RESOLUTION NO. F2006-02

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE FOOTHILL/EASTERN TRANSPORTATION CORRIDOR AGENCY SELECTING THE PREFERRED ALTERNATIVE FOR THE SOUTH ORANGE COUNTY TRANSPORTATION INFRASTRUCTURE IMPROVEMENT PROJECT

February 23, 2006

On motion of Board Member CAMPBELL, duly seconded and carried, the following resolution was adopted:

WHEREAS, the South Orange County Transportation Infrastructure Improvement Project ("SOCTIIP") in the form of the Foothill Transportation Corridor-South has been identified as a needed facility in studies of existing and projected travel demand in Orange County beginning in the early 1970's, and including the 1976 Southeast Orange County Circulation Study; and

WHEREAS, the Multimodal Transportation Study and Refinement Study (1979) evaluated land use and transportation alternatives for Orange County; and

WHEREAS, the Foothill Transportation Corridor-South ("Foothill-South") was added to the Orange County Master Plan of Arterial Highways by the Orange County Board of Supervisors in August, 1981; and

WHEREAS, the County of Orange conducted baseline environmental studies, preliminary engineering analyses for the Foothill Transportation Corridor, and prepared and certified Environmental Impact Report No. 123; and

WHEREAS, the Southern California Association of Governments ("SCAG") and the San Diego Association of Governments ("SANDAG") are the metropolitan planning organizations for Southern California and are responsible for preparing and evaluating regional transportation plans and transportation improvement programs for Southern California; and

WHEREAS, SCAG and SANDAG certified environmental impact reports evaluating the regional transportation plans and alternatives thereto; and

WHEREAS, the SCAG and SANDAG regional transportation plans and regional transportation improvement programs identify the Foothill-South as a necessary component of the regional transportation system in Southern California; and

WHEREAS, SCAG and SANDAG included the Foothill-South in their respective transportation improvement programs and have certified that the regional transportation plans and the transportation improvement programs conform with the requirements of the State Implementation Plan adopted pursuant to the Federal Clean Air Act; and

WHEREAS, the South Coast Air Quality Management District and the California Air Resources Board included the SCAG Regional Transportation Plan as a component of the South Coast Air Quality Management Plan and identified the Foothill-South as a Transportation Control Measure in the South Coast Air Quality Management Plan after analyzing regional alternatives for achieving attainment with the National Ambient Air Quality Standards of the Federal Clean Air Act; and

WHEREAS, the Foothill/Eastern Transportation Corridor Agency ("TCA") prepared EIR No. 3 to evaluate the potential environmental effects of the Foothill-South and of alternatives to Foothill-South including the C and BX alignment alternatives for the foothill-South; and

WHEREAS, the TCA prepared and certified EIR No. 3, including Supplemental EIR No. 3, and selected the modified C alignment as the locally preferred alternative on October 10, 1991, and the modified C alignment was slightly altered, in consultation with the U.S. Fish and Wildlife Service, to minimize impacts to biological resources, and this alignment was called the CP alignment; and

WHEREAS, the California Legislature placed the Foothill Transportation Corridor on the State Highway System and designated it as State Route 241; and

WHEREAS, in 1993 the Federal Highway Administration ("FHWA"), the U.S. Environmental Protection Agency, ("USEPA"), the U.S. Army Corps of Engineers ("ACOE") and the U.S. Fish and Wildlife Service ("USFWS") entered into that certain Memorandum of Understanding (the "NEPA/404 MOU") establishing a new and integrated process for the evaluation of federally-approved transportation projects in Arizona, California and Nevada under the National Environmental Policy Act ("NEPA"), section 404 of the Clean Water Act and the Endangered Species Act; and

WHEREAS, in accordance with the NEPA/404 MOU, the above federal regulatory agencies, the TCA, Caltrans and the United States Marine Corps initiated a process (the "Collaborative") to govern the integrated environmental evaluation of transportation infrastructure improvements in south Orange County to address regional transportation and mobility needs (referred to herein as the "South Orange County Transportation Infrastructure Improvement Project" or "SOCTIIP"); and

WHEREAS, the federal and state agencies agreed on a Purpose and Need Statement regarding the SOCTIIP, developed and analyzed alternatives, including several "no build" and other non-toll road alternatives, and conducted, supervised and analyzed technical studies and independently reviewed the Draft Environmental Impact Statement/Subsequent Environmental Impact Report for the SOCTIIP ("Draft EIS/SEIR"); and

WHEREAS, the TCA issued a Notice of Preparation for the Draft EIS/SEIR in June 2001; and

WHEREAS, duly noticed scoping hearings were held on March 26, 2001, March 27, 2001 and March 29, 2001 concerning the Draft EIS/SEIR; and

WHEREAS, TCA held numerous other consultations and meetings concerning the SOCTIIP as described in the Final SEIR section ES 6.2 and section 11; and

WHEREAS, the FHWA and TCA distributed the Draft EIS/SEIR for public review on May 7, 2004 through and including August 6, 2004; and

WHEREAS, FHWA and TCA conducted a public hearing on the Draft EIS/SEIR on June 19, 2004; and

WHEREAS, TCA Draft Subsequent EIR 4 was prepared and circulated pursuant to the provisions of the California Environmental Quality Act ("CEQA"), the State of California CEQA Guidelines, and the Foothill/Eastern Transportation Corridor Agency CEQA Procedures; and

WHEREAS, written comments were received during and after the public comment period, and a written response was prepared to written comments and to oral comments at the public hearings and meetings, which responses employ a good faith, reasoned analysis to describe and address the disposition of environmental issues raised by the comments; and

WHEREAS, the Final Subsequent Environmental Impact Report ("TCA Final SEIR 4"), including responses to comments, was distributed to commenting agencies and members of the public on December 6, 2005; and

WHEREAS, the TCA Final SEIR 4 has been prepared pursuant to CEQA and to the State of California CEQA Guidelines and includes the following:

1. Draft EIS/SEIR;

2. Draft EIS/SEIR Technical Studies;

3. Comments received on Draft EIS/SEIR;

4. Responses to comments on Draft SEIR;

5. TCA Final SEIR 4;

6. Staff reports of the Transportation Corridor Agency concerning Draft EIS/SEIR and TCA Final SEIR 4;

7. The resolution of the TCA Board of Directors certifying TCA Final SEIR 4;

8. The attachments to this Resolution No. F2006-02, including the Environmental Findings, Statement of Facts in Support of Findings, the Statement of Overriding Considerations and the Mitigation Monitoring Program; and

WHEREAS, the Foothill/Eastern Transportation Corridor Agency Board of Directors conducted duly noticed public meetings concerning the certification of TCA Final SEIR 4 and concerning the selection of the locally preferred alternative on January 12, 2006, and heard evidence from all persons interested in testifying concerning the certification of TCA Final SEIR 4 and the selection of the locally preferred alternative for the SOCTIIP; and

WHEREAS, the Foothill/Eastern Transportation Corridor Agency Board of Directors reviewed and considered TCA Final SEIR 4 and has considered the oral and written comments on the TCA Final SEIR 4 and the responses thereto prior to approving the project; and

WHEREAS, the Foothill/Eastern Transportation Corridor Agency Board of Directors certified TCA Final SEIR 4 as adequate and complete prior to taking action on the project; and

WHEREAS, in accordance with the NEPA/404 MOU the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency issued their preliminary agreement that the Preferred Alternative identified in TCA Final SEIR 4 is the least environmentally damaging practicable alternative and the U.S. Fish and Wildlife Service has preliminarily determined that the Preferred Alternative complies with the requirements of the Endangered Species Act; and

NOW, THEREFORE, the Foothill/Eastern Transportation Corridor Agency Board of Directors resolves as follows that:

1. The foregoing recitals are true and correct.

2. The Preferred Alternative described in TCA Final SEIR 4 is selected and adopted as the preferred alternative for SOCTIIP.

3. The project design features identified in TCA Final SEIR 4 with regard to the Preferred Alternative and included for monitoring purposes in the Mitigation Monitoring Program are hereby adopted.

4. The Environmental Findings, Facts in Support of Findings, and Statement of Overriding Considerations attached as Attachment "A" hereto are hereby adopted and incorporated herein by reference.

5. The Mitigation Monitoring Plan attached hereto as Attachment "B" hereto is hereby adopted and incorporated herein by reference.

6. The mitigation measures described in the Mitigation Monitoring Program attached as Attachment "B" hereto are hereby adopted and incorporated herein by reference.

7. The Chief Executive Officer of the Transportation Corridor Agencies is authorized to initiate such steps as appropriate and necessary to: (i) prepare final construction plans, specifications and estimates; (ii) acquire right-of-way; (iii) obtain financing for the construction of the Preferred Alternative; (iv) implement the mitigation measures identified in Attachment "B"; (v) obtain necessary permits and approvals for the construction of the Preferred Alternative; (vi) take such other steps as may be necessary to construct the Preferred Alternative and open the facility to traffic as early as feasible; and (vii) bring back to this Board any appropriate recommendations to further implement the foregoing.

8. If any section, paragraph or provision of this Resolution shall be held invalid or unenforceable for any reason, the invalidity or unenforceability of such section, paragraph or provision shall not affect any remaining provisions of this Resolution.

9. This Resolution shall take effect from and after its adoption.

PASSED AND ADOPTED this 23rd of February 2006, by the following vote:

AYES: Ryan, Bone, Campbell, Dahe, Galloway, Tran, Wilson, Herzog, MacLean, Murphy, F Norby for C. Norby, Alternate for Wendlin

NOES: Agran, Bist, Anderson

ABSENT: None

KEN RYAN, CHAIRMAN
FOOTHILL/EASTERN TRANSPORTATION CORRIDOR AGENCY

ATTEST:

2/23/06

ANNITA HENZIE, CLERK OF THE BOARD

CAROLYN LEBAIL, ASSISTANT SECRETARY TO THE BOARD

ATTACHMENT B

MITIGATION MONTORING

AND

REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Public Resources Code Section 21081.6 (enacted by the passage of Assembly Bill 3180) mandates that a public agency approving a project for which an EIR has been prepared under CEQA must also adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program must be designed to ensure compliance with project conditions/mitigation during implementation of the project.

The mitigation monitoring and reporting program for the proposed project (Preferred Alternative) has been prepared in compliance with Public Resources Code Section 21081.6. It describes the requirements and procedures to be followed by the TCA and FHWA to ensure that all mitigation measures adopted as part of the proposed project will be carried out as described in this EIS/SEIR.

The following table lists each of the mitigation measures specified in this EIS/SEIR and identifies the party or parties responsible for implementation and monitoring of each measure. Due to the location of the Preferred Alternative within development areas of the Rancho Mission Viejo ("RMV") Ranch Plan, mitigation may be planned by both TCA and RMV for the same areas of ground disturbance. If there is a possibility of an overlap of mitigation, TCA and RMV will coordinate their efforts such that mitigation won't be duplicated.

The TCA SEIR 4 mitigation measures include several measures that are exactly the same, or substantially the same, for different impacts identified in the SEIR. This occurs because biological resources were organized into a general section for wildlife and vegetation, and a separate section for threatened and endangered species. The mitigation measures were listed separately for those two topics, even where the measures are the same or substantially the same and address the same impact. As TCA staff implements the mitigation measures, they may consolidate these measures.

Mitigation Monitoring and Reporting Program for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Mitigation Measures Related to Traffic and Circulation		
Measures for Short Term Construction Impacts		
Measure CT-1. A Construction Traffic Management Plan (CTMP) will be developed during final design by the TCA. The CTMP will include, but not be limited, to: • Identification of designated haul routes in consultation with the affected local jurisdictions. • Limiting construction truck and haul traffic to designated routes only. • Public information and promotional activities including distribution of newsletters, brochures, 24-hour information hot line and press releases. The TCA will coordinate with businesses adjacent to the construction areas and prepare plans for improving carpooling, transit and other shared ride services. • The use of fast track construction techniques to speed construction times. • Construction scheduling (start/stop times, major materials deliveries, export hauling, etc.) should be scheduled to avoid AM and PM peak traffic periods on adjacent streets to the extent feasible, so that the majority of construction related traffic occurs outside of peak commuting times. • Identification of alternative routes and routes across the construction areas for emergency and school vehicles developed in coordination with the affected agencies. • Changeable message boards and alternative route signs should be used. • Identification of additional traffic enforcement (increased patrols), as needed to ensure public safety in the vicinity of construction areas and detour routes. • Coordination and implementation of improved/modified signal timing and synchronization at intersections near the construction area and along routes adversely affected by construction traffic. • Installation of visual barriers or paddle screens around construction areas to help reduce "rubbernecking" by travelers. • Coordinate with Caltrans and local agencies to ensure that signage for haul routes, detour routes and public information is consistent.	TCA	During final design and ongoing during construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Mitigation Measures Related to Land Use		
Measure LU-1: Impacts on Existing Land Uses. Design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or permanent acquisition of property, will be incorporated in the final design of the selected Alternative, where prudent and feasible.	TCA	During final design
Mitigation Measures and Commitments Related to Farmland		
Measure AG-1: Existing Operations on RMV. During final design, and in coordination with RMV and its agricultural leaseholders, the contractor will finalize the realignments of access roads on the ranch to provide cattle and equipment crossings to minimize impediments to cattle movement and routine agricultural operations and normal business activities.	Contractor, with oversight by TCA	During final design
Measure AG-2: Existing Operations on RMV. Prior to the start of any construction activities, any corrals and/or windmills within the disturbance limits of a SOCTIIP build Alternative will be relocated or replaced. In the event that the RMV or the leaseholder does not want the facility relocated, appropriate compensation for the facility will be provided.	TCA	Prior to start of construction
Measure AG-3: Agricultural Operations on Camp Pendleton (San Clemente Ranch). During final design, the contractor will develop a realigned access Rd for the San Clemente Ranch to ensure all-weather access to the agricultural operations in the leased area on MCB Camp Pendleton. The timing of the construction of this realigned access Rd will be coordinated with the agricultural operator to ensure that peak operation times are not affected. The realigned Rd must be completed prior to closure of the existing Rd.	Contractor, with direction/oversight by TCA	During final design
Commitment AGC-1: Existing Operations on RMV. Prior to the start of any construction activity, written notification will be provided to agricultural property owners or leaseholders immediately adjacent to the disturbance limits for the SOCTIIP build Alternative. The notification is to indicate the intent to begin construction, including an estimated date for the start of construction. This notification shall be provided at least three, but no more than 12, months prior to the start of construction activity.	Contractor, with direction/oversight by TCA	At least 3 months and no more than 12 months prior to the start of construction activity
Mitigation Measures Related to Socioeconomics		
Measure SE-1: Avoidance of the Temporary Use and/or Permanent Acquisition of Residential and Non-Residential Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the permanent acquisition of land currently occupied by residential and non-residential users. In the event that the temporary use or permanent acquisition of this property cannot be avoided	TCA	During final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of residential and non-residential property will apply to the build Alternatives.		
Measure SE-2: Property Acquisition and Relocation Assistance. Prior to acquisition of right of way, the TCA will comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 in the acquisition of all property within the right-of-way necessary for the proposed project. All displaced households and businesses will be contacted to ensure that each eligible displacee receives their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources will be available to all eligible displaced persons or businesses without discrimination. TCA will also comply with the Public Park Preservation Act as applicable.	TCA	Prior to acquisition of right-of-way
Measure SE-3: Replacement Housing Program. Measure SE-3 is not applicable to the Preferred Alternative.	N/A	N/A
Mitigation Measures Related to Pedestrian and Bicycle Facilities		
Measure R-1: Avoidance of the Temporary Occupancy and/or Permanent Acquisition of Recreation Resources Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary occupancy during construction and the permanent acquisition of land currently occupied by or proposed for use by recreation resources. In the event that the temporary occupancy or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of recreation resources property will apply to the build Alternatives consistent with Uniform Relocation Assistance.	TCA	During final design
Measure R-2: Consultation with Owners/Operators of Recreation Resources. In conjunction with measures R-3 and R-4 (compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, refer to Section 4.6), the TCA will consult with the affected property owner/operator of recreation resources temporarily used or permanently acquired by a build Alternative. The purposes of this consultation will be to: • Identify and implement opportunities to protect recreation resources in place. • Identify and implement opportunities to replace lost recreation facilities	TCA	Prior to acquisition of right-of-way

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
within the existing recreation property. • Combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and minimize adverse impacts on recreation resources.		
Measure R-3: Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.	TCA	Prior to acquisition of right-of-way
Measure R-4: Direct Temporary Impacts (Occupancy of Property During Construction) on Recreation Resources. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be temporarily occupied during construction to determine appropriate action and or compensation to mitigate for the temporary occupancy.	TCA	Prior to acquisition of right-of-way
Measure R-5: Impacts on Trails. During final design, the TCA will provide for crossings of planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local agency with responsibility for the trail, as appropriate. Construction plans will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.	TCA	During final design
Mitigation Measures Related to Noise		
Mitigation Measures for Construction Noise Impacts		
Measure N-1: Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m	Contractor	During construction

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
(900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.		
Measure N-2: Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.	Contractor	During construction
Measure N-3: Schools Adjacent to Construction Zone. Prior to construction activities in the vicinity of any school, the construction contractor shall be responsible for developing an agreement with Fallbrook Union Elementary School District, Camp Pendleton and private school operators, as appropriate, that would mitigate construction noise levels in classrooms and playfields at the affected schools to an agreed to construction noise performance standard. Each agreement shall be completed prior to the initiation of any grading on construction within 600 m (2,000 ft) of the school grounds. Examples of noise mitigation options include construction of temporary soundwalls, and limitation of some of the noisiest construction activities to periods when the schools are closed (e.g., the summer for the two public schools).	Contractor	Prior to construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Measure N-4: Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.	Contractor	Prior to construction
Measure N-5: Nighttime Demolition. Measure N-5 is not applicable to the Preferred Alternative	N/A	N/A
Measure N-6: Noise Complaint Officer. Prior to construction activities, the construction contractor shall identify a Noise Complaint Officer and establish a Noise Complaint hotline. The Noise Complaint Hotline shall be able to receive calls on a 24 hour basis. Any complaints regarding construction shall be forwarded to the Noise Complaint Officer. The Noise Complaint Officer shall record the general description of the complaint, the time the offending noise occurred and the location of the complaint. The Officer shall attempt to measure the noise that generated the complaint within the following 24 hours. If the noise levels exceed those allowed during nighttime construction activities under the local Noise Ordinance, or activities are occurring that are inconsistent with the noise mitigation measures, then the construction contractor shall be responsible for correcting those problems within the following 48 hours. The noise levels measured and any corrective actions shall be recorded with the original complaint form.	Contractor	Prior to construction
Mitigation Measures for Long Term Noise Impacts		
Measure N-7: Final Noise Analysis. During final design, the TCA will prepare a final noise analysis based on the detailed and finalized design developed during final design. Feasibility considerations for each sound barrier must meet FHWA/Caltrans criteria including a minimum of 5 dB of noise reduction at the impacted receiver. Additional feasibility considerations are (1) topography, (2) access requirements for driveways, ramps, etc; (3) the presence of cross streets, (4) other noise sources in the area and (5) safety considerations. The TCA will finalize noise mitigation requirements for the selected Alternative and coordinate design with the local agency. As appropriate, the Final Noise Assessment Technical Report and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into	TCA	During final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
final design as appropriate. The Final Noise Assessment Technical Report will provide specific recommendations that will then be incorporated into the Construction documentation (i.e. final design) for building purposes.		
Measure N-8: Long Term Noise Impacts. During construction, the TCA shall implement permanent sound barriers, including walls, berms or combinations of walls and berms. The sound barrier and/or supplemental berm must provide a minimum of 5 dB of noise reduction at the impacted receiver as refined during final design. The locations of these proposed sound barrier/berms are shown on Figures by Alternative in Appendix K. The construction contractor will be responsible for constructing the sound barrier/berm for the selected Alternative and as refined during final design. As appropriate, the Final Noise Assessment Technical Report will be reviewed and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report provides specific recommendations that ate then translated into the construction documentation (i.e., final design) for build purposes. The design and specifications of the sound walls, shown on Figures 5.2-79 through 5.2-82 (Appendix K of the Draft EIS/SEIR), on MCB Camp Pendleton shall be approved by the Commanding General of Camp Pendleton.	TCA	During construction
Commitments Related to Long Term Noise Impacts		
Commitment NC-1: Determination of Reasonableness. During final design, the TCA shall determine the reasonableness of soundwall/berm placement and consider the life cycle of the sound barrier, the potential environmental impact of the mitigation, opinions of impacted residents, input from the public and local agencies, and social, economic and environmental factors consistent with the FHWA/Caltrans feasibility criteria.	TCA	During final design
Commitment NC-2: Soundwall/Floodplain. During final design, if the TCA locates a soundwall/berm in a floodplain, the TCA shall prepare an evaluation of the effects of the soundwall on the floodplain in accordance with appropriate guidelines and design manuals. The design and location will be determined to ensure there is no exceedance of the one foot elevation of the base floodplain. Early recognition and analysis of potential problem areas will be made to determine if wall openings or staggered wall openings are viable for those barriers.	TCA	During final design
Mitigation Measures Related to Air Quality		

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Mitigation Measure for Short Term Air Quality Impacts		
Measure AQ-1. During construction, contractor specifications shall incorporate directions to contractors to control fugitive dust. Fugitive dust shall be controlled by regular watering, paving construction roads, or other dust preventive measures, as defined in SCAQMD Rule 403. After clearing, grading, earth moving or excavation the following activities will be performed by the construction contractor: a. Seeding and watering will be performed until viable vegetation cover is in place in inactive areas. b. Soil binders will be spread. c. Areas will be wet down sufficiently to form a crust on the surface. Repeated soakings will be performed as necessary to maintain this crust. d. Reduce speeds to 10 to 15 mph in construction zones on unpaved areas.	Contractor	During construction and after clearing, grading, earth moving or excavation
Measure AQ-2. During construction, measures contained in Tables 1 and 2 of SCAQMD Rule 403 will be implemented by the construction contractor. Control of particulate emissions from construction activities is best controlled through the requirements contained in SCAQMD's Rule 403, Tables 1 and 2. Tables 1 and 2 are reproduced here as Figures 4.7-5, 4.7-6 and 4.7-7. The measures contained in these tables are presented as an option to air quality monitoring in Rule 403. Figure 4.7-5 contains measures such as maintaining an adequate moisture content in the soil, watering grading areas, establishing ground cover in inactive areas