covering some 600 x 25 m (1,968.5 x 82.0 ft). Thirty-two artifacts, including a variety of hammerstones, flake and core tools, and 20 pieces of debitage, were observed at that time (Grove and Cooley 1980c). All of the materials were encountered within a disturbed context (road cut) that was taken to suggest the possibility of a buried deposit in the vicinity (Cooley and Cottrell 1980:29).

Noting that the site was found as described by previous researchers (Cooley and Cottrell 1980), Hatheway and McKenna (1988i) described artifacts similar to those originally described yet

reduced the site length by half to 300 x 50 m (984.3 x 164.0 ft). Citing no indication of depth to the deposit, they recommended a testing program be conducted in the area prior to any development (McKenna et al. 1988:43, 65). No further investigation of the site seems to have occurred, and no cultural materials were noted in the area during the SOCTIIP survey.

CA-ORA-919

CA-ORA-919 was mapped on the southwestern slope of an adjacent ridge top west of CA-ORA-920 (Cooley 1980e). This site was originally recorded as 75 x 25 m (246.0 x 82.0 ft) as represented by three chipped stone tools (cores and hammerstones) and six pieces of debitage. Noting that the artifacts were recovered from a cobble exposure of volcanic rocks, of the same type used in their manufacture, the recorders suggested that the site was a special activity (quarry) area. No evidence of any subsurface extent to the deposit was observed at that time (Cooley and Cottrell 1980:30).

In 1988, Hatheway and McKenna (1988j) found a milling stone fragment, hammerstone, five manos, three cores, two flakes, and a piece of fire-affected rock at CA-ORA-919. Suggesting a more extensive and complex deposit than was previously recognized, possibly eroding from the adjacent ridge top, they expanded the site boundaries to 168 x 60 m (551.2 x 196.9 ft) approaching to within 20 m (65.6 ft) north of CA-ORA-920 and recommended testing (McKenna et al. 1988:43, 65).

When CA-ORA-919 was tested by BMA (Shackley et al. 1989:30), five artifacts (three flakes, a core fragment, and a possible mano fragment) were collected within an area measuring 150 x 70 m (492.1 x 229.7 ft) along the southeasterly facing slope, and two units were excavated. The first unit was placed atop the ridgeline, in hopes of encountering a buried deposit associated with artifacts eroding onto the slope below, and the second positioned along the slope in the vicinity of the surface finds. Both units lacked cultural constituents and further testing was deemed unnecessary. No artifacts were encountered at this location during the current SOCTIIP survey.

CA-ORA-920 AND CA-ORA-919

Sites CA-ORA-920, CA-ORA-919, and CA-ORA-917 were recorded by ARMC as part of the archaeological assessment of the Talega Parcel (Cooley 1980b; Grove and Cooley 1980c and d). The three sites occupy ridge top locations, in close proximity to one another, between the Segunda Deshecha Cañada and Cristianitos Creek drainages and are represented as light scatters of chipped stone tools and debitage (Cooley and Cottrell 1980:29-31).

CA-ORA-920

The northernmost of the three sites, CA-ORA-920, is set along a low ridge line extending north to south for approximately 400 m (1,312.3 ft) along a dirt road. Artifacts observed included milling stone fragments, flake scrapers, three flakes, and fire-affected rock in association with a darkened soil interpreted as possible midden development (Cooley and Cottrell 1980:31). When revisited in 1988 by Hatheway and McKenna (1988k), six flakes, two cores, one mano, and a milling stone fragment were observed and the site boundaries expanded to 531 m (1,742.1 ft) N-

S x 50 m (164.0 ft) E-W. The field visit was followed by a discing program that took in a 50 m (164.0 ft) wide swath on both sides of the road and revealed an additional milling stone fragment. The paucity of artifacts found across the extended site area, and the site's location on a pass along a ridge line separating two major drainages, suggested that the deposit was perhaps related to discard or loss of artifacts by travelers and a testing program was recommended (McKenna et al. 1988:43-44, 65).

Subsequent investigation at CA-ORA-920 included the mapping and surface collection of artifacts and excavation of four STPs. These efforts (Shackley et al. 1989:30-31, 200) resulted in the recovery of seven surface artifacts (flakes), all from within the dirt road traversing the site from north to south. The excavations proved sterile to 40 cm (15.7 in) below surface and further testing was deemed unwarranted.

The SOCTIIP survey found one flake at CA-ORA-920. The artifact was observed in the road cut and no evidence of any localized darkened soil was noted.

CA-ORA-921/1127

These are two sites first recorded as separate deposits and found later, during construction monitoring that exposed the subsurface of intervening landforms, to be contiguous. CA-ORA-921 was recorded by Grove and Cooley (1980e) and CA-ORA-1127 by Brown and Bissell (1988g).

CA-ORA-921, as originally described, encompassed a surface area estimated at 250 m (820.2 ft) N-S by 150 m (492.1 ft) E-W on the lower terrace along the west bank of Cristianitos Creek. Cultural materials observed along the shoulder of a paved road and an eroded creek bank included sherds of ceramic vessels, flakes, fire-altered rock, and faunal remains. Soils exposed in the (N-S) crosscutting paved road and along the cut bank of Cristianitos Creek suggested the presence of a well-developed midden deposit. Midden soils were described as dark in color, about 50 cm (19.7 in) thick, and overlain by approximately 30 cm (11.8 in) of a lighter colored sandy alluvium (Cooley and Cottrell 1980:30-310).

Noting that a local informant had suggested that the site had essentially been destroyed during a flood episode shortly following its initial recording, RMW surveyors filed a site record update (Brown and Bissell 1988a). CA-ORA-921 was at that time described as limited in nature and apparent on the basis of only a few thermally modified rocks and flakes. The boundaries were reduced to 125 x 90 m (410.1 x 295.3 ft) and although the site was described as destroyed, test excavations were recommended (Bissell 1988:21, 27, 31; Brown 1989a:18, 20, 24).

Recorded by RMW (Brown and Bissell 1988f) as a small specialty use area, between CA-ORA-912 and -921, CA-ORA-1127 is described as a lithic scatter. Flake tools, flakes, and cores were observed within an approximately 50 m (164.0 ft) diameter area with no apparent association to either of the two nearby sites (Bissell 1988:21; Brown 1989:18).

Before construction of the Santa Margarita Water District South County Pipeline, ARMC conducted a program of controlled surface collection and excavation at CA-ORA-1127 (Jones 1991b:17-20). Although little was recovered from these efforts, recommendations were made to

avoid the site area, and construction trenching began between sites CA-ORA-921 and CA-ORA-1127 in an area previously considered devoid of cultural deposits. The trench excavation was monitored, and two deeply buried cultural deposits were encountered. The presence of these deposits, between the two recorded site locations, was interpreted as indicative of their common nature and ultimately resulted in their description as one site impacted/buried by successive flooding episodes (Jones 1991b:1, 41).

Phase II investigation of the combined site area, now measuring 315 m (1,033.5 ft) NE-SW x 140 m (459.3 ft) NW-SE, was conducted by GandA as part of determination of eligibility studies for the Foothill Transportation Corridor-South (Romani et al. 1997:68-90). These efforts included an intensive collection of surface artifacts and the excavations of surface scrapes, STPs, units, auger bores, and mechanical trenches. Due to the extreme depth of the deposit, a number of mechanically aided block excavations were conducted. The block excavations entailed removal of perceived overburden soils in selected areas to a depth sufficient to approach cultural strata. Cultural materials, recovered in varying densities from across the site, included chipped and ground stone tools and fragments, flakes, beads, pottery sherds, seeds, bone, and shell. A human burial, overlain by a stone cairn, was encountered in one of the block excavations and was left in situ (Romani et al. 1997:68-90).

The results of the investigation were taken to suggest a large multi-component residential site. Dates of occupation, provided by radiocarbon samples taken during the ARMC and GandA efforts, suggested a range extending from the Middle Period (A.D. 520) to the Protohistoric (A.D. 1720). Based primarily on the apparent longevity of its occupation, and possible association with described Mission Period village sites, CA-ORA-921/1127 was suggested as apparently eligible for inclusion on the NRHP under Criterion D (Romani et al. 1997:120, 127).

CA-ORA-997

In 1984, during an archaeological assessment of a proposed Santa Margarita Water District pipeline conducted by ARMC, Cottrell and Demcak recorded CA-ORA-997. The site was then described as a light scatter of artifacts in a 20 m (65.6 ft) diameter area on the northwest side of Chiquita Creek (Cottrell and Demcak 1984c). Five artifacts, a mortar fragment, two bifacial manos (one fragmented), a core, a flake, and some fire-altered rocks were observed and collected. Noting that a thorough examination of the surrounding landform had been conducted, with no additional material encountered, the occupation was interpreted as a short duration specialized camp, and monitoring during pipeline construction recommended (Cottrell 1984a:7, 9). Construction of the Chiquita Water Reclamation Plant access road and trunk sewer was monitored in 1985 by ARMC personnel, and no subsurface materials were observed in the site vicinity (Demcak et al. 1986:3; Julien and Demcak 1993:4).

The site record was updated in 1988 by GandA during the Foothill Transportation Corridor survey (Dies 1988). During re-examination of the site area, the surface deposit was found to extend farther west onto a gently sloping field and adjacent ridge, near an active spring. The site boundaries were expanded to 240 m (787.4 ft) NW-SE x 130 m (426.5 ft) NE-SW and the presence of two spatially discrete concentrations of artifacts was noted. Chipped stone materials were found concentrated on the ridge forming the western boundary of the site with ground stone

tools and fragments along the creek bank on the east. No evidence of any subsurface deposit was observed and the site was recommended for testing (Van Bueren et al. 1988:43, 59).

In 1991, monitoring of the South County Pipeline Project through CA-ORA-997 was conducted by ARMC. A second surface collection was undertaken (within the pipeline corridor) and the expanded boundaries suggested by GandA (Van Bueren et al. 1988:43) were confirmed. Fifteen artifacts were collected, dominated by chipped stone tools. No mention is made of subsurface materials but numerous tools of chipped and ground stone, "thousands of flakes," and shell fragments were observed in the vicinity. The greatest concentration occurred in the northeast portion of the site where soil color and midden density were taken to suggest a depth of deposit approaching 50 cm (19.7 in). These remains were interpreted as an extended occupation (village) rather than the "simple lithic scatter" suggested by previous recording (Julien and Demcak 1993:12, 30).

In a field check of the site during re-examination of archaeological sites along the BX Alignment (now the Central Corridor Alternative) of the Foothill Transportation Corridor by GandA in 1995, the boundaries of CA-ORA-907 were expanded to the east bank of Chiquita Creek. The new site area was recorded as a dense concentration of cultural materials, associated with an apparent midden deposit. Observed artifacts included numerous flakes, cores, core tools, ground stone implements, and fire-altered rock, in a 150 m (492.1 ft) E-W x 220 m (721.8 ft) N-S area east of the creek (Romani and Romani 1995).

The combined site area, now estimated to measure 300 m (984.3 ft) SW-NE x 180 m (590.6 ft) NW-SE and bisected by Chiquita Creek and the dirt access road following the Cañada Chiquita, was assessed by GandA in 1996. The site was subdivided into Areas A (west of the Creek and extending onto the adjacent ridge line) and B (east of the creek and bound by encroaching slopes), and an initial surface examination and artifact collection conducted. In total, 28 STPs (each with an accompanying 1 x 1 m [3.3 x 3.3 ft] surface scrape), and five 1 x 1 m (3.3 x 3.3 ft) controlled units were excavated (Romani et al. 1997:39-43).

Sixteen STPs, four units, and an additional 14 surface scrapes were placed in Area A. The additional surface scrapes and units were employed at the ridge top location of highest density, where four surface features warranting further investigation were identified, and the STPs were used to define the site boundaries on the west side of the creek. Twelve STPs and one unit were excavated in Area B. The Area B STPs were arranged along a general north-south axis crossing the site area and the unit placed adjacent to the most productive, and deepest, of the STPs. Cultural materials were recovered to a depth of 150 cm (59.1 in) in Area A, to 110 cm (43.3 in) in Area B, and in limited quantities to 100 cm (39.4 in) along intervening landforms west of the creek (Romani et al. 1997:41-44).

Results of the excavation suggested the presence of three occupation loci, rather than the two (Areas A and B) initially considered. The three included the apparent high density deposit on the knoll top forming the western boundary of Area A, the lowlands adjacent to the west bank of Chiquita Creek, and Area B, each defined on the basis of subsurface recovery (Romani et al. 1997:45-47).

Thirty-seven pieces of ground stone, hammerstones, core tools, more than 3,500 flakes, three beads, and fragments of faunal bone and shell were recovered at CA-ORA-997. Three samples (two bone and one shell from Unit 3 in Area A) were submitted for radiocarbon dating. The range of dates obtained from the radiocarbon samples suggested long term occupation of the site extending from historical times (ca. 100 years B.P.) to more than 8,500 years B.P. (Romani et al. 1997:62).

The data suggested a semi-permanent or permanent occupation that may have extended from the Milling Stone Horizon to the Late Prehistoric Period, centered on a reliable source of water (the active spring on site and the cross-cutting creek). A wide range of data sets was obtained from apparently vertically organized contexts, including artifact types (beads, projectile points, and ground stone implements) useful for relative dating, and obsidian debitage and faunal remains appropriate for absolute dating methods. Analysis of these materials corroborated the interpretation of long-term use of the site. Based on the apparent integrity and data potential expressed by the longevity of occupation and diversity of cultural materials represented, CA-ORA-997 was assessed as eligible for inclusion on the NRHP under Criterion D (Romani et al. 1997:127).

Further field inspection of the site was undertaken in 2000 by ARMC (Demcak 2000a) and by GandA as part of the current SOCTIIP investigation. In the former survey, recent discing of the area revealed a dense scatter of ground and chipped stone implements, and in the latter, despite heavy vegetative cover in the site area, a mano and two cores were observed in the knoll top area.

CA-ORA-1021

This site was originally recorded as 10 to15 m (32.8 to 49.2 ft) in diameter, and represented by 15 to 20 flakes and one scraper plane in a road cut along the western bank of Cristianitos Creek (Cottrell et al. 1983, 1986). During a field check of the location conducted by Hatheway and McKenna, additional artifacts were observed in the vicinity, and the boundaries were expanded to approximately 30 m (98.4 ft) in diameter (McKenna et al. 1988:44).

Hatheway and McKenna (1988) also noted a surface scatter of ground and chipped stone artifacts approximately 70 m (229.7 ft) north of the location described for CA-ORA-1021. Recorded as site HM-103 (McKenna et al. 1988:52), it occupies a low-lying terrace adjacent to the area recorded earlier and has been assigned the same trinomial designation (CA-ORA-1021). This has effectively increased the size of the recorded site area to more than 150 m (492.1 ft) N-S x 100 m (328.1 ft) E-W with the nature of any intervening deposit, between the two locations, left unestablished.

Subsequent visits to the site location by Brown (1992:24), Demcak (2000a:19), and as part of the SOCTIIP investigation, noted construction related disturbance to the area, particularly along the eastern boundary. Demcak and Brown both observed additional cultural materials in the vicinity, but no artifacts were noted in the SOCTIIP investigation.

CA-ORA-1027

Recorded as part of an assessment of a 404.7-hectare (1,000-acre) addition to the Talega Parcel, ARMC described CA-ORA-1027 as a small camp, 15 x 12 m (49.2 x 39.4 ft) in size, atop a ridge 243.8 m (800 ft) west of Cristianitos Road (Murray and Clevenger 1983). Cultural materials observed within a dirt road cut included a scraper plane, schist milling stone fragment, four flakes, and a core (Cottrell 1983:11).

When the site area was revisited in 1988 by Hatheway and McKenna (1988m), additional artifacts were located in a graded road. Observed were four hammerstones, six manos, two milling stones, 25 flakes, and six pieces of fire-altered rock, along 200 meters (656.2 ft) of the ridge top road. Rather than expanding the site boundaries, however, Hatheway and McKenna judged this deposit to be unrelated to CA-ORA-1027 as originally recorded, yet maintained the trinomial designation, and declared the first location as incorrectly recorded and related to a different, newly encountered deposit some 150 m (492.1 ft) away (McKenna et al. 1988:44-45, 53). No trinomial designation appears to have been issued for this second site area, designated HM-42, and the Information Center appears to have combined both occurrences with the same UTM coordinates provided on both site records (Hatheway and McKenna 1988m; Murray and Clevenger 1983). Both areas were ultimately recommended for archaeological testing (McKenna et al. 1988:65) but no record of any such testing was found. No cultural materials were observed in the vicinity during the SOCTIIP investigation.

CA-ORA-1042

CA-ORA-1042 is on a broad slope overlooking a marshy area west of Chiquita Creek, and was recorded by Cottrell in 1984 during an archaeological resource assessment of the Ortega East Site conducted by ARMC. Occupying an area of 50 x 25 m (164.0 x 82.0 ft), the site was represented by a scatter of ground and chipped stone implements (Cottrell 1984c). Described as large processing tools, the artifacts included three scraper planes, two flake scrapers, two manos, one milling stone fragment, and a core. Speculating on the positioning of the site relative to the nearby marsh, and the nature of the artifacts found, Cottrell suggested use of CA-ORA-1042 as a temporary camp for the collecting and initial processing of fibrous plants. Mitigative efforts, excavation and surface collection, were recommended should development threaten the area (Cottrell 1984b:7-10).

In 1985, ARMC conducted a surface collection at CA-ORA-1042 and excavated two 1 x 1 m (3.3 x 3.3 ft) units within the construction corridor of the Chiquita Canyon Water Reclamation Plant pipeline and access road. Twenty-two surface artifacts (12 pieces of chipped stone, eight ground stone items, and two fire-altered rocks) were collected and the units excavated to 30 cm (11.8 in) with no subsurface recovery. The data set was taken as confirming earlier interpretation of the site as a temporary camp associated with the harvest and processing of resources from the marsh. Lacking temporally diagnostic artifacts and organic materials suitable for radiocarbon dating, a relative date for the occupation was not suggested and there was no recommendation for further investigation (Demcak 1987:34-36).

The site was visited twice during cultural resource assessments in 1988. In a survey for the Santa Margarita Water District, RMW found a few flakes and some possible fragments of grinding tools. Citing a lack of diagnostic artifacts and apparent depth to the deposit, Demcak's observations (1987:34-36) were deemed correct, and any future damage to the site considered as mitigated by previous investigation (Bissell 1988:13; Brown 1989a:13).

In the same year, GandA encountered evidence of a western extension of CA-ORA-1042. A milling stone, two bowl/mortar fragments, a mano, pieces of ground stone tools, cores, and flakes were found and the site boundaries were expanded to 80 m (262.5 ft) N-S x 35 m (114.8 ft) E-W. Although no evidence of any subsurface deposit was observed, recommendation of additional testing was made (Van Bueren et al. 1988:43, 59).

Construction of the South County Pipeline through CA-ORA-1042 was monitored by ARMC in 1991. Ten artifacts (including ground and chipped stone fragments and tools) were surface collected prior to construction. Ten artifacts (including ground and chipped stone fragments and tools) were surface collected prior to construction. Subsequent excavations revealed no subsurface component to the deposit (Demcak 1993:15, 18).

Extended Phase I excavations at CA-ORA-1042 were undertaken by GandA in 1996. Included was a surface collection of artifacts and excavation of 14 STPs. The surface collection garnered two flakes and the STPs found no evidence of any subsurface deposit. The site was determined to be of limited data potential and further effort was deemed unwarranted (Romani 1997:9-17).

Recent site visits conducted by ARMC (Demcak 2000a) and by GandA during the SOCTIIP survey found no surface artifacts at CA-ORA-1042. Monitoring of the site should development threaten was recommended by Demcak (2000a:37).

CA-ORA-1043

CA-ORA-1043 was recorded by Cottrell in 1984, and the site record has been updated twice (Brown and Bissell 1988b; Cottrell 1984b, d; Jones 1993). The site has variously been represented on records and in reports as: a small, 6.2 x 15.4 m (20 x 50 ft) well developed midden marked by surface shellfish remains, chipped stone tools, flakes, and fire altered rock (Cottrell 1984b:9 and 1984d; Demcak et al. 1986:3-4; Van Bueren et al. 1988:43); a buried midden 60 to 110 cm (23.6 to 43.3 in) below the surface), extending across an area of 100 m (328.1 ft) N-S x 125 m (410.1 ft) E-W, whose constituents were dominated by bifacial tools and debitage, shellfish and bone, with inhumations and stone features encountered in the matrix (Jones 1993); and an extensive 335 x 120 m (1,099.1 x 393.7 ft) well developed midden deposit (0 to 100 cm [0 to 39.4 in] deep evident in erosional features) marked by surface artifacts (ground stone, flakes, and pottery sherds), shell, and an exposed hearth near the center of the site (Bissell 1988:13-14; Brown 1989a:14; Brown and Bissell 1988b).

Controlled excavation at CA-ORA-1043 has been undertaken three times and monitoring of construction across the site once. In all these cases, extensive subsurface deposits have been encountered, as have occasional human burials (Demcak and Del Chario 1989; Jones et al. 1995; Julien and Demcak 1993).

The first investigation was conducted by a Saddleback College field school directed by Patricia Martz. Five 1.5 m (4.9 ft) square units were set at 5 m (16.4 ft) intervals along an east-west axis crossing the perceived center of the site. The excavations recovered quantities of chipped and ground stone tools and fragments, debitage (including obsidian), bone (including tools), shell, fire-altered rock, and charcoal, and suggested the presence of two stratigraphically distinct cultural deposits. Noting a lack of shell, and a predominance of larger, often primary, flakes in the lower level, a discontinuity in occupation was suggested. Successive habitation of the landform, overlain and separated by intervening flood episodes, by peoples of different cultural traditions, expressed by faunal remains and diagnostic artifacts, was postulated. Based on the site's ability to provide additional information regarding regional subsistence and settlement patterns, CA-ORA-1043 was deemed eligible for inclusion on the NRHP under Criterion D and recommendations for avoidance of the resource were made (Demcak and Del Chario 1989:63-66).

In a 1989 boundary test, ARMC excavated 78 auger holes 24 cm (9.4 in) in diameter at 10 m (32.8 ft) intervals across the site, and placed a 1 x 2 m (3.3 x 6.6 ft) test unit near its center. While no evidence of stratigraphically distinct deposits was encountered, the integrity and data potential of the site were confirmed, as was its assessed NRHP eligibility. Eight samples were submitted for obsidian hydration dating. All were sourced to Obsidian Butte, and suggested late periods of occupation (ca. 190 to 720 years B.P.; Demcak and Del Chario 1989:66-71, 75).

Archaeological "salvage" (data recovery) excavations were conducted by AMRC at CA-ORA-1043 in 1991 (Jones et al. 1995), followed by monitoring of construction of the South County pipeline through the site area in 1992 (Julien and Demcak 1993). Controlled excavation focused on a construction easement defined as measuring 12.3 m (40.4 ft) from the pipeline center, and included 24 units and five mechanically excavated trenches. The excavations found a substantial buried midden deposit and encountered four human burials and three stone features interpreted as hearths or remnants thereof (Jones et al. 1995:26, 80, 109-113, 121, 127).

During pipeline construction monitoring, a process that involved capping northern portions of the site, additional human remains were encountered and surface artifacts collected. Three burials (one a cremation) were removed from the construction trench. The remains were suggestive of four, possibly five, adult individuals and further expressed the complexity and extent of the site (Julien and Demcak 1993:9-12, 15-30).

Evidence of buried deposits continues at CA-ORA-1043 in the form of cultural materials identified in the creek bed along the southern site boundary during the SOCTIIP investigation. Fragments of shell and bone, along with fire-altered rock and flakes were found in association with darkened soils at a depth of 40 to 100 cm (15.8 to 39.4 in). Recognizing previous assessments of NRHP eligibility, Demcak (2000a:10, 37) has recommended additional data recovery should further impact at this site be anticipated.

CA-ORA-1050

CA-ORA-1050 is one of three archaeological sites occupying a single terrace on the north bank of San Juan Creek. Originally recorded as three individual locations (Cottrell 1984a:7-9; Cottrell and Demcak 1984b), CA-ORA-1048, CA-ORA-1049, and CA-ORA-1050 were suggested by later investigators as representing a continuous deposit (Bissell 1988:14-15; Brown 1989a:14-15, 1992:29-30; Brown and Bissell 1988c; Demcak and Del Chario 1989:46). The three sites are now combined under the CA-ORA-1048 site number, but the CA-ORA-1050 portion of it is the only one that impinges on the current SOCTIIP Alternatives.

Described as occupying an area either 50 m (164.0 ft) in diameter (Cottrell 1984:8) or 70 x 30 m (229.7 x 98.4 ft) by Cottrell and Demcak (1984b), CA-ORA-1050 is the easternmost of the three and was represented as a small camp site marked by a milling stone fragment, mano, two hammers, scraper planes, flake scrapers, and fire-altered rock. When revisited by RMW in 1988, the site and its neighbors were determined on the basis of surface manifestations to represent a single habitation encompassing a 400 x 120 m (1,312.3 x 393.7 ft) area with localized concentrations of artifacts apparent. Artifacts observed included cores, core tools, flakes and flake tools, milling stone fragments, and manos. While some subsurface extent to the deposit was suggested by rodent tailings, road cuts, and erosional features, the lack of a readily apparent midden deposit was suggested as evidence of an "older" site (Bissell 1988:14-15; Brown 1989a:14-15, 1992:29-30; Brown and Bissell 1988c).

The combined site area now referred to as CA-ORA-1048 was subjected to archaeological test and salvage (mitigation) excavation by ARMC in 1989 and 1991, as part of investigations associated with the Santa Margarita Water District South County Pipeline Project. The test excavations followed a surface collection of artifacts that suggested two occupational loci (A and B), neither of which appears to correspond with CA-ORA-1050, and recovered cultural materials to 60 cm (23.6 in). The range of artifacts recovered was taken as suggestive of generalized activities associated with a large base camp, with an Intermediate Horizon occupation (ca. 100 B.C.) postulated on the basis of one obsidian hydration measurement and the presence of four discoidals. Ultimately, the site was found to contain the data potential necessary to answer major research questions in southern California archaeology, assessed as eligible for inclusion on the NRHP under Criterion D, and mitigation recommendations made (Demcak and Del Chario 1989:46-62, 74, 76-78).

Salvage excavation at CA-ORA-1048 concentrated on the pipeline right-of-way (ROW) and was followed by archaeological monitoring of pipeline construction through the area. While encountering additional cultural material in the primary site area, no artifacts or deposits appear to have been encountered in the area originally described as CA-ORA-1050 (Jones et al. 1995:30-31; Julien and Demcak 1993).

When field checked in 2000, the three sites are again referred to as separate occupations by Demcak (2000a:13). Noting that no artifacts were at that time apparent on the surface where CA-ORA-1050 had originally been recorded, and that none had been encountered during the ARMC test of CA-ORA-1048, the research potential of the site as a single entity was described

as non-existent and CA-ORA-1050 was assessed as ineligible for inclusion on the NRHP (Demcak 2000a:13, 37).

CA-ORA-1053

Located north of Segunda Deshecha Creek, near the intersection of Antonio Parkway/Avenida La Pata and Avenida Pico, this site is between CA-ORA-637 and CA-ORA-639. It was recorded as a 1,600 square meter (17,222 sq ft) midden site with chipped and ground stone artifacts, shell, and hearth features extending to approximately 150 cm (59 in) below surface. After salvage excavation in 1984, CA-ORA-1053 was completely destroyed (Schroth and Cooley 1984).

CA-ORA-1106

Recorded by Demcak (1986) on a knoll top east of Chiquita Canyon, CA-ORA-1106 was originally defined on the basis of a diffuse scatter of two core tools, four ground stone fragments, and 10 pieces of fire-affected rock. Described as a large lithic scatter, some 30 x 100 m (98.4 x 328.1 ft) in maximum dimension, the site was proposed as a seasonal camp (Demcak et al. 1986:24) and left undisturbed.

In 1997, Greenwood and Associates (GandA) conducted an extended Phase I investigation at CA-ORA-1106 (Toren 1987:34-38), including an intensive surface examination and excavation of 10 shovel test pits (STPs). Surface indicators, ground and chipped stone artifacts found largely within a recently graded access road, were employed to establish the site boundaries and the STPs set at periodic intervals along the ridge line to establish the nature and integrity of any subsurface deposit.

The extended Phase I program expanded the site boundaries to some 230 x 20 m (754.6 x 65.6 ft), generally following the ridge crest, but found no evidence of any subsurface component. The site was suggested to be a limited use area, likely focused on the processing of vegetal materials, and determined lacking in the data potential necessary for additional studies or NRHP inclusion (Romani and Slawson 1997:33; Toren 1997:53).

The site area was again visited by Demcak (2000a) as part of a Rancho Mission Viejo project 2000 survey, and was relocated during the SOCTIIP study in 2001. In both cases, additional surface artifacts were identified. In a site visit after the area had been disced, Archaeological Resource Management Corporation (ARMC) surveyors found four manos, flakes, a core tool, and four milling stone fragments (Demcak 2000a:13). During the SOCTIIP survey, two fragments of a vesicular basalt bowl, a whole mano, two mano fragments, and a slab type milling stone were observed.

Given that the site had been previously evaluated as ineligible for NRHP inclusion, Demcak (2000a:37) recommended a monitoring program during any earthmoving activities in the area. However, considering the nature and number of artifacts noted in recent site visits, some additional testing effort may be necessary to confirm earlier interpretations and disprove the presence of any unidentified, or buried, deposit at site CA-ORA-1106.

CA-ORA-1107

CA-ORA-1107 was originally recorded as a result of ARMC test excavations in 1986. It is located between Camino Capistrano and the Atcheson, Topeka and Santa Fe Railroad tracks east of San Juan Creek. It is on the south end of a north-south trending ridge, slightly north of CA-ORA-837 and CA-ORA-838. The excavations from the 150 x 250 m (492 x 820 ft) site yielded chipped and ground stone artifacts, subsistence shell, and bone to 150 cm (59 in) below surface. An historical trash deposit is noted at the west edge of the site (Dibble 1986).

A site record update defined the site area as a sparse shell midden, 35 x 35 m (114.8 x 114.8 ft), extending to 25 cm (9.8 in) below surface. The update only reported on test excavations of the north end of the site by RMW Paleo (Becker 1991).

During a California Register nomination survey of the southwest portion of the Rosan Ranch property in 1999, RMW Paleo recovered a collection of lithics, shell, bone, and one discoidal stone from the slope adjacent to the railroad tracks. Because the area was highly disturbed by previous earthmoving, it was likely that all recovered materials were redeposited (Bonifacic 1999).

CA-ORA-1111

CA-ORA-1111 was originally recorded in 1986 as part of a survey for a Route 74 widening project. It is located atop a prominent knoll east and adjacent to Trampas Canyon, immediately east of ORA-656. The light scatter of chipped and groundstone artifacts was evident only from a road-cut along the north side of the knolltop. No site dimensions were obtained due to site disturbance on its north margin and dense vegetation south of the road (Romani and Huey 1986).

The National Register status of the site is unknown.

CA-ORA-1124

Recorded by RMW during reconnaissance for the Santa Margarita Water District, CA-ORA-1124 was described as an apparent quarry area represented by a scatter of flakes and cores in a cobble outcrop (Bissell 1988:18; Brown and Bissell 1988c). The site is at an approximate elevation of 152.4 to 161.5 m (500 to 530 ft) AMSL, encompasses an area approximately 30 x 50 m (98.4 x 164.0 ft), and has been revisited during various survey efforts (Brown 1989a; Demcak 2000a; Van Bueren 1988b; Van Bueren et al. 1988).

In 1991, ARMC monitored construction of the Santa Margarita Water District South County Pipeline. Before construction began near the area of the site to be affected, a 15 m (49.2 ft) wide strip along the western boundary was cleared of brush and surface collection conducted. Among the 19 artifacts from this area were four pieces of ground stone (one whole and three fragmented manos), four plano-convex scrapers, one biface, one hammerstone, and nine flakes. No cultural materials were observed during the pipeline trench excavations (Jones 1991a:8, 9, 13-18).

The results were taken to suggest that this monitoring occurred some 250 m (820.2 ft) southeast of where the site had originally been recorded, and that the nature of artifacts recovered indicated a variety of food processing activities. Although apparently lacking in subsurface extent, additional investigation of the site was recommended should future impact threaten (Jones 1991a:18-19).

Following backfilling of the pipeline trench, an approximately 0.6 to 0.9 m (2 to 3 ft) thick cap of sterile soil was left on the affected site area (Jones 1991a:11-12). This may have affected the findings of a more recent RMW survey of the area (Brown 1992), and that of the SOCTIIP investigation, neither of which found any surface indications of the site. ARMC, however, field checked the site in 2000 and upon locating "a few flakes and cores," recommended testing of the site area (Demcak 2000a:18, 39).

CA-ORA-1125

Described as a seasonal occupation represented by a scatter of chipping waste, flake tools, cores, and a milling stone, CA-ORA-1125 was recorded by Brown and Bissell (1988e) as part of a cultural resource assessment of transmission line corridors conducted for SDG&E (Brown 1989a). Site deposits were at that time evident for some 80 m (262.5 ft) along the east side of Cristianitos Road and estimated to extend 70 m (229.7 ft) east onto the adjacent landform. Artifacts observed in the road cut indicated a maximum depth of 40 cm (15.7 in).

In 1989, ARMC personnel described CA-ORA-1125 as largely destroyed by construction and maintenance of Cristianitos Road and then represented only by a scatter of chipped and ground stone artifacts in an area measuring some 40 m (131.2 ft) N-S x 5 m (16.4 ft) E-W, along the road shoulder. A surface collection of all apparent artifacts was conducted. Interpreted as a seasonal camp site, focused toward the processing of vegetal resources, the site area was found lacking integrity and data potential necessary for NRHP nomination, and was recommended for monitoring during subsequent construction efforts (Demcak and Del Chario 1989:31-33, 76).

During monitoring of pipeline construction at CA-ORA-1125 by ARMC in 1991, the site surface area was brushed and a second surface collection conducted. These efforts resulted in the recovery of additional cultural materials, including a discoidal and other tools, but not in the expansion of the site boundaries. No evidence for any depth to the deposit is suggested by the monitoring report. Collected artifacts were interpreted as confirming earlier interpretation of the site as a seasonal occupation focused on the processing of locally available plant materials. Based on the presence of the discoidal, an occupation date prior to A.D. 500 (+/- 250 years) was suggested (Jones 1991:8, 18-19). Still later surface investigation of the site area by RMW Paleo Associates, Inc. (RMW) and Greenwood and Associates (GandA) had markedly dissimilar results. In the former case no cultural materials were noted (Brown 1992:25), while in the latter additional surface artifacts were observed and the site boundaries expanded (Toren 1997).

Additional field investigations to assess the nature and extent of CA-ORA-1125 were conducted by GandA (Toren 1997; Toren and Greenwood 1997). Initial extended Phase I efforts suggested the site was much larger in extent, now 200 m (656.2 ft) SW-NE x 90 m (295.3 ft) NW-SE, and more complex in nature than previously considered. Surface indices suggested two

concentrations of artifacts within the site boundaries. Hammerstones and cores were found to dominate materials in the central portion of the site, and ground stone implements dominate the south part. A series of 10 STPs and one 1 x 0.5 m (3.3 x 1.6 ft) unit were excavated to explore the subsurface extent of the deposit. Cultural materials were recovered from two of the STPs, and from the excavation unit to a maximum depth of 60 cm (23.6 in) below surface (Toren 1997:38-41). These efforts resulted in the recovery of three manos, one core/hammer, and 104 flakes, and confirmed the integrity and data potential of the site. A Phase II investigation was subsequently recommended to assess the significance of the site according to NRHP criteria (Toren 1997:53).

Phase II investigation at CA-ORA-1125 included an intensive survey and surface artifact collection of the site, and the excavation of an additional five STPs and four 1 x 1 m (3.3 ft) units. Surface materials included two cores, a flaked cobble, one hammerstone, and three flakes. The STPs confirmed the presence of a subsurface deposit with positive recoveries occurring in three of these excavations near the central portion of the site, to a maximum depth of 60 to 80 cm (23.6-31.5 in) below surface. The controlled units were established between this vicinity and the southern site boundary and recovered an additional 21 tools, 281 pieces of debitage, and 5.02 grams (g) (0.31 ounces) of faunal material (Toren and Greenwood 1997:19-21).

Results of the Phase II investigation at CA-ORA-1125 were interpreted as suggesting site function as an open air plant processing station and lithic reduction workshop. Artifact distributions were taken as indicators of some spatial patterning with plant processing artifacts (ground stone) predominant in southern portions of the site and chipped stone artifacts in the central area (Toren and Greenwood 1997:28-29).

Questioning the depositional integrity, Toren and Greenwood (1997:30-31) expressed doubt that sufficient data potential remained for CA-ORA-1125 to provide the significant information on a local or regional level necessary for inclusion on the NRHP under Criterion D (Romani and Slawson 1997). Site visits conducted by Demcak (2000a) and as part of the SOCTIIP investigation found no evidence of additional surface materials and would appear to corroborate this interpretation.

CA-ORA-1144

This site was recorded by RMW as part of a pipeline survey conducted for the Santa Margarita Water District (Bissell 1988; Brown and Bissell 1988h). A large scatter of chipped and ground stone artifacts and thermally altered rock, CA-ORA-1144 is on a low-lying terrace at the juncture of Gabino and Cristianitos Canyons, and was said to encompass an area measuring 300 m (984.3 ft) E-W) x 135 m (442.9 ft) N-S. Dark soils were interpreted as indicative of a well developed midden deposit, with a depth of 50 cm (19.7 in) suggested on the basis of rodent tailings (Bissell 1988:21; Brown 1989:17; Romani et al. 1997:91).

Phase II investigation of the site was conducted by GandA in 1996 as part of studies for the Foothill Transportation Corridor-South (Romani et al. 1997). These efforts focused primarily on the western limits of the site because the property owner denied access to the central portions because of their use as a corral. The testing program included mapping and collection of surface

artifacts, excavation of 23 STPs, each centered in a 1 x 1 m (3.3 x 3.3 ft) square surface scrape, and five controlled units in areas of perceived increased artifact densities suggested by the STPs (Romani et al. 1997:91-99).

The Phase II efforts resulted in adjustment of the site boundaries to an area measuring 270 m (885.8 ft) E-W x 240 m (787.4 ft) N-S, and indicated a subsurface deposit ranging from 20 cm (7.9 in) to 90 cm (35.4 in) in depth. The artifact collection was dominated by chipped stone materials, particularly 650 flakes, plus cores, core tools, and 59 fragments. Ground stone artifacts were less prevalent, and included only four milling stone fragments, six mano fragments, and one fragment of insufficient size to identify. Faunal remains were rare with only 20 small fragments, together weighing less than 1.7 g (0.06 oz) recovered from the entire excavation (Romani et al. 1997:95-99).

Based on the results of the excavation, CA-ORA-1144 was interpreted as a small base camp of unknown temporal association and occupational duration. Considered of limited data potential, it was at that time described as ineligible for the NRHP under Criterion D. This assessment was qualified because only a small portion of the site had been sampled, and further efforts might be required to assess more fully the deposit at the site (Romani et al. 1997:127-128).

CA-ORA-1163

CA-ORA-1163 was recorded and described in 1988 by Hatheway and McKenna (1988o; McKenna et al. 1988:58). The site record and report describe two pieces of fire-altered rock and a large basalt flake (possibly utilized) in a 44 sq m (144.4 sq ft) area on a ridge at the base of a small hill.

Testing of the site area was recommended (McKenna et al. 1988:65), and was undertaken in 1988 by BMA as part of an evaluation of cultural resources in the Talega Valley (Gross et al. 1988; Gross and Schackley 1988). Surface collection of the site yielded a mano fragment, hammerstone, and a flake, and excavation of one unit encountered sterile soils to 20 cm (7.9 in). Citing an apparent lack of data potential, the site was considered ineligible for inclusion on the NRHP, and no recommendation for future treatment was made (Gross et al. 1988:36, 105).

Due to the presence of heavy machinery actively grading the vicinity during the SOCTIIP investigation, no attempt was made to examine the mapped location of CA-ORA-1163. It appears the site has been destroyed, and its physical location reconfigured as part of ongoing housing development.

CA-ORA-1169, CA-ORA-1168, AND CA-ORA-1175

These three sites were recorded by Hatheway and McKenna (1988p, q, r) during the survey of the Talega Valley property. Described as sparse lithic scatters, they were recommended for additional treatment (McKenna et al. 1988:50, 58, 65) and subjected to archaeological testing by BMA in 1988. Surface collections and limited excavations to 20 cm (7.9 in) were conducted at all three locations with no subsurface recovery. The sites were considered lacking in data potential and ineligible for inclusion on the NRHP (Shackley et al. 1988:24, 31-35, 200).

Subsequent housing development in the area has destroyed CA-ORA-1169, CA-ORA-1168, and CA-ORA-1175. CA-ORA-1175 is also described under the FEC-Initial alternative.

CA-ORA-1175

CA-ORA-1175 was recorded by Hatheway and McKenna (1988p, q, r) during the survey of the Talega Valley Properties. Described as a sparse lithic scatter, it was recommended for additional treatment (McKenna et al. 1988:50, 58, 65) and subjected to archaeological test by BMA in 1988. Surface collections and limited excavations to 20 cm (7.9 in) were conducted with no subsurface recovery. The site was considered lacking in data potential and ineligible for inclusion on the NRHP (Shackley et al. 1988:24, 31-35, 200). Subsequent housing development in the area has destroyed CA-ORA-1175. CA-ORA-1175 was in close proximity to CA-ORA-1168 and CA-ORA-1169.

CA-ORA-1176

CA-ORA-1176 was recorded by Hatheway and McKenna (1988s) during the archaeological survey of the Talega Valley Properties as a 100 x 50 m (328.1 x 164.0 ft) ridge top scatter of chipped stone tools and debitage. All but one of the nine artifacts (six basalt flakes and three hammerstones) were observed in a road cut, and the last was on a downslope slump (McKenna et al. 1988:50). Archaeological testing of the site was recommended in 1988 (McKenna et al. 1988:65), but no report of an assessment program at this location was listed at the Information Center.

CA-ORA-1177

When originally recorded, CA-ORA-1177 was described as a lithic scatter along the slopes and on an elevated flat north and west of an unnamed tributary to the Segunda Deshecha Cañada. Artifacts observed within a 100 m (328.1 ft) diameter area included a granitic milling stone and nine chipped stone artifacts (Hatheway and McKenna 1998t; McKenna et al. 1988:50).

Archaeological testing of CA-ORA-1177 in 1989 by BMA as part of an evaluation of cultural resources for the Talega Valley Project included a surface collection of artifacts and excavation of two 1 x 1 m (3.3 x 3.3 ft) units. Eight artifacts, including a granitic milling stone, two manos (one fragmented), a basalt bowl fragment, hammerstone, two quartz flakes, and a flake tool were taken from the surface, and the units excavated to 30 cm (11.8 in) with no subsurface recovery. Citing a lack of subsurface content and associated data potential, the site was assessed as ineligible for inclusion on the NRHP (Shackley et al. 1989:35, 200).

CA-ORA-1178

CA-ORA-1178 is described as a lithic scatter (mano, flake tool, hammerstone, and two thermally altered rocks) within a ridge top area measuring 75 x 15 m (246 x 49 ft) (Hatheway and McKenna 1988). The artifacts were observed within a dirt road cut and the site was recommended for testing prior to development (McKenna et al. 1988:51, 65). A single granitic

milling stone fragment, also in the road cut, was noted at this location during the SOCTIIP investigation.

CA-ORA-1183

CA-ORA-1183 was recorded and described by Hatheway and McKenna (1988v) as a lithic scatter (two manos and two basalt flakes) encountered in a road cut at the base of a ridge west of Cristianitos Creek. Three additional flakes were found following discing of the site area and the limits of the surface deposit defined as 50 x 20 m (164.0 x 65.6 ft). Noting that other artifacts were certainly present in the area, recommendation for site testing efforts were made (McKenna et al. 1988:51-52, 65), but no record of any such testing was found. No cultural materials were observed in the vicinity during the current SOCTIIP investigation. The current condition of the site and its NRHP status are unknown.

CA-ORA-1184

Recorded by Hatheway and McKenna (1988w) during an archaeological survey of the Talega Valley property (McKenna et al. 1988), CA-ORA-1184 was originally described as a sparse lithic scatter consisting of two manos. These were found within a 10 m (32.8 ft) diameter area on the alluvial fan west of Cristianitos Creek. No discussion of this site was presented in the report of the survey and no recommendations for treatment were offered in that report.

In 1992, Joan Brown (1992:26) conducted a cultural resource reconnaissance of a proposed transmission line corridor for San Diego Gas and Electric (SDG&E). While no artifacts were found in the immediate area recorded for CA-ORA-1184 during this investigation, a number of chipped stone items were observed on an adjacent landform. The site boundaries were at that time expanded to an unspecified dimension, to the eastern side of Cristianitos Creek, and a testing program recommended prior to any construction related impact (Brown 1992:26, 38).

The site area as currently mapped is crosscut by Cristianitos Road, a parallel pipeline installation, and a dirt ranch road cut perpendicular to both and extending generally eastward. Brown (1992:26) points to these episodes of disturbance as contributing factors in the removal or obscuring of artifacts between the two areas recorded and suggests two loci separated by the creek bed. No cultural materials were observed in either location or along intervening landforms (cut banks and creek side terraces) during the SOCTIIP investigation.

CA-ORA-1215H

CA-ORA-1215H has been described as part of Mission Tract No. 5 and is represented by a series of boundary wall foundations that have been projected to underlie I-5 near its intersection with SR 74 (De Barros 1989; Winter et al. 1988). Foundation elements, consisting of low stone constructs, have been encountered to the west of the SOCTIIP project boundaries but are suggested by Huey (1991:5) to have been destroyed during construction of I-5.

CA-ORA-1222

CA-ORA-1222 was recorded by Brown (1989a and b) as a small, 20 x 20 m (65.5 x 65.6 ft) scatter of chipped stone artifacts on a saddle between two knolls. The site was revisited during the GandA Foothill Transportation Corridor Survey and found to extend south and east from the originally recorded location onto the adjoining ridgelines and open grasslands. On the basis of surface artifacts, the boundaries were expanded to some 260 m (853.0 ft) NW-SE by 180 m (590.6 ft) NE-SW (Van Bueren 1988c). Subsequent Phase II investigation (Romani et al. 1997:100-109,124-125) included the excavation of 40 STPs and four 1 x 1 m (3.3 x 3.3 ft) excavation units. The results confirmed the expanded site boundaries, found evidence of three distinct occupational loci suggested by subsurface concentrations of cultural materials, and confirmed the data potential of the deposit. CA-ORA-1222 was described as a multi-functional site containing both lithic workshop and hard seed processing areas, and suggested as qualified for inclusion on the NRHP under Criterion D (Romani et al. 1997:128; Romani and Slawson 1997:32-33).

When field checked by ARMC personnel, no surface concentration of cultural materials was observed but four additional sites were recorded in the general vicinity (CA-ORA-1550, -1554, -1555, -1556) and suggested as possibly associated with CA-ORA-1222. A data recovery program was at that time recommended should impact to the site be unavoidable (Demcak 2000a:18, 39).

During the current SOCTIIP investigation, CA-ORA-1222 was again relocated. While vegetation in the area was dense, two manos were observed within the recorded site boundaries.

CA-ORA-1271H

CA-ORA-1271H is a two-component site. A prehistoric midden with chipped and ground stone artifacts, worked bone, Mission red ware, and subsistence shell was recorded as a result of monitoring grading activities approximately 100 m (328 ft) east of I-5 and immediately south of Ortega Highway. A 20 x 20 m (65.6 x 65.6 ft) area of disturbed soils contained cultural materials to 20 cm (7.9 in) below surface. Previous construction, discing, and filling episodes are presumed to have disturbed or destroyed a once much larger site. The prehistoric site record only reports materials found within the monitored area (Sundberg 1991).

The second, historical, site component is the Forster Mansion, a two-story Craftsman/Mission Revival structure built ca. 1910. Associated features include a cistern and a cesspool. The mansion is listed on the NRHP (Brock 1991).

CA-ORA-1327, CA-ORA-1328, CA-ORA-1329 AND CA-ORA-1330

These four historical structure complexes were recorded by Becker and McKenna in 1992. They are located on a Pleistocene river terrace on the west side of Camino Capistrano north of Arroyo Trabuco.

CA-ORA-1327, at 29921 Camino Capistrano, consists of a 2.5-acre (1-hectare) property with a residence (built in 1916) and associated outbuildings. It is reputed to be the site at which the first avocado trees in the region were planted. Potentially a multi-component site, the owner, Mr. Myron Smith, reported finding remnants of a previous adobe structure, possibly the residence of Judge Richard Egan, ca. 1868-1883, and prehistoric materials including an olla and several cogstones in and near his property. Access to the property was restricted during Becker and McKenna's survey, so the information collected was limited to observations made during the interview with the owner and the owner's statements. Becker and McKenna (1992a) recommended evaluation for NRHC status, but no record of such evaluation was found.

CA-ORA-1328, at 29931 Camino Capistrano, is a residence, barn and associated outbuildings, some of which date to 1916. The site record was filed to provide an alert to future researchers that buried historical deposits such as privy pits and dumping areas may be present (Becker and McKenna 1992:1b).

CA-ORA-1329, at 30291 Camino Capistrano, is a farm house, barn and associated structures elements of which date to 1911. The site record was filed to provide an alert to future researchers that buried historical deposits such as privy pits and dumping areas may be present (Becker and McKenna 1992:1c). CA-ORA-1329 is within the boundaries of CA-ORA-1338, a suite of prehistoric loci described below.

CA-ORA-1330, at 29991 Camino Capistrano, is a residence, garage and milk house/water tower, elements of which date to 1920. The site record was filed to provide an alert to future researchers that buried historical deposits such as privy pits and dumping areas may be present (Becker and McKenna 1992:1d).

CA-ORA-1338 (CA-ORA-1035 THROUGH CA-ORA-1039)

CA-ORA-1338 was originally recorded as five separate sites in and around an active citrus orchard west of I-5 on the eastern bank of San Juan Creek (Schroth et al. 1983a, b, c, d; Scroth and Cameron 1983a, b). Represented as sparse scatters of lithic debitage and shellfish remains, with occasional ground stone fragments, the sites were later determined to represent a single continuous deposit and designated as CA-ORA-1338 (Bissell and McKenna 1992). The site area has been the subject of several archaeological monitoring programs that have encountered evidence of buried deposits including stone features, midden soils, and an inhumation (Foster 1999; Hale and Schmidt 2000; Landis and Cerreto 1994). No controlled excavation focused toward assessment of NRHP eligibility appears to have been conducted.

CA-ORA-1446

Recorded as part of the original 1988 survey for the Southern Alternatives of the Foothill Transportation Corridor, CA-ORA-1446 has been described as a very light scatter of lithic debitage and tools on a bluff top east of Cañada Gobernadora at an elevation of 121.9 to 134.1 m (400-440 ft) AMSL (Van Bueren 1988c). Artifacts noted at the time included a shallow basin milling stone, a hammer/mano, a single core tool, and 12 flakes. These were observed across an area measuring some 93 m (305.1 ft) E-W x 120 m (393.7 ft) N-S.

No surface artifacts were observed at CA-ORA-1446 in either the current SOCTIIP investigation or that conducted by ARMC (Demcak 2000a). Demcak (2000a:38) has recommended testing the site area to determine NRHP eligibility. It is not known if the testing has been done.

CA-ORA-1447

CA-ORA-1447 was recorded in 1988 by GandA during the cultural resource assessment of the southern alternatives of the Foothill Transportation Corridor. Described as a concentration of ground stone artifacts in a 50 x 60 m (164.0 x 196.9 ft) area on a minor ridge/bench, the site overlooks Chiquita Canyon to the east. Artifacts observed at recording included whole and fragmented milling stones, a possible cobble mortar fragment, hammerstones, and unifacial manos, but no chipped stone artifacts or evidence of subsurface deposits (Van Bueren 1988e). On the basis of its proximity, apparent specialized function as a plant processing station, and a possible association between CA-ORA-1447 and CA-ORA-997, a large site a few hundred meters to the south, testing was recommended (Van Bueren et al. 1988:49, 60).

Extended Phase I investigation of CA-ORA-1447 was undertaken by GandA in 1996. Site boundaries were defined on the basis of surface artifacts, mapped, a collection made, and a series of STPs excavated. The surface collection recovered nine artifacts (five milling stone fragments, two manos, and two flakes), and resulted in expansion of the site boundaries to 125 m (410.1 ft) NW-SE x 67 m (219.8 ft) SW-NE. Nine STPs to 20 to 40 cm (7.9-15.7 in) found no evidence of subsurface constituents. The results of the investigation confirmed the limited data potential of the site, and further investigation (Phase II assessment) was deemed unwarranted, in effect finding the site ineligible for inclusion on the NRHP (Demcak 2000a:9; Romani 1997:i, 7-8, 14, 17).

CA-ORA-1447 has been revisited twice since the Extended Phase I investigation; in both cases additional surface artifacts were observed. During the Rancho Mission Viejo Project 2000, ARMC found a core tool and a ground stone fragment (Demcak 2000a:9), and a bifacial mano was observed in the SOCTIIP effort. Demcak (2000a:37) recommended archaeological monitoring at this location should development threaten this site.

CA-ORA-1452/1126

CA-ORA-1126 (Brown and Bissell 1988f) and CA-ORA-1452 (Sorensen 1988) were originally recorded as separate sites occupying adjacent landforms. The two were later found to share a contiguous deposit and the site areas were combined following extended Phase I investigation (Toren 1997:53).

Recorded in March 1988, CA-ORA-1126 was initially described as a small campsite on the lower edge of a southwesterly trending ridge, adjacent to the east side of Cristianitos Road. Encompassing an area some 50 m (164.0 ft) in diameter, it was characterized as a light surface scatter of artifacts containing cores, flakes, and one mano. Although suggested as lacking any subsurface component, the site was recommended for surface collection and testing (Bissell 1988; Brown 1989a).

CA-ORA-1452 was recorded as part of the archaeological survey for the Southern Alternatives of the Foothill Transportation Corridor (Van Bueren et al. 1988) in April 1988. Described as a light scatter of lithic debitage and ground stone tools on the ridge top east of and overlooking Cristianitos Road, the site occupied a recorded area some 160 m (524.9 ft) N-S x 50 m (164.0 ft) E-W.

In 1991, ARMC monitored construction of the Santa Margarita Water District's South County Pipeline along Cristianitos Road and across the recorded boundaries of CA-ORA-1126. Seven surface artifacts were recovered from the recorded site area and two new occupational loci were identified. Described as Locus B and Locus C (Locus A being the original site area), these were surface artifact concentrations some 150 m (492.1 ft) and 250 m (820.2 ft) northeast, respectively, of Locus A. The nature of the artifacts recovered, primarily ground stone fragments, scraping tools, and debitage, was suggested as indicative of low intensity/short duration resource processing, and the spatial organization of the site loci as reflective of periodic reoccupation. A pestle recovered from Locus A provided an estimated date of occupation sometime after 500 B.C. (Jones 1991b:19).

Extended Phase I investigations at CA-ORA-1126 were conducted in 1996 (Toren 1997:41). During surface collection in the vicinity of Locus C, it became apparent that the locus fell within the recorded boundaries of CA-ORA-1452. Confirmation of this association was accomplished through mapping of surface artifacts and excavation of a series of STPs. As a result, the two sites were combined and subjected to Phase II investigation (Toren 1997:53).

Now occupying a described area measuring some 227 m (744.8 ft) E-W x 95 m (311.7 ft) N-S, CA-ORA-1452/1126 was subjected to Phase II efforts that included mapping and collection of surface artifacts and the excavation of 25 surface scrapes, 32 STPs, and four controlled units. These found sparse subsurface deposits corresponding with the three loci defined on surface observations with few, if any, artifacts recovered from subsurface contexts between them (Romani et al. 1997:110-119).

Phase II investigations at CA-ORA-1452/1126 recovered 21 ground stone tools or fragments, six cores, five core tools, four utilized flakes, and 54 flakes. Faunal remains included nine pieces of marine shell and one fragment of bone (Romani et al. 1997:118-119). Based on the nature and spatial organization of the recovery, the site was again interpreted as an open air plant processing area exhibiting some focus on hard seed processing. The presence of the three loci, while not denied as possibly reflecting occupational patterns, was tentatively related to mechanical manipulation of the landform (farm related discing) and the resultant spread or concentration of surface artifacts. The possibility was illustrated by the recovery from the surface of two refitting milling stone fragments at points 120 m (393.7 ft) apart (Romani et al. 1997:125).

CA-ORA-1452/1126 was found capable of contributing to the understanding of prehistoric subsistence practices in the SOCTIIP area. However, the data potential of the site was described as exhausted by the Phase II testing, and CA-ORA-1452/1126 was considered as ineligible for nomination to the NRHP (Romani et al. 1997:128).

A later site visit conducted by ARMC (Demcak 2000a:19) found no artifacts at this location. A single flake, of a meta-volcanic material, was observed here during the SOCTIIP investigation.

CA-ORA-1556

Recorded by ARMC as part of a Rancho Mission Viejo project 2000 survey (Demcak 2000a), CA-ORA-1556 was described as a light to moderate scatter of ground and chipped stone tools on a knoll top along the west side of Cristianitos Canyon (Wakefield 2000). At an elevation of 176.8 to 182.9 m (580 to 600 ft) AMSL, CA-ORA-1556 encompasses an area measuring 100 x 40 m (328.1 x 131.2 ft).

Cultural materials noted at the time of recording included eight milling stone fragments, two scraper planes, a hammerstone, core, flakes, and three manos (one a possible discoidal). Artifacts observed at this location during the SOCTIIP investigation included a hammerstone, flake, and a red granitic discoidal measuring 7 x 2.5 cm (2.8 x 1.0 in). Of unknown depth, CA-ORA-1556 has been described as likely associated with CA-ORA-1222 (described in Section 6.4.4), and was recommended for testing to determine NRHP eligibility (Demcak 2000a:18, 25, 40).

CA-ORA-1559

Described as a moderate scatter of ground stone, chipped stone tools, and debitage, CA-ORA-1559 was recorded by Demcak (2000a and c) as occupying an area of approximately 60 x 50 m (196.9 x 164.0 ft) atop a knoll overlooking Chiquita Creek and Canyon to the west. Artifacts collected at the time of recording included whole and fragmented manos, milling stone fragments, a core, discoidal and hammerstone, core tools, scraper planes, and flake tools.

The site area was relocated during the SOCTIIP investigation and additional surface materials were observed. Included among these were a discoidal, hammerstone, and two core tools. The site has been recommended for testing to assess NRHP eligibility (Demcak 2000a:36). It is not known if the testing has been done.

CA-ORA-1560

Recorded by ARMC as part of a Rancho Mission Viejo project 2000 survey, CA-ORA-1560 has been described as a moderate scatter of ground and chipped stone tools, in a 30 x 40 m (98.4 x 131.2 ft) knoll top area along the east side of Chiquita Canyon (Demcak 2000d). Observed artifacts included 10 manos (five fragmented), six milling stone fragments, four scraper planes, four flake tools, and a hammerstone. No evidence of depth to the deposit is cited and the site was recommended for testing to assess NRHP eligibility (Demcak 2000a:8, 36).

During the SOCTIIP survey, six milling stone fragments (representing pieces of three implements), five manos, and a number of metavolcanic flakes were noted at CA-ORA-1560. These were arranged linearly along the knoll top and exposed in plow cuts in an area of approximately 75 x 20 m (246.1 x 65.6 ft). The occurrence suggests mechanical broadcast, perhaps from a much more localized or buried deposit in the vicinity.

CA-ORA-1561

CA-ORA-1561 was recorded by Demcak (2000a and e) as a sparse lithic scatter composed of three artifacts (two discoidals and a hammerstone). The discoidals were collected as part of the earlier recording efforts and no artifacts were encountered in the vicinity during the SOCTIIP survey.

Occupying a recorded area of 30 m (98.4 ft) E-W x 5 m (16.4 ft) N-S along the base of a west-trending ridge line in the CaZada Chiquita, the site has been described as a special purpose camp, perhaps ceremonial in nature, associated with other habitations in the general vicinity. No evidence of additional surface artifacts, or associated buried deposits, was encountered at the time of recording, and recommendations were subsequently made to test the property for NRHP eligibility (Demcak 2000a:36). It is not known if the testing has been done.

CA-ORA-1562

Recorded by ARMC as part of a Rancho Mission Viejo project 2000 archaeological survey, CA-ORA-1562 has been described as a moderate scatter of ground and chipped stone tools, in a 20 m (65.6 ft) E-W x 15 m (49.2 ft) N-S ridge top area on the east side of Chiquita Canyon (Demcak 2000e). Observed artifacts included three milling stone fragments, two mano fragments, a scraper plane, two flake tools, a core, chopper, and a hammerstone. No evidence of depth to the deposit was noted and the site has been recommended for testing pursuant to assessing NRHP eligibility (Demcak 2000a:14, 37).

During the SOCTIIP survey, a single facet platform core tool was noted at CA-ORA-1562. The artifact is of a gray meta-sedimentary material, approximately 5 cm (2.0 in) in diameter and 3 cm (1.2 in) thick, and exhibits secondary step-fracturing along one margin consistent with use as a chopping tool.

CA-ORA-1565

Recorded as part of a Rancho Mission Viejo project 2000 survey, CA-ORA-1565 was described as light scatter of ground and chipped stone tools on a knoll top along the east side of CaZada Gobernadora (Demcak 2000a, g). No artifacts were observed at this location during the SOCTIIP investigation.

Recorded at an elevation of 146.3 to 152.4 m (480-500 ft) above mean sea level (AMSL), CA-ORA-1565 encompasses an area measuring 280 x 140 m (918.6 x 459.3 ft) in outside dimension. Of unknown depth, the site has been recommended for testing pursuant to determining NRHP eligibility (Demcak 2000a:15, 37). It is not known if the testing has been done.

CA-ORA-1566

CA-ORA-1566 is described as a light scatter of chipped and ground stone tools on a knoll top overlooking an ephemeral drainage on the east side of CaZada Gobernadora. Recorded by

Demcak (2000a and h), the site occupies an area 60 m (196.8 ft) E-W x 10 m (32.8 ft) N-S and was represented by a milling stone, four manos and one mano fragment, a flake tool, and a hammer/abrader. Demcak (2000a:38) has suggested testing of this site. It is not known if the testing has been done. No cultural materials were observed in the vicinity during the current SOCTIIP field investigation.

6.3 SAN DIEGO COUNTY SITES

CA-SDI-1074

CA-SDI-1074 has also been identified as the site of a Juaneño village identified by Kroeber (1970:Plate 57) as *Hechmai* (Byrd 1993:3). It is located on the southeast bank of San Onofre Creek approximately 350 m (1148 ft) from the shoreline. Originally recorded as W-294 by Malcolm Rogers sometime between 1939 and 1945, it was formally recorded as CA-SDI-1074 in 1964 by W. R. James. The most recent site record update describes it as a 560 x 335-m (1837 x 1099 ft) surface scatter of marine shell and fire-affected rock of varying density with its long axis bisected by Interstate 5 and Pacific Coast Highway immediately south of San Onofre Creek (Byrd et al. 1994). Extensive disturbance due to construction is noted. The larger site area north of the highways appeared more disturbed than the smaller area south of them.

CA-SDI-1074 was surface collected by Rogers in 1950 (Waldron 1977:14) and Singer in 1993 (Byrd 1993:3). Subsurface tests by Buck in 1965 (Chace 1974), Singer et al. in 1993 and Byrd et al. in 1994 have all yielded substantial collections of midden shell, fish and mammal bone, chipped and ground stone artifacts, and worked shell and bone artifacts (Byrd 1993:3). It appears that, despite extensive construction disturbance, portions of the site remain relatively intact (Pignolo 1994:12). CA-SDI-1074 is considered eligible for the NRHP (Byrd 1994 et al.:178).

CA-SDI-1075

CA-SDI-1075 has been described as the site of a Juaneño village identified by Kroeber (1970:Plate 57) as *Hechmai* (Hines 1990:24), but Kroeber's map places *Hechmai* on the southeast bank of San Onofre Creek approximately 200 meters from the shoreline. Originally encountered in 1950, and recorded in 1964, this site has been represented as an extensive shell midden occupying a sea cliff between the arroyos San Mateo and San Onofre (James 1964). A surface collection was made in 1964 and the site suggested as exhibiting evidence of a deposit 75 cm (2.5 ft) in depth (Hines 1990:24).

Later investigation of the site by the California Department of Parks and Recreation suggested that by 1976 much of the recorded area had been destroyed by construction along Interstate 5 (I-5). Monitoring of utility trenching efforts in the vicinity the following year yielded only a scraper plane and a mano (Hines 1990:24).

In 1990, Hines and Rivers revisited the recorded location of CA-SDI-1075, near the intersection of I-5 and Basilone Road, as part of a re-evaluation of archaeological sites in the Pendleton Coast District (Hines 1990). They found only 10 flakes in the vicinity, and those only along the south

side of the freeway within apparently disturbed contexts. Suggesting that the site had been bladed away, either during construction of I-5 or for military use, they nonetheless recommended avoidance of the area if future development threatened (Hines 1990:29).

CA-SDI-1314

CA-SDI-1314 was recorded in 1972 by Riddell (1972b), and the site record was updated in 1990 by Hines and Rivers (1990a). The site is set on the lower terrace between Cristianitos and San Mateo Creeks and has variously been described as a light scatter of lithic tools and flakes in an area measuring 100 m (328.1 ft) NE-SW x 28 m (91.9 ft) NW-SE (Hines and Rivers 1990a); as a surface scatter of cores, core tools, manos, and fire-altered rock in a 30 x 40 m (98.4 x 131.2 ft) area (California Department of Parks and Recreation 1984:16); and as a "substantial archaeological site" of unknown dimension, marked by flakes, cores, and milling implements (Ewell 1986:12). No mention is made of any apparent depth to the deposit at CA-SDI-1314 by previous researchers, and no archaeological test or NRHP assessment appears to have been conducted.

CA-SDI-1315

Noting that evidence of a site at this location was meager, Riddell recorded CA-SDI-1315 in 1972 on the basis of a steep-edged plane, a few flakes, and some broken stone. Described as a seasonal campsite, or special use area, the site encompassed an area of approximately 46 m (150 ft) in diameter on a bluff east of San Mateo Creek (Riddell 1972b).

When revisited in 1986 during an examination prior to bank stabilization efforts along San Mateo Creek, surveyors found a sparse scatter of artifacts (one hammerstone, three cores, six flakes, and a mano fragment) along a 140 m (450 ft) section of the creek bank, and extending into an adjacent field. On the premise that the materials were representative of a secondary deposit, the result of grading activities in the adjacent field, the site was interpreted as lacking depositional integrity and was effectively destroyed by the bank stabilization project (Ewell 1986:11, 13).

In 1990, Hines and Rivers made two unsuccessful attempts to relocate CA-SDI-1315. The investigation included landforms surrounding the recorded location and found no evidence of cultural materials in the vicinity (Hines 1990:26; Hines and Rivers 1990a).

CA-SDI-4412

CA-SDI-4412 was originally recorded as a low-density prehistoric shell midden (Welch 1975). It occupies an 85 x 40 m (279 x 131 ft) area on a marine terrace ridge approximately 50 m (164 ft) south of the south border of CA-SDI-1075. A series of shovel test pits yielded chipped stone and ground stone artifacts as well as *Donax* and *Protothaca* sp. fragments from 10 to 47 cm (3.9 to 18.5 in) below surface. Site disturbances due to road and foundation construction were noted (Welch 1975).

The site was re-surveyed in 1990 and additional disturbances were cited (Hines and Rivers 1991). An historical monument marking the location of Forster City, a nineteenth century farming community, occupies a portion of CA-SDI-4412.

CA-SDI-13,323H

Observed in a road berm near a farming complex in the San Mateo Creek drainage, CA-SDI-13,323H was recorded in 1992 as part of the P-529 Sewage Effluent Compliance Project at MCB Camp Pendleton (Glenn and Crawford 1994). Described as a 270 m x 15 m (885.8 x 49.2 ft) concentration of historical refuse, observed artifacts included a glass medicine bottle, fragments of sun-colored amethyst, white, clear, aqua, and blue glass, pieces of ceramics, shell, metal, tile and animal bone (James et al. 1992). As the site would be impacted by that project, testing to assess NRHP eligibility was recommended. Later in the same report, however, the site was described as of limited integrity and thus lacking the criteria necessary for nomination to the NRHP (Glenn and Crawford 1994:31, 34).

Archaeological testing at CA-SDI-13,323H was undertaken in 1994 by Gallegos and Associates as part of the San Mateo Basin Groundwater Project at MCB Camp Pendleton which included a surface collection of artifacts and excavation of three STPs. Excavations recovered 1,456 historical artifacts that primarily dated from the mid-twentieth century, in association with disturbed prehistoric remains (shell fragments and four flakes). Citing a lack of apparent age (less than 50 years) and poor integrity, CA-SDI-13,323H was assessed as ineligible for inclusion on the NRHP (Strudwick and Gallegos 1994:iv).

CA-SDI-13,324

CA-SDI-13,324 was recorded by Ogden Environmental and Energy Services, Inc. (Ogden) in 1992 as part of the P-529 Sewage Effluent Compliance Project at Camp Pendleton. Artifacts observed included one flake associated with a 200 x 15 m (656.2 x 49.2 ft) scatter of marine shell fragments along the north side of Toby's Road adjacent to San Mateo Creek (James et al. 1992b). Noting a possible association with another newly recorded site (CA-SDI-13,325) to the southwest, Ogden recommended NRHP assessment of CA-SDI-13,324 prior to project construction (Glenn and Crawford 1994:24, 34).

Prior to testing, Gallegos and Associates conducted a surface survey of the site area and expanded the dimensions to 400 m (1,312.3 ft) N-S x 100 m (328.0 ft) E-W on the basis of surface indicators (shellfish remains) and STP results (Strudwick et al. 1994). Twenty-six STPs and three 1 x 1 m (3.3 x 3.3 ft) units were excavated at CA-SDI-13,324 and yielded cultural materials to a depth of 100 cm (39.4 in) from two apparent occupational loci. The excavations recovered 85 artifacts, more than 5,000 g (176.4 oz) of shell, 65 g (2.3 oz) of bone, two fish otoliths, charcoal, and fire-altered rock. Included among the artifacts were 71 pieces of chipped stone debitage, four modified flakes, three unidentified ground stone fragments, two milling stone fragments, a mano, a shell bead, one biface fragment, a Cottonwood Triangular projectile point, and historic discards. Identified shellfish species were described as representative of a rocky marine habitat and were dominated by fragments of *Protothaca staminea*, *Tegula* sp., and *Mytilus* sp. (Strudwick et al. 1994:iv-v).

The projectile point suggested a Late Period occupation and the depth and integrity of the deposit supported its research potential. Again citing a possible association with CA-SDI-13,325, and the apparent potential of CA-SDI-13,324 to address important local and regional research issues, the site was suggested as important under CEQA guidelines and eligible for inclusion on the NRHP (Strudwick et al. 1994:v).

CA-SDI-13,325

Recorded by Ogden in 1992 as an extensive 500 x 1,100 m (1,640.4 x 3,641.7 ft) occupation site exhibiting a wide variety of lithic artifacts and marine shell fragments, CA-SDI-13,325 is on a low terrace northeast of I-5 and south of the San Mateo Creek drainage (Byrd 1993; James et al. 1992c). On the basis of surface manifestations, CA-SDI-13,325 was described as of high potential for eligibility to the NRHP, and avoidance or mitigation of impact to the resource was recommended (Glenn and Crawford 1994:34-35).

Archaeological testing in 1994 by BMA was preceded by a surface survey that reduced the site area to approximately 400 x 300 m (1,312.3 x 984.3 ft). Included in this more restricted area were two locations of greater concentration of surface artifacts and shellfish remains designated as Locus A and Locus B. Excavations at CA-SDI-13,325 included 53 STPs, seven 1 x 1 m (3.3 x 3.3 ft) units, and four backhoe trenches. Surface collection grids and STPs were employed to establish site and loci boundaries and units set accordingly within the two loci (Byrd et al. 1994:94).

Locus A is defined as a 150 x 110 m (492.1 x 360.9 ft) area in the northwestern portion of CA-SDI-13,325, and Locus B is defined as a 180 x 100 m (590.6 x 328.1 ft) area along the southeastern boundary. Of the two, Locus A is described as exhibiting the greater density of surface artifacts and shell and was responsible for most of subsurface material recovered. Excavation found evidence of mechanical disturbance attributed to agricultural plowing across the site to a depth of 50 cm (19.7 in). At Locus A, site deposits were found to exceed this depth while at Locus B, cultural materials were confined to the disturbed soils (Byrd et al. 1994:94, 100).

Excavation at Locus A found evidence of cultural deposits to 90 cm (35.4 in) that are described as rich in artifacts, ecofacts, and fire-altered rock. No discrete features were encountered but four samples were submitted for radiocarbon dating, one each of carbon and shell from Units 1 and 2. When the dates were interpreted, they suggested primary occupation of the site some 3000 years before present (B.P.) (Byrd et al. 1994:100).

CA-SDI-13,325 was interpreted as a prehistoric habitation site that had been intensively occupied over a considerable period of time, represented by a "formidable and diverse range of cultural material." Assessed as eligible for inclusion on the NRHP, avoidance of the resource was recommended. Because no intact cultural deposit was located outside of Locus A, further recommendations were made to confine construction to areas outside its limits, with earth-moving to be accompanied by an archaeological monitor (Byrd 1994:125, 178).

In 1998, during monitoring of geological auger bores for the CP Alignment (now the Far East Alternative) of the Foothill Transportation Corridor, GandA encountered evidence of a buried deposit in the vicinity of CA-SDI-13,325. In this investigation, Auger 1, set along a dirt road near the southwest boundary of CA-SDI-13,325, encountered evidence of a cultural deposit between 2.74 m and 2.89 m (9.0-9.5 ft) below surface. Consisting of a well-defined lens of darkened soils marked by fragments of *Protothaca staminea*, the occurrence was taken to suggest buried midden soils. Citing evidence of surface materials in a nearby field, dominated by shell fragments (*Protothaca staminea*) but including lithic artifacts, a possible association with CA-SDI-13,325 was proposed for the buried deposit. Whether this occurrence was representative of a continuous deposit or a discrete component of occupation at the site was not established, but a site record update expanding the boundaries of CA-13,325 into the area was prepared and additional research potential at the site confirmed (Hale 1998:4-6).

6.4 SUMMARY AND CONCLUSIONS

6.4.1 METHODOLOGY RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES

6.4.1.1 Section 106 Coordination

36 CFR Section 800.4 (b)(2) states that "The Agency Official may also defer final identification and evaluation of historic properties if it is specifically provided for in a Memorandum of Agreement executed pursuant to Section 800.6, a programmatic agreement executed pursuant to Section 800.14 (b), or the document used by an agency official to comply with the National Environmental Policy Act pursuant to Section 800.8." An agreement document [Memorandum of Agreement (MOA) or Programmatic Agreement (PA)], currently in preparation, will be in place prior to the circulation of the Final EIS. The agreement document will govern the process and procedures for continuing Section 106 compliance for the SOCTIIP. The objectives of the agreement document are to provide:

a. That FHWA and MCB Pendleton are the lead Federal Agencies and that the other agencies delegate their Section 106 responsibilities to FHWA and MCB Pendleton;

b. That FHWA, MCB Pendleton and the State Historic Preservation Officer (SHPO) have agreed that the project shall be implemented with stipulations that will specify the responsible parties, subsequent actions to be accomplished and the time frame within which these activities will be completed.

It will also include a listing of all parties invited to consult on the document; stipulation on the determination of the project Area of Potential Effect; stipulation on Phased Identification and Evaluation Process; stipulation on the implementation of portions of the Undertaking; stipulation on preparation of Historic Property Treatment Plans (HPTPs); stipulation on the review of the HPTPs; stipulation on changes in construction and ancillary areas; stipulation on preparation of annual reports; stipulation on the curation of recovered materials and supporting documents (field records); stipulation on treatment of human remains and cultural objects discovered that are subject to the Native American Graves Protection and Repatriation Act; stipulation on

inadvertent discoveries; stipulation on evaluation methodology to assess the affects of each alternative on historic properties; and stipulations on dispute resolution, and agreement amendment and termination.

The cultural resource investigations are being conducted under Section 106 of the National Historic Preservation Act (Advisory Council on Historic Preservation 1999) guidelines and include a review of historical and archaeological archival sources and a pedestrian survey of the proposed project alignments. The records search was undertaken at the South Central Coastal Information Center, California State University, Fullerton; at the South Coastal Information Center, California State University, San Diego; and at the facilities of the San Diego Museum of Man. The pedestrian survey was conducted between April 16 and May 8, 2001 and resulted in the identification of four isolated artifacts. No previously unknown site locations were encountered. The technical report provides the findings of the archival review and the project related field efforts and describes cultural resources identified along the alignments of the SOCTIIP build alternatives and identifies the potential impacts on cultural resources along each alternative.

This investigation provides the information necessary for the California Department of Transportation (the Department) and Federal Highway Administration (FHWA) review in accordance with federal law. These studies are required by the Advisory Council on Historic Preservation regulations (36 C.F.R. *800.1* et seq.) for implementing Section 106 of the National Historic Preservation Act (NHPA). These regulations require federal agencies to take into consideration the potential effects of proposed undertakings on historic properties. Section 106 studies provide the information necessary to satisfy legal requirements for environmental documents under the National Environmental Policy Act (NEPA). Incorporated in these objectives are FHWA administrative regulations (23 C.F.R. 771 et seq.), and current practices of the State Historic Preservation Officer (SHPO) and the Department.

The SOCTIIP is also subject to compliance with the California Environmental Quality Act (CEQA), as amended through 2003. CEQA exists to ensure that governmental decision makers consider the potential significant environmental effects of proposed projects before taking action. The CEQA lead agency is responsible for determining whether a significant adverse environmental impact may occur and whether it can be mitigated to a level of insignificance. Where substantial evidence indicates that a significant adverse effect may occur, the lead decision-making agency is required to prepare an Environmental Impact Report (EIR) which discusses in detail the potential impact and feasible means of avoiding or reducing it.

As the lead federal agency, FHWA is tasked with taking into account the effects of this undertaking on historic properties (36 C.F.R. 800.1 et seq.). In order to assist FHWA to meet its regulatory responsibilities under Section 106 (36 C.F.R. *800.4* et seq.), identification of historic properties, the Transportation Corridor Agencies (TCA) is proposing to implement its SOCTIIP cultural resource program under section *800.4* (b)(2), which provides for phased identification and evaluation. This particular subsection is specifically for consideration of corridor alternatives. To quote in brief:

> The [identification and evaluation] process should establish the likely presence of historic properties within the area of potential effects for each alternative or inaccessible area through background research, consultation and an appropriate level of field investigation, taking into account the number of alternatives under consideration, the magnitude of the undertaking and its likely effects, and the views of the SHPO (36 C.F.R. *800.4* (b)(2).

As specific aspects and locations of alternatives are determined, TCA will implement identification and evaluation of historic properties in accordance with C.F.R. *800.4* (b)(1) and (C) which govern level of effort and evaluation of significance.

FHWA has coordinated with *SHPO* on the proposed SOCTIIP. In early 2003, FHWA submitted the cultural resources scope of work and the description of the proposed Phased Identification Approach to SHPO for review and initiated the Section 106 consultation for the SOCTIIP. Subsequently, SHPO requested detailed study area maps and indicated the need for an agreement document to coordinate Section 106 compliance for all Federal Agencies who consider the SOCTIIP a Section 106 undertaking, and direct the subsequent Section 106 compliance process for SOCTIIP. The TCA provided SHPO with detailed maps of the project alternatives, the study area for each alternative and the known cultural resources in the study area. On January 8, 2004, FHWA, Caltrans, SHPO and TCA met to discuss the SOCTIIP, review the proposed Phased Identification process and need for an agreement document, and to discuss subsequent steps in the process. At that meeting, SHPO indicated that an agreement document, as discussed above, would be needed for the SOCTIIP; this agreement document is currently in.preparation by FHWA. The Office of Historic Preservation has verbally agreed that a phased identification approach is an appropriate vehicle for addressing SOCTIIP Section 106 compliance.

6.4.1.2. Phased Approach

As the lead federal agency, FHWA is required to take into account the effects of this undertaking on historic properties (36 C.F.R. 800.1 et seq.). In order to assist FHWA to meet its regulatory responsibilities under Section 106, the Transportation Corridor Agencies (TCA) is proposing to implement its SOCTIIP cultural resource program under Section 800.4 (b)(2), which provides for phased identification and evaluation. This particular subsection pertains to large land areas, land to which access is denied, and is also relevant to consideration of multiple corridor alternatives. To quote in brief:

> The [identification and evaluation] process should establish the likely presence of historic properties within the area of potential effects for each alternative or inaccessible area through background research, consultation and an appropriate level of field investigation, taking into account the number of alternatives under consideration, the magnitude of the undertaking and its likely effects, and the views of the SHPO [36 C.F.R. 800.4 (b)(2)].

The phased approach to identification and evaluation is selected because there are multiple alternatives and the final SOCTIIP alternative has not been selected. This avoids unnecessary impacts to resources along alignments that are not ultimately chosen. The first phase (Phase I),

represented by this document, consists of background research and field survey of all accessible land within the Study Area for each proposed alignment, so that the various alternatives can be compared based on the number of known archaeological sites. Activities that will be completed during the planning stage and that have the potential to affect cultural resources (e.g., geotechnical investigations) are also addressed, subject to the results of the records search and field surveys.

Assuming that the data provided from Phase I are sufficient to warrant the additional steps of further research and archaeological site evaluations under a Phase II effort, a Memorandum of Agreement (MOA) will be prepared binding the parties to a commitment that will include evaluation of the National Register eligibility of all identified archaeological sites and stipulations for the mitigation of unavoidable adverse impacts upon sites found to be significant/eligible. This will be prepared in consultation with FHWA, the Department, SHPO, and, as appropriate, Marine Corps Base Camp Pendleton (MCB Camp Pendleton). The Phase II effort will then include field testing as necessary to assess the integrity and scientific research potential of archaeological sites, or their status as Traditional Cultural Places (PCPs) among the affiliated Native American groups.

The Phased Approach was discussed in detail with FHWA and Caltrans as the scope of work for the technical report was developed.

An identification study on the alternatives was conducted using the scope of work developed through the Collaborative Process. Since the Phased Approach agreement document is still in development, the identification work reported in this document may not fulfill the stipulations of the final agreement document. The results of the study are presented to provide a background to the cultural resources currently known within the alternatives and to summarize the identification studies conducted to date. Briefly, the work included the following:

1. Development of the study areas for archeological (0.4 to 0.8 km (0.25 to 0.5 mi) and historic (100 m (328.1 ft) from the maximum disturbance limit).
2. Field surveys.
3. Records, literature and mapping research.
4. Initiation of Native American consultation.
5. Development of summaries of resources potentially impacted by each alternative.

A research design would be completed in consultation with FHWA, Caltrans, MCB Camp Pendleton and SHPO prior to conducting evaluations of cultural resources.

6.4.1.3 Subsequent Section 106 Compliance Activities

A programmatic agreement document will be in place prior to the circulation of the FEIS that will direct all further Section 106 compliance activities (Section 6.4.1.1 above). Upon circulation of the final EIS, identified cultural resources along the Preferred Alternative will be evaluated for their eligibility for listing on the National Register. The results of the evaluation process will be used to help inform the development of the ROD and Selected Alternative. If resources are identified within the project area that are eligible for listing on the National

Register, project plans will be reviewed to determine if impacts to the resource from the project can be avoided. If avoidance of the impact cannot be effected, engineering and design options that will minimize the impact to the extent feasible will be investigated. If there will be adverse affects to historic properties as defined by the NHPA, a separate Memorandum of Agreement will be developed subject to 36 CFR *800.6* (a)(l)(c) and consulted on prior to issuance of the Record of Decision for the Final EIS:

6.4.2 IMPACTS RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES

6.4.2.1 Construction Impacts Related to Archaeological and Historic Resources

Impacts on archaeological and historic resources during construction are related to the damage or destruction of these resources that could occur during demolition, earthmoving and other construction activities. These impacts to archaeological and historic resources would be adverse.

6.4.2.2 Long Term Impacts Related to Archaeological and Historic Resources

The long term impacts related to archeological and historic resources are generally indirect in nature. Long-term potential impacts associated with increased noise levels, reduction in air quality and increases in traffic volume in the vicinity of historic resources could potentially affect the public access and enjoyment of these resources. In the case of archeological resources, public access could potentially be made available to previously inaccessible resources, thereby increasing human presence in those areas. Increased human presence creates opportunities for increased disturbance of archeological resources including the potential for scavenging and/or damage by relic collectors.

6.4.3 MITIGATION MEASURES RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES

6.4.3.1 Mitigation Measures Originally Identified in TCA EIR No.3

Mitigation measures were provided in the MMP for TCA EIR No.3 for the Foothill Transportation Corridor - Oso Parkway to 1-5, to minimize the impacts to archaeological and historical resources identified for the alignments analyzed in that EIR. All the mitigation measures in the MMP for TCA EIR No. 3 were reviewed and have been incorporated, as applicable, in the mitigation measures for the SOCTIIP build Alternatives.

6.4.3.2 Mitigation Measures Related to Archaeological Resources

Section 106 compliance for the undertaking will be accomplished through the Phased Identification process and the project Programmatic Agreement, when signed. Actual mitigation measures, while included under more generalized measures, will be specifically called out in the project Programmatic Agreement and subject documents.

The project agreement document discussed earlier in Section 6.4.1.1 will be used to establish all Section 106 compliance activities and NEPA mitigation measures. This agreement document will be in place prior to certification of the Final EIS. Mitigation measures for archaeological

resources will be conducted as subsequent phases of the phased identification and evaluation process under the final agreement document.

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-22 (includes CA-SDI-4282, -4535, -8435, -11703, -11929, -13071)	Yes	Yes	Chipped stone, ground stone, shell, buried midden, pottery, hearth features, burials San Mateo Archaeological National Register District	Byrd 1998 Romani and Romani 1997 Romani and Slawson 1997 Strudwick 1994 Strudwick and Gallegos 1994 Hines 1990 Hines and Schwaderer 1989 Romani 1980 Cook and White 1977 and 1976 Welch and Ezell 1975 Archaeological Research, Inc. 1973 Unknown 1949a	NA	Partially destroyed	Yes - listed
CA-ORA-26	Yes	Yes	Chipped stone, ground stone	Demcak 1994b and 2000a Demcak and Velechovsky 1996 Toren 1997 Romani and Slawson 1997 Brown 1989a Van Bueren et al. 1988 Romani and Wlodarski 1986 Romani 1986 Demcak et al. 1986 ARMC 1980 Schuster 1977 CALTRANS 1987b Unknown 1949b	Yes	Tested Surface collected Partially destroyed	No

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-362	Yes	Yes	Chipped stone, ground stone	Romani and Slawson 1997 Toren 1997 Brown 1992 and 1989a Bissell 1988 McKenna et al. 1988 Hatheway and McKenna 1988a Unknown 1988 Demcak et al. 1986 Cooley and Cottrell 1980 Riddell 1972a	Yes	Tested Surface collected	Unknown
CA-ORA-363	Yes	Yes	Chipped stone, FAR	Romani and Slawson 1997 Toren and Greenwood 1997 Toren 1997 Brown 1992 and 1989a Bissell 1988 McKenna et al. 1988 Hatheway and McKenna 1988b Unknown 1988 Demcak et al. 1986 Cooley and Cottrell 1980 Cooley and Grove 1980 Riddell 1972b	Yes	Tested Surface collected	No
CA-ORA-504	Yes	Yes	Chipped stone, ground stone	Tadlock 1974	NA	Destroyed	No
CA-ORA-599	Yes	Yes	Shell, midden soil	Jertberg 1976	NA	Mechanically disturbed	Unknown
CA-ORA-638	NA	NA	Chipped stone, ground stone, midden, shell	Langenwalter 1977	NA	Destroyed	Unknown

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-639	NA	NA	Chipped stone, ground stone, midden soil	Brown 1996 Bissell 1988 Cameron 1987 LSA, Inc. 1983 Stickel et al. 1979 Stickel 1978 Langenwalter 1977 Langenwalter and Langenwalter 1977a	NA	Tested Surface Collected Destroyed	Yes Impact Mitigated
CA-ORA-640	NA	NA	Chipped stone, ground stone	Bissell 1988 Cameron 1987 McCoy and Phillips 1980 Langenwalter 1977 Langenwalter and Langenwalter 1977b	NA	Tested Surface collected Destroyed	No
CA-ORA-656	Yes	Yes	Chipped stone, ground stone, midden shell	Peak 1973	NA	Partially destroyed	Unknown
CA-ORA-700	Yes	Yes	Chipped stone, ground stone, discoidal	Whitney-Desautels 1993 Whitney-Desautels and Sundberg 1992 Brown 1989a McCoy and Phillips 1980 Cultural Systems Research, Inc. 1979 Schuster and Jacobs 1977	No	Tested Surface collected	No

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-779	Yes	Yes	Chipped stone	Toren 1997 Romani and Slawson 1997 Brown 1989a Van Buren et al. 1988 McKenna et al. 1988 Demcak et al. 1986 Cottrell and Demcak 1984a Cooley and Cottrell 1980 Cultural Systems Research, Inc. 1979 Allen 1979a	No	Tested Surface collected	No
CA-ORA-780	Yes	Yes	Isolated mortar fragment	Toren 1997 Brown 1989a Van Buren et al. 1988 McKenna et al. 1988 Cooley and Cottrell 1980 Cultural Systems Research, Inc. 1979 Allen 1979b	No	Tested	No
CA-ORA-781	Yes	Yes	Isolated core	Toren 1997 Whitney-Desautels 1993 Whitney-Desautels and Sundberg 1992 Brown 1989a Van Buren et al. 1988 Demcak et al. 1986 Cultural Systems Research, Inc. 1979 Allen 1979c	No	Tested	No
CA-ORA-837	NA	NA	Chipped stone, ground stone	Huey 1991 Bissell 1991 Cottrell et al. 1986 Wallace and McKinney 1979a	NA	Destroyed	No
CA-ORA-838	NA	NA	Chipped stone, ground stone	Huey 1991 Bissell 1991 Cottrell et al. 1986 Wallace and McKinney 1979b	NA	Destroyed	No

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-881	Yes	Yes	Chipped stone, ground stone	Demcak and Velechovsky 1996 Demcak 1994a and b ARMC 1980 Cooley and Sullivan 1980	NA	Tested Surface collected Partially destroyed	No
CA-ORA-882	Yes	Yes	Chipped stone, shell, hearth features, faunal bone	Demcak 2000a and 1987 Brown 1992 Van Bueren et al. 1988 Demcak et al. 1986 ARMC 1980 Cooley 1980a	No	Tested Surface collected Pipeline and access road constructed	Yes
CA-ORA-886	NA	NA	Chipped stone, ground stone	Demcak and Velechovsky 1996 Demcak 1994b ARMC 1980 Cooley 1980b	NA	Tested Surface collected Partially destroyed	No
CA-ORA-893	NA	NA	Chipped stone, ground stone	Demcak and Velechovsky 1996 and 1997 Demcak 1994b ARMC 1980 Cooley 1980c	NA	Tested Surface collected Partially destroyed	Yes Impact mitigated
CA-ORA-895	NA	NA	Chipped stone, ground stone	Allen and Demcak 2000 Demcak and Velechovsky 1996 Demcak 1994b ARMC 1980 Cooley and Clevenger 1980	NA	Tested Surface collected Partially destroyed	No
CA-ORA-902	Yes	Yes	Chipped stone, ground stone	Demcak and Velechovsky 1996 Demcak 1994a and b Brown 1989a ARMC 1980 Cooley 1980d	NA	Tested Surface collected Partially destroyed	No
CA-ORA-903	NA	NA	Chipped stone, ground stone	Malone 1979	NA	Tested Destroyed	No

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-907/908	Yes	Yes	Chipped stone, ground stone, FAR, clay pipe, shell, beads, Multiple loci	Romani 1997 Romani et al. 1997 Romani and Slawson 1997 Shackley et al. 1989 Van Bueren et al. 1988 Van Bueren 1988a Hatheway and McKenna 1988c and d McKenna et al. 1988 Gross and Shackley 1988 Gross et al. 1988 Grove et al. 1988a and b Unknown 1988 Demcak et al. 1986 Cooley and Cottrell 1980	Yes	Tested Surface collected Partially destroyed?	Yes
CA-ORA-909	Yes	Yes	Chipped stone, ground stone	Grove et al. 1988 Hatheway and McKenna 1988c and d	NA	Mechanically disturbed	Unknown
CA-ORA-912	Yes	Yes	Chipped stone	Brown 1989a McKenna et al. 1988 Hatheway and McKenna 1988e Bissell 1988 Unknown 1988 Demcak et al. 1986 Cooley and Cottrell 1980 Grove and Cooley 1980a	Yes	Unknown	Unknown
CA-ORA-914	Yes	Yes	Chipped stone, ground stone, shell	Brown 1989a Shackley et al. 1989 Bissell 1988 McKenna et al. 1988 Hatheway and Mckenna 1988f Unknown 1988 Demcak et al. 1986 Cooley and Cottrell 1980 Grove and Cooley 1980b	Yes	Tested Surface collected Mechanically disturbed	No

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-915	Yes	Yes	Chipped stone, ground stone, milling feature	Brown 1989a Shackley et al. 1989 Bissell 1988 McKenna et al. 1988 Hatheway and McKenna 1988g Unknown 1988 Demcak et al. 1986 Cooley and Cottrell 1980 Grove 1980a	Yes	Tested Surface collected	No
CA-ORA-916	Yes	Yes	Chipped stone, FAR	Demcak 2000a Romani and Slawson 1997 Romani et al. 1997 Brown 1989a Shackley et al. 1989 Bissell 1988 McKenna et al. 1988 Hatheway and McKenna 1988h Unknown 1989 Demcak et al. 1986 Cooley and Cottrell 1980 Grove 1980b	No	Tested Surface collected	No
CA-ORA-917	No	Yes	Chipped stone	McKenna et al. 1988 Hatheway and McKenna 1988i Unknown 1988 Cooley and Cottrell 1980 Grove and Cooley 1980c	No	Unknown	Unknown
CA-ORA-919	Yes	Yes	Chipped stone, ground stone, FAR	Shackley et al. 1989 McKenna et al. 1988 Hatheway and McKenna 1988j Unknown 1988 Cooley and Cottrell 1980 Cooley 1980e	No	Tested Surface collected	No

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-920	Yes	Yes	Chipped stone, ground stone, midden soil, FAR	Shackley et al. 1989 McKenna et al. 1988 Hatheway and McKenna 1988k Unknown 1988 Cooley and Cottrell 1980 Grove and Cooley 1980d	Yes	Tested Surface collected	No
CA-ORA-921/1127	Yes	Yes	Chipped stone, ground stone, shell, bone, FAR, buried midden, beads, pottery, burial	Demcak 2000a Romani et al. 1997 Romani and Slawson 1997 Jones 1991b and c Brown 1992 and 1989a Van Bueren et al. 1988 Bissell 1988 Brown and Bissell 1988a and g McKenna et al. 1988 Demcak et al. 1986 Cooley and Cottrell 1980 Grove and Cooley 1980e	Yes	Tested Surface collected	Yes
CA-ORA-997	Yes	Yes	Chipped stone, ground stone, FAR, shell, midden soil, beads, faunal bone	Demcak 2000a Romani et al. 1997 Romani and Slawson 1997 Julien and Demcak 1993 Romani and Romani 1995 Van Bueren et al. 1988 Dies 1988 Demcak et al. 1986 Cottrell 1984a Cottrell and Demcak 1984c	Yes	Tested Surface collected Pipeline and access road constructed	Yes

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1021	Yes	Yes	Chipped stone, ground stone	Demcak 2000a Brown 1992 Hatheway and McKenna 1981 McKenna et al. 1988 Bissell 1988 Demcak et al. 1986 Cottrell et al. 1983, 1986	No	Possibly destroyed	Unknown
CA-ORA-1027	No	Yes	Chipped stone, ground stone, FAR	Bissell 1988 McKenna et al. 1988 Hatheway and McKenna 1988m Unknown 1988 Cottrell 1983 Murray and Clevenger 1983	No	Unknown	Unknown
CA-ORA-1035	NA	NA	(Chipped stone, ground stone, midden, shell, hearth features, burial)	Bissell and McKenna 1992 Becker and Brown 1992a Schroth and Cameron 1983a and b	NA	Combined in CA-ORA-1338	NA
CA-ORA-1036	NA	NA	(Chipped stone, ground stone, midden, shell, hearth features, burial)	Landis 1994 Bissell and McKenna 1992 Bissell and Brown 1992a Schroth and Cameron 1983a Schroth et al. 1983a	NA	Combined in CA-ORA-1338	NA
CA-ORA-1037	NA	NA	(Chipped stone, ground stone, midden, shell, hearth features, burial)	Bissell and McKenna 1992 Becker and Brown 1991a Schroth and Cameron 1983a Schroth et al. 1983b	NA	Combined in CA-ORA-1338	NA
CA-ORA-1038	NA	NA	(Chipped stone, ground stone, midden, shell, hearth features, burial)	Bissell and McKenna 1992 Becker and Brown 1991b Schroth and Cameron 1983a Schroth et al. 1983c	NA	Combined in CA-ORA-1338	NA

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1039	NA	NA	(Chipped stone, ground stone, midden, shell, hearth features, burial)	Bissell and McKenna 1992 Becker and Brown 1992b Whitney-Desautels 1991 Schroth and Cameron 1983a Schroth et al. 1983d	NA	Combined in CA-ORA-1338	NA
CA-ORA-1042	Yes	Yes	Chipped stone, ground stone, FAR	Demcak 2000a Romani 1997 Julien and Demcak 1993 Brown 1989a Van Bueren et al. 1988 Bissell 1988 Demcak 1987 Demcak et al. 1986 Cottrell 1984b and c	No	Tested Surface collected Pipeline and access road constructed	No
CA-ORA-1043	Yes	Yes	Chipped stone, ground stone, shell, faunal bone, buried midden, hearth features, pottery, burials	Demcak 2000a and 1999 Jones et al. 1995 Jones 1993 Julien and Demcak 1993 Brown 1992 and 1989a Demcak and Del Chario 1989 Van Bueren et al. 1988 Bissell 1988 Brown and Bissell 1988b Demcak et al. 1986 Cottrell 1984b	Yes	Tested Surface collected Pipeline and access road constructed	Yes

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1050	Yes	Yes	Chipped stone, ground stone, FAR	Demcak 2000a Jones et al. 1995 Julien and Demcak 1993 Brown 1992 and 1989a Demcak and Del Chario 1989 Bissell 1988 Brown and Bissell 1988c Demcak et al. 1986 Cottrell 1984a Cottrell and Demcak 1984b	No	Tested Surface collected	No
CA-ORA-1053	NA	NA	Chipped stone, ground stone, midden, shell, hearth features	Schroth and Cooley 1984	NA	Destroyed	Unknown
CA-ORA-1106	Yes	Yes	Chipped stone, ground stone, FAR	Demcak 2000a Romani and Slawson 1997 Toren 1997 Demcak et al. 1986	Yes	Surface collected	No
CA-ORA-1107 (two component)	NA	NA	Chipped stone, ground stone, midden, shell, faunal bone, discoidal. Historical trash deposit	Dibble 1986 Becker 1991 Bonifacic 99	NA	Tested Mechanically disturbed	No
CA-ORA-1111	Yes	Yes	Chipped stone, ground stone	Romani and Huey 1986	NA	Partially destroyed	Unknown

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1124	Yes	Yes	Chipped stone, ground stone	Demcak 2000a Brown 1992 and 1989a Jones 1991a Bissell 1988 Brown and Bissell 1988d Van Bueren 1988b Van Bueren et al. 1988	No	Mechanically disturbed (capped)	Unknown
CA-ORA-1125	Yes	Yes	Chipped stone, ground stone, discoidal	Demcak 2000a Romani and Slawson 1997 Toren 1997 Toren and Greenwood 1997 Brown 1992 Jones 1991b Demcak and Del Chario 1989 Van Bueren et al. 1988 Bissell 1988 Brown and Bissell 1988e	No	Tested Surface collected	No
CA-ORA-1144	No	Yes	Chipped stone, ground stone, FAR, midden soil	Demcak 2000a Romani and Slawson 1997 Romani et al. 1997 Brown 1989a Van Bueren et al. 1988 Bissell 1988 Brown and Bissell 1988h	Yes	Partial test Surface collected	No
CA-ORA-1163	Yes	Yes	Chipped stone, ground stone, FAR	Hatheway and McKenna 1988o McKenna et al. 1988 Gross et al. 1988 Gross and Shackley 1988	No	Destroyed by housing development	No
CA-ORA-1168	Yes	Yes	Chipped stone, ground stone, FAR	Hatheway and McKenna 1988p Shackley et al. 1989 McKenna et al. 1988	No	Destroyed by housing development	No

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1169	Yes	Yes	Chipped stone, ground stone, FAR	Hatheway and McKenna 1988q Shackley et al. 1989 McKenna et al. 1988	No	Destroyed by housing development	No
CA-ORA-1175	Yes	Yes	Chipped stone	Shackley et al. 1989 Hatheway and McKenna 1988r McKenna et al. 1988	No	Destroyed by development	No
CA-ORA-1176	Yes	Yes	Chipped stone	Hatheway and McKenna 1988s McKenna et al. 1988	No	Unknown	Unknown
CA-ORA-1177	Yes	Yes	Chipped stone, ground stone	Shackley et al. 1989 Hatheway and McKenna 1988t McKenna et al. 1988	No	Tested Surface collected	No
CA-ORA-1178	Yes	Yes	Chipped stone, ground stone, FAR	McKenna et al. 1988 Hatheway and McKenna 1988u	Yes	Unknown	Unknown
CA-ORA-1183	Yes	Yes	Chipped stone, ground stone, FAR	McKenna et al. 1988 Hatheway and McKenna 1988v	No	Unknown	Unknown
CA-ORA-1184	Yes	Yes	Chipped stone, ground stone	Brown 1992 Hatheway and Mckenna 1988w McKenna et al. 1988	No	Unknown	Unknown
CA-ORA-1215H	NA	NA	Mission wall foundations	Huey 1991 Petershagen and Tordoff 1991 De Barros 1989 Winter et al. 1988	NA	Unknown	Unknown
CA-ORA-1222	No	Yes	Chipped stone, ground stone	Demcak 2000a Evans 2000 Romani et al. 1997 Romani and Slawson 1997 Brown 1989a and b Van Bueren 1988c Van Bueren et al. 1988	Yes	Tested Surface collected	Yes

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1271H (two components)	NA	NA	Chipped stone, ground stone, midden, shell, pottery, bone artifacts. Forster Mansion	Sundberg 1991 Brock 1991	NA	Mechanically disturbed Good	Yes – Mansion; Unknown for the archaeological components
CA-ORA-1327	NA	NA	Historical structures Possible prehistoric deposits	Becker and McKenna 1992	NA	Good	Unknown
CA-ORA-1328	NA	NA	Historical structures	Becker and McKenna 1992	NA	Good	Unknown
CA-ORA-1329	NA	NA	Historical structures	Becker and McKenna 1992	NA	Good	Unknown
CA-ORA-1330	NA	NA	Historical structures	Becker and McKenna 1992	NA	Good	Unknown
CA-ORA-1335	NA	NA	Chipped stone, ground stone	Demcak 1997 Demcak and Velechovsky 1996 and 1997 Demcak 1994b Brown and Shined 1992	NA	Tested Surface collected Partially destroyed	Yes Impact mitigated
CA-ORA-1338 (includes CA-ORA-1035 through -1039)	NA	NA	Chipped stone, ground stone, midden, shell, hearth features, burial	Hale and Schmidt 2000 Foster 1999 Bissell and McKenna 1992 Landis and Cerreto 1994 Landis 1994 Bissell and Brown 1992a Becker and Brown 1991a and b; 1992a and b	Yes	Mechanically disturbed	Unknown

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1446	Yes	Yes	Chipped stone, ground stone	Demcak 2000a Van Bueren 1988c Van Bueren et al. 1988	No	Unknown	Unknown
CA-ORA-1447	Yes	Yes	Chipped stone, ground stone	Demcak 2000a Romani 1997 Van Bueren et al. 1988 Van Bueren 1988e	Yes	Tested Surface collected	No
CA-ORA-1452/1126	Yes	Yes	Chipped stone, ground stone, shell	Demcak 2000a Romani and Slawson 1997 Romani et al. 1997 Toren 1997 Brown 1992 Jones 1991b Brown 1989a Van Bueren et al. 1988 Sorensen 1988 Bissell 1988 Brown and Bissell 1988f	Yes	Tested Surface collected	No
CA-ORA-1556	No	Yes	Chipped stone, ground stone, discoidal	Demcak 2000a Wakefield 2000	Yes	Unknown	Unknown
CA-ORA-1559	Yes	Yes	Chipped stone, ground stone, discoidal	Demcak 2000a and c	Yes	Surface collected	Unknown
CA-ORA-1560	Yes	Yes	Chipped stone, ground stone	Demcak 2000a and d	Yes	Good	Unknown
CA-ORA-1561	Yes	Yes	Two discoidals; one hammerstone	Demcak 2000a and e	No	Surface collected	Unknown
CA-ORA-1562	Yes	Yes	Chipped stone, ground stone	Demcak 2000a and f	Yes	Unknown	Unknown
CA-ORA-1565	Yes	Yes	Chipped stone, ground stone	Demcak 2000a and g	No	Unknown	Unknown

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-ORA-1566	Yes	Yes	Chipped stone, ground stone	Demcak 2000a and h	No	Unknown	Unknown
CA-SDI-1074	Yes	Yes	Chipped stone, ground stone, shell, midden soil, faunal bone, shell and bone artifacts	Byrd et al. 1994 Pigniolo 1994 Byrd 1993 Hines 1990 Hines and Rivers 1990a Chace 1975 Waldron 1975 James 1964	NA	Partially destroyed	Yes
CA-SDI-1075	Yes	Yes	Chipped stone, ground stone, shell, midden	Hines 1990 Hines and Rivers 1990a Waldron 1975 James 1964	NA	Partially destroyed	Unknown
CA-SDI-1314	Yes	Yes	Chipped stone, ground stone, FAR	Hines 1990 Hines and Rivers 1990a Ewell 1985 Department of Parks and Recreation 1984 Riddell 1972b	NA	Mechanically disturbed	Unknown
CA-SDI-1315	Yes	Yes	Chipped stone, ground stone	Hines 1990 Hines and Rivers 1990a Ewell 1985 Department of Parks and Recreation 1984 Riddell 1972b	NA	Possibly destroyed	Unknown
CA-SDI-4412	Yes	Yes	Chipped stone, ground stone, shell Forster City monument marker	Hines and Rivers 1990 Welch 1975 Falk 1965	NA	Partially destroyed	Unknown

Table 6.1: Archaeological Resources In or Adjacent to the SOCTIIP Proposed Initial and Ultimate Alignments

Resource #	Initial	Ultimate	Description	Reference (1)	Relocated in 2001	Condition	NRHP Elig
CA-SDI-13,323H	Yes	Yes	Historical refuse deposit	Strudwick et al. 1994 Glenn and Crawford 1994 Phillips et al. 1994 James et al. 1992a	NA	Tested Surface collected	No
CA-SDI-13,324	Yes	Yes	Chipped stone, ground stone, shell, FAR, faunal bone, bead	Strudwick et al. 1994 Strudwick, Tift et al. 1994 Glenn and Crawford 1994 James et al. 1992b	NA	Tested Surface collected	Yes
CA-SDI-13,325	Yes	Yes	Chipped stone, ground stone, shell, buried midden	Hale 1998 Byrd et al. 1994 Byrd 1993 Pigniolo 1994 Strudwick et al. 1994 Glenn and Crawford 1994 James et al. 1992c	NA	Tested Surface collected	Yes
Isolate #1	Yes	Yes	Core	Schmidt 2001a	NA	NA	No
Isolate #2	Yes	Yes	Milling stone fragment	Schmidt 2001b	NA	NA	No
Isolate #3	Yes	Yes	Unifacial mano	Schmidt 2001c	NA	NA	No
Isolate #4	Yes	Yes	Flake	Schmidt 2001d	NA	NA	No

FAR = Fire-affected Rock
NA = No attempt made to relocate
(1) = Citations for all references are provided in Section 7.0 (Bibliography).

Table 6.2: SOCTIIP Proposed Initial and Ultimate Alignments Listed by Potentially Impacted Archaeological Resource		
Resource #	**Initial Alternative Alignments**	**Ultimate Alternative Alignments**
CA-ORA-22 (CA-SDI-11703/ 11929/13071)	FEC, FEC-TV, FEC-CV, FEC-AFV, CC, A7C, A7C-7SV, A7C-FECV, A7C-FECV-CV, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M, AIP, I-5	FEC, FEC-TV, FEC-CV, FEC-AFV, CC, A7C, A7C-7SV, A7C-FECV, A7C-FECV-CV, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M
CA-ORA-26	CC, CC-ALPV, CC-OHV, AIO, AIP	CC, CC-ALPV, CC-OHV
CA-ORA-362	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M
CA-ORA-363	FEC, FEC-CV, FEC-AFV, FEC-APV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M
CA-ORA-504	FEC-TV, CC, A7C, A7C-7SV	FEC-TV, CC, A7C, A7C-7SV
CA-ORA-599	FEC-TV, CC, A7C, A7C-7SV, AIP, I-5	FEC-TV, CC, A7C, A7C-7SV
CA-ORA-638	AIO, AIP	None
CA-ORA-639	FEC-TV, CC, A7C, A7C-7SV, AIO, AIP	None
CA-ORA-640	AIO, AIP	None
CA-ORA-656	FEC-W	FEC-W
CA-ORA-700	CC, CC-ALPV, AIO, AIP	CC, CC-ALPV
CA-ORA-779	CC, CC-ALPV, A7C-7SV	CC, CC-ALPV, A7C-7SV
CA-ORA-780	CC, CC-ALPV, A7C-7SV	CC, CC-ALPV, A7C-7SV
CA-ORA-781	CC, CC-ALPV, AIO, AIP	CC, CC-ALPV
CA-ORA-837	AIP, I-5	None
CA-ORA-838	AIP, I-5	None
CA-ORA-881	A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV, AIO, AIP	A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV
CA-ORA-882	CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV	CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV
CA-ORA-886	AIO, AIP	None
CA-ORA-893	AIO, AIP	None

Table 6.2: SOCTIIP Proposed Initial and Ultimate Alignments Listed by Potentially Impacted Archaeological Resource		
Resource #	**Initial Alternative Alignments**	**Ultimate Alternative Alignments**
CA-ORA-895	AIO, AIP	None
CA-ORA-902	A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV AIO, AIP	A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV
CA-ORA-903	I-5	None
CA-ORA-907/908	FEC-TV, CC, CC-ALPV, A7C, A7C-7SV, A7C-ALPV	FEC-TV, CC, CC-ALPV, A7C, A7C-7SV, A7C-ALPV
CA-ORA-909	FEC-TV, A7C	FEC-TV, A7C
CA-ORA-912	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M
CA-ORA-914	FEC, FEC-CV, FEC-AFV, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M
CA-ORA-915	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M
CA-ORA-916	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M
CA-ORA-917	FEC-W, A7-FEC-M	FEC-TV, FEC-W, A7-FEC-M
CA-ORA-919	FEC-TV	FEC-TV
CA-ORA-920	FEC-TV, FEC-W, A7-FEC-M	FEC-TV, FEC-W, A7-FEC-M
CA-ORA-921/1127	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-W, FEC-M, A7-FEC-M
CA-ORA-997	CC, CC-ALPV, CC-OHV	CC, CC-ALPV, CC-OHV
CA-ORA-1021	FEC, FEC-CV, FEC-AFV, FEC-APV	FEC, FEC-CV, FEC-AFV, FEC-APV
CA-ORA-1027	None	FEC-TV
CA-ORA-1035	AIP, I-5	None
CA-ORA-1036	AIP, I-5	None
CA-ORA-1037	AIP, I-5	None
CA-ORA-1038	AIP, I-5	None

Table 6.2: SOCTIIP Proposed Initial and Ultimate Alignments Listed by Potentially Impacted Archaeological Resource		
Resource #	**Initial Alternative Alignments**	**Ultimate Alternative Alignments**
CA-ORA-1039	AIP, I-5	None
CA-ORA-1042	CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV	CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV
CA-ORA-1043	CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV	CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-ALPV
CA-ORA-1050	A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV	A7C, A7C-FECV, A7C-7SV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV
CA-ORA-1053	AIO, AIP	None
CA-ORA-1106	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV, A7C, A7C-7SV, A7C-ALPV, FEC-W, FEC-M	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV, FEC-W, FEC-M
CA-ORA-1107	AIP, I-5	None
CA-ORA-1111	FEC-W	FEC-W
CA-ORA-1124	FEC-TV	FEC-TV
CA-ORA-1125	FEC, FEC-CV, FEC-AFV, FEC-APV	FEC, FEC-CV, FEC-AFV, FEC-APV
CA-ORA-1144	None	FEC, FEC-CV, FEC-AFV, FEC-APV
CA-ORA-1163	A7C-FECV, A7C-FECV-C, A7C-FECV-AF	A7C-FECV, A7C-FECV-C, A7C-FECV-AF
CA-ORA-1168	A7C-FECV, A7C-FECV-C, A7C-FECV-AF	A7C-FECV, A7C-FECV-C, A7C-FECV-AF
CA-ORA-1169	A7C-FECV, A7C-FECV-C, A7C-FECV-AF	A7C-FECV, A7C-FECV-C, A7C-FECV-AF
CA-ORA-1175	FEC, FEC-CV, FEC-AFV, FEC-APV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M
CA-ORA-1176	A7C-FECV, A7C-FECV-C, A7C-FECV-AF	A7C-FECV, A7C-FECV-C, A7C-FECV-AF
CA-ORA-1177	A7C, A7C-ALPV	A7C, A7C-ALPV
CA-ORA-1178	FEC-TV	FEC-TV
CA-ORA-1183	FEC-TV	FEC-TV
CA-ORA-1184	FEC, FEC-CV, FEC-AFV, FEC-APV	FEC, FEC-CV, FEC-AFV, FEC-APV
CA-ORA-1215H	AIP, I-5	None

Table 6.2: SOCTIIP Proposed Initial and Ultimate Alignments Listed by Potentially Impacted Archaeological Resource		
Resource #	**Initial Alternative Alignments**	**Ultimate Alternative Alignments**
CA-ORA-1222	None	FEC-TV
CA-ORA-1271H	AIP, I-5	None
CA-ORA-1327	AIP, I-5	AIP, I-5
CA-ORA-1328	AIP, I-5	AIP, I-5
CA-ORA-1329	AIP, I-5	AIP, I-5
CA-ORA-1330	AIP, I-5	AIP, I-5
CA-ORA-1335	AIO, AIP	None
CA-ORA-1338	AIP, I-5	None
CA-ORA-1446	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV
CA-ORA-1447	CC, CC-ALPV, CC-OHV	CC, CC-ALPV, CC-OHV
CA-ORA-1452/1126	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-M	FEC, FEC-CV, FEC-AFV, FEC-APV, FEC-M
CA-ORA-1556	FEC-TV	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-APV
CA-ORA-1559	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV, FEC-W, FEC-M	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV, FEC-W, FEC-M, A7-FEC-M
CA-ORA-1560	CC, CC-ALPV, CC-OHV	CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV
CA-ORA-1561	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV, CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV, CC, CC-ALPV, CC-OHV, A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV, FEC-W, FEC-M, A7-FEC-M
CA-ORA-1562	A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV, A7-FEC-M	A7C, A7C-7SV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, A7C-OHV, A7C-ALPV, A7-FEC-M
CA-ORA-1565	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV

Table 6.2: SOCTIIP Proposed Initial and Ultimate Alignments Listed by Potentially Impacted Archaeological Resource		
Resource #	**Initial Alternative Alignments**	**Ultimate Alternative Alignments**
CA-ORA-1566	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV	FEC, FEC-TV, FEC-CV, FEC-AFV, FEC-OHV, FEC-APV
CA-SDI-1074	FEC, FEC-AF, A7C-FECV, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-AF, A7C-FECV, A7C-FECV-AFV, FEC-W, FEC-M, A7-FEC-M
CA-SDI-1075	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AFV, FEC-W, FEC-M, A7-FEC-M
CA-SDI-1314	FEC-AFV, A7C-FECV-AF	FEC-AFV, A7C-FECV-AF
CA-SDI-1315	FEC-CV, A7C-FECV-C	FEC-CV, A7C-FECV-C
CA-SDI-4282	(see CA-ORA-22)	(see CA-ORA-22)
CA-SDI-4412	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M
CA-SDI-4535	(see CA-ORA-22)	(see CA-ORA-22)
CA-SDI-13,323H	FEC-AFV, A7C-FECV-AF	FEC-AFV, A7C-FECV-AF
CA-SDI-13,324	FEC-AFV, A7C-FECV-AF	FEC-AFV, A7C-FECV-AF
CA-SDI-13,325	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M	FEC, FEC-CV, FEC-AFV, A7C-FECV, A7C-FECV-C, A7C-FECV-AF, FEC-W, FEC-M, A7-FEC-M

Table 6.3: Potentially Impacted Archaeological Resources Listed by SOCTIIP Proposed Initial or Ultimate Alignment	
Initial and Ultimate Alternatives	**Resource Numbers**
FEC-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
FEC-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1144, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1556, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
FEC-TV-I	CA-ORA-22, CA-ORA-504, CA-ORA-599, CA-ORA-639, CA-ORA-907/908, CA-ORA-909, CA-ORA-919, CA-ORA-920, CA-ORA-1106, CA-ORA-1124, CA-ORA-1178, CA-ORA-1183, CA-ORA-1446, CA-ORA-1556, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566
FEC-TV-U	CA-ORA-22, CA-ORA-504, CA-ORA-599, CA-ORA-907/908, CA-ORA-909, CA-ORA-917, CA-ORA-919, CA-ORA-920, CA-ORA-1027, CA-ORA-1106, CA-ORA-1124, CA-ORA-1178, CA-ORA-1183, CA-ORA-1222, CA-ORA-1446, CA-ORA-1556, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566
FEC-CV-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566, CA-SDI-1075, CA-SDI-1315, CA-SDI-4412, CA-SDI-13,325
FEC-CV-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1174, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1556, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566, CA-SDI-1075, CA-SDI-1315, CA-SDI-4412, CA-SDI-13,325
FEC-AFV-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566, CA-SDI-1074, CA-SDI-1075, CA-SDI-1314, CA-SDI-4412, CA-SDI-13,323, CA-SDI-13,324, CA-SDI-13,325
FEC-AFV-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1144, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1556, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566, CA-SDI-1074, CA-SDI-1075, CA-SDI-1314, CA-SDI-4412, CA-SDI-13,323, CA-SDI-13,324, CA-SDI-13,325
FEC-OHV-I	CA-ORA-1106, CA-ORA-1446, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566
FEC-OHV-U	CA-ORA-1106, CA-ORA-1446, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566
FEC-APV-I	CA-ORA-363, CA-ORA-912, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565,

Table 6.3: Potentially Impacted Archaeological Resources Listed by SOCTIIP Proposed Initial or Ultimate Alignment	
Initial and Ultimate Alternatives	**Resource Numbers**
	CA-ORA-1566
FEC-APV-U	CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1021, CA-ORA-1106, CA-ORA-1125, CA-ORA-1144, CA-ORA-1175, CA-ORA-1184, CA-ORA-1446, CA-ORA-1452/1126, CA-ORA-1556, CA-ORA-1559, CA-ORA-1561, CA-ORA-1565, CA-ORA-1566
CC-I	CA-ORA-22, CA-ORA-26, CA-ORA-504, CA-ORA-599, CA-ORA-639, CA-ORA-700, CA-ORA-779, CA-ORA-780, CA-ORA-781, CA-ORA-882, CA-ORA-907/908, CA-ORA-997, CA-ORA-1042, CA-ORA-1043, CA-ORA-1447, CA-ORA-1560, CA-ORA-1561
CC-U	CA-ORA-22, CA-ORA-26, CA-ORA-504, CA-ORA-599, CA-ORA-700, CA-ORA-779, CA-ORA-780, CA-ORA-781, CA-ORA-882, CA-ORA-907/908, CA-ORA-997, CA-ORA-1042, CA-ORA-1043, CA-ORA-1447, CA-ORA-1560, CA-ORA-1561
CC-ALPV-I	CA-ORA-26, CA-ORA-700, CA-ORA-779, CA-ORA-780, CA-ORA-781, CA-ORA-882, CA-ORA-907/908, CA-ORA-997, CA-ORA-1042, CA-ORA-1043, CA-ORA-1447, CA-ORA-1560, CA-ORA-1561
CC-ALPV-U	CA-ORA-26, CA-ORA-700, CA-ORA-779, CA-ORA-780, CA-ORA-781, CA-ORA-882, CA-ORA-907/908, CA-ORA-997, CA-ORA-1042, CA-ORA-1043, CA-ORA-1447, CA-ORA-1560, CA-ORA-1561
CC-OHV-I	CA-ORA-26, CA-ORA-882, CA-ORA-997, ORA-1042, CA-ORA-1043, CA-ORA-1447, CA-ORA-1560, CA-ORA-1561
CC-OHV-U	CA-ORA-26, CA-ORA-882, CA-ORA-997, ORA-1042, CA-ORA-1043, CA-ORA-1447, CA-ORA-1560, CA-ORA-1561
A7C-I	CA-ORA-22, CA-ORA-504, CA-ORA-599, CA-ORA-639, CA-ORA-881, CA-ORA-882, CA-ORA-907/908, CA-ORA-902, CA-ORA-909, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1106, CA-ORA-1177, CA-ORA-1559, CA-ORA-1561, CA-ORA-1562
A7C-U	CA-ORA-22, CA-ORA-504, CA-ORA-599, CA-ORA-881, CA-ORA-882, CA-ORA-907/908, CA-ORA-902, CA-ORA-909, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1177, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562
A7C-7SV-I	CA-ORA-22, CA-ORA-504, CA-ORA-599, CA-ORA-639, CA-ORA-779, CA-ORA-780, CA-ORA-881, CA-ORA-882, CA-ORA-907/908, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1106, CA-ORA-1559, CA-ORA-1561, CA-ORA-1562
A7C-7SV-U	CA-ORA-22, CA-ORA-504, CA-ORA-599, CA-ORA-779, CA-ORA-780, CA-ORA-881, CA-ORA-882, CA-ORA-907/908, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562
A7C-FECV-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-881, CA-ORA-882, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1163, CA-ORA-1168, CA-ORA-1169, CA-ORA-1175, CA-ORA-1176, CA-ORA-1559, CA-ORA-1561, CA-ORA-1562, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
A7C-FECV-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-881, CA-ORA-882, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1163, CA-ORA-1168, CA-ORA-1169, CA-ORA-1175, CA-ORA-1176, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325

Table 6.3: Potentially Impacted Archaeological Resources Listed by SOCTIIP Proposed Initial or Ultimate Alignment	
Initial and Ultimate Alternatives	**Resource Numbers**
A7C-FECV-CV-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-881, CA-ORA-882, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1163, CA-ORA-1168, CA-ORA-1169, CA-ORA-1175, CA-ORA-1176, CA-ORA-1559, CA-ORA-1561, CA-ORA-1562, CA-SDI-1075, CA-SDI-1315, CA-SDI-4412, CA-SDI-13,325
A7C-FECV-CV-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-881, CA-ORA-882, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1163, CA-ORA-1168, CA-ORA-1169, CA-ORA-1175, CA-ORA-1176, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562, CA-SDI-1075, CA-SDI-1315, CA-SDI-4412, CA-SDI-13,325
A7C-FECV-AF-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-881, CA-ORA-882, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1163, CA-ORA-1168, CA-ORA-1169, CA-ORA-1175, CA-ORA-1176, CA-ORA-1559, CA-ORA-1561, CA-ORA-1562, CA-SDI-1074, CA-SDI-1075, CA-SDI-1314, CA-SDI-4412, CA-SDI-13,323, CA-SDI-13,324, CA-SDI-13,325
A7C-FECV-AF-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-881, CA-ORA-882, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1163, CA-ORA-1168, CA-ORA-1169, CA-ORA-1175, CA-ORA-1176, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562, CA-SDI-1074, CA-SDI-1075, CA-SDI-1314, CA-SDI-4412, CA-SDI-13,323, CA-SDI-13,324, CA-SDI-13,325
A7C-OHV-I	CA-ORA-1050, CA-ORA-1559, CA-ORA-1561, CA-ORA-1562
A7C-OHV-U	CA-ORA-1050, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562
A7C-ALPV-I	CA-ORA-881, CA-ORA-882, CA-ORA-907/908, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1106, CA-ORA-1177, CA-ORA-1559, CA-ORA-1561, CA-ORA-1562
A7C-ALPV-U	CA-ORA-881, CA-ORA-882, CA-ORA-907/908, CA-ORA-902, CA-ORA-1042, CA-ORA-1043, CA-ORA-1050, CA-ORA-1177, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562
FEC-W-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-656, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-917, CA-ORA-920, CA-ORA-921/1127, CA-ORA-1106, CA-ORA-1111, CA-ORA-1175, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
FEC-W-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-656, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-917, CA-ORA-920, CA-ORA-921/1127, CA-ORA-1106, CA-ORA-1111, CA-ORA-1175, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
FEC-M-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1106, CA-ORA-1175, CA-ORA-1452/1106, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
FEC-M-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-921/1127, CA-ORA-1106, CA-ORA-1175, CA-ORA-1452/1106, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
A7C-FEC-M-I	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-917, CA-ORA-920, CA-ORA-921/1127, CA-ORA-1175, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325

Table 6.3: Potentially Impacted Archaeological Resources Listed by SOCTIIP Proposed Initial or Ultimate Alignment	
Initial and Ultimate Alternatives	**Resource Numbers**
A7C-FEC-M-U	CA-ORA-22, CA-ORA-362, CA-ORA-363, CA-ORA-912, CA-ORA-914, CA-ORA-915, CA-ORA-916, CA-ORA-917, CA-ORA-920, CA-ORA-921/1127, CA-ORA-1175, CA-ORA-1559, CA-ORA-1560, CA-ORA-1561, CA-ORA-1562, CA-SDI-1074, CA-SDI-1075, CA-SDI-4412, CA-SDI-13,325
AIO	CA-ORA-26, CA-ORA-638, CA-ORA-639, CA-ORA-640, CA-ORA-700, CA-ORA-781, CA-ORA-881, CA-ORA-886, CA-ORA-893, CA-ORA-895, CA-ORA-902, CA-ORA-1053, CA-ORA-1335
AIP	CA-ORA-22, CA-ORA-26, CA-ORA-599, CA-ORA-638, CA-ORA-639, CA-ORA-640, CA-ORA-700, CA-ORA-781, CA-ORA-837, CA-ORA-838, CA-ORA-881, CA-ORA-886, CA-ORA-893, CA-ORA-895, CA-ORA-902, CA-ORA-1053, CA-ORA-1107, CA-ORA-1215, CA-ORA-1271, CA-ORA-1327, CA-ORA-1328, CA-ORA-1329, CA-ORA-1330, CA-ORA-1335, CA-ORA-1338 (includesCA-ORA-1035 through CA-ORA-1039)
I-5	CA-ORA-22, CA-ORA-599, CA-ORA-837, CA-ORA-838, CA-ORA-1107, CA-ORA-903, CA-ORA-1215, CA-ORA-1271, CA-ORA-1327, CA-ORA-1328, CA-ORA-1329, CA-ORA-1330, CA-ORA-1338 (includesCA-ORA-1035 through CA-ORA-1039)

SECTION 7.0
BIBLIOGRAPHY

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SECTION 8.0
GLOSSARY OF ACRONYMS

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8.1 ACRONYMS FOR THE BUILD ALTERNATIVES

There are a number of build alternatives considered for the South Orange County Transportation Infrastructure Improvement Project. The acronyms for the build alternative are listed below.

Far East Corridor-Complete-Initial Alternative	FEC-Initial Alternative
Far East Corridor-Complete-Ultimate Alternative	FEC-Ultimate Alternative
Far East Corridor-Talega Variation-Initial Alternative	FEC-TV-Initial Alternative
Far East Corridor-Talega Variation-Ultimate Alternative	FEC-TV-Ultimate Alternative
Far East Corridor-Cristianitos Variation-Initial Alternative	FEC-CV-Initial Alternative
Far East Corridor-Cristianitos Variation-Ultimate Alternative	FEC-CV-Ultimate Alternative
Far East Corridor-Agricultural Fields Variation-Initial Alternative	FEC-AFV-Initial Alternative
Far East Corridor-Agricultural Fields Variation-Ultimate Alternative	FEC-AFV-Ultimate Alternative
Far East Corridor-Ortega Highway Variation-Initial Alternative	FEC-OHV-Initial Alternative
Far East Corridor-Ortega Highway Variation-Ultimate Alternative	FEC-OHV-Ultimate Alternative
Far East Corridor-Avenida Pico Variation-Initial Alternative	FEC-APV-Initial Alternative
Far East Corridor-Avenida Pico Variation-Ultimate Alternative	FEC-APV-Ultimate Alternative
Far East Corridor-West Variation-Initial Alternative	FEC-W-Initial Alternative
Far East Corridor-West Variation-Ultimate Alternative	FEC-W-Ultimate Alternative
Far East Corridor-Modified Variation-Initial Alternative	FEC-M-Initial Alternative
Far East Corridor-Modified Variation-Ultimate Alternative	FEC-M-Ultimate Alternative
Central Corridor-Complete-Initial Alternative	CC-Initial Alternative
Central Corridor-Complete-Ultimate Alternative	CC-Ultimate Alternative
Central Corridor-Avenida La Pata Variation-Initial Alternative	CC-ALPV-Initial Alternative
Central Corridor-Avenida La Pata Variation-Ultimate Alternative	CC-ALPV-Ultimate Alternative
Central Corridor-Ortega Highway Variation-Initial Alternative	CC-OHV-Initial Alternative
Central Corridor-Ortega Highway Variation-Ultimate Alternative	CC-OHV-Ultimate Alternative
Alignment 7 Corridor-Complete-Initial Alternative	A7C-Initial Alternative
Alignment 7 Corridor-Complete-Ultimate Alternative	A7C-Ultimate Alternative
Alignment 7 Corridor-7 Swing Variation-Initial Alternative	A7C-7SV-Initial Alternative
Alignment 7 Corridor-7 Swing Variation-	

Ultimate Alternative	A7C-7SV-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover Variation-Initial Alternative	A7C-FECV-Initial Alternative
Alignment 7 Corridor-Far East Crossover Variation-Ultimate Alternative	A7C-FECV-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover (Modified) Variation-Initial Alternative	A7C-FECV-M-Initial Alternative
Alignment 7 Corridor-Far East Crossover (Modified) Variation-Ultimate Alternative	A7C-FECV-M-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover Cristianitos Variation-Initial Alternative	A7C-FECV-C-Initial Alternative
Alignment 7 Corridor-Far East Crossover Cristianitos Variation-Ultimate Alternative	A7C-FECV-C-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover Agricultural Fields Variation-Initial Alternative	A7C-FECV-AF-Initial Alternative
Alignment 7 Corridor-Far East Crossover Agricultural Fields Variation-Ultimate Alternative	A7C-FECV-AF-Ultimate Alternative
Alignment 7 Corridor-Ortega Highway Variation-Initial Alternative	A7C-OHV-Initial Alternative
Alignment 7 Corridor-Ortega Highway Variation-Ultimate Alternative	A7C-OHV-Ultimate Alternative
Alignment 7 Corridor-Avenida La Pata Variation-Initial Alternative	A7C-ALPV-Initial Alternative
Alignment 7 Corridor-Avenida La Pata Variation-Ultimate Alternative	A7C-ALPV-Ultimate Alternative
Arterial Improvements Only Alternative	AIO Alternative
Arterial Improvements Plus HOV and Spot Mixed-Flow Lanes on I-5 Alternative	AIP Alternative
I-5 Widening Alternative	I-5 Alternative

8.2 OTHER ACRONYMS

AASHTO	American Association of State and Highway Transportation Officials
ACHP	Advisory Council on Historic Preservation
AMSL	Above mean sea level
APE	Area of Potential Effects
ARI	Archaeological Research, Incorporated
ARMC	Archaeological Resource Management Corporation
BMA	Brian F. Mooney Associates
CCC	California Coastal Commission

CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cm	Centimeter
CSRI	Cultural Systems Research, Incorporated
CWA	Federal Clean Water Act
Department	California Department of Transportation
E	East
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	United States Environmental Protection Agency
ETC	Eastern Transportation Corridor
FAR	Fire Affected Rock
FHWA	Federal Highway Administration
ft	Foot/feet
FTA	Federal Transit Administration
FTC	Foothill Transportation Corridor
FTC-N	Foothill Transportation Corridor – North
FTC-S	Foothill Transportation Corridor – South
GandA	Greenwood and Associates
gm	Gram/grams
GPS	Global positioning satellite
ha	Hectare
HCM	Highway Capacity Manual
HOV	High occupancy vehicle
I-5	Interstate 5
I-405	Interstate 405
in	Inch/inches
km	Kilometer/kilometers
LOS	Level of service
LSA	LSA Associates, Incorporated
MCB	Marine Corps Base Camp Pendleton
Mi	Mile/miles
MOU	Memorandum of Understanding
MPAH	Master Plan of Arterial Highways
N	North
NE	Northeast

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NW	Northwest
OCTA	Orange County Transportation Authority
oz	Ounce/ounces
PC	Planned Community/communities
RMV	Rancho Mission Viejo
RMW	RMW Paleo Associates, Incorporated
RTP	Regional Transportation Plan
S	South
SANDAG	San Diego Association of Governments
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SDG&E	San Diego Gas and Electric
SE	Southeast
SHPO	State Historic Preservation Officer
SOCTIIP	South Orange County Transportation Infrastructure Improvement Program
SEIR	Subsequent Environmental Impact Report
SR 241	State Route 241
SR 91	State Route 91
SRS	Scientific Resource Surveys, Incorporated
SW	Southwest
TCA	Transportation Corridor Agencies
TSM	Transportation system management
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
W	West
WESTEC	WESTEC Services, Incorporated

8.3 MEASUREMENTS

The measurement units in this report are expressed in both metric and English units. For ease of translation, the following conversions are provided.

English/Metric Conversion	Metric/English Conversion
AREA	**AREA**
1 square foot = 0.093 square meters 1 acre = 0.405 hectares, 4047 square meters 1 square mile (640 acres) = 2.59 square kilometers	1 square meter = 10.752 square feet 1 hectare = 2.469 acres 1 square kilometer = 0.386 square miles
LENGTH	**LENGTH**
1 inch = 2.54 centimeters	1 centimeter = 0.394 inch
1 foot = 30.480 centimeters or 0.305 meter	1 meter = 3.28 feet
1 yard = 0.914 meter	1 meter = 1.094 yards
1 mile = 1.609 kilometers	1 kilometer = 0.621 mile
WEIGHT	**WEIGHT**
1 ounce = 28.35 grams	1 gram = 0.035 ounce

APPENDIX A

Build Alternatives Maps

with Archaeological Sites

Not for Public Distribution

APPENDIX B

Isolate Records

Not for Public Distribution

APPENDIX C

Site Records

Not for Public Distribution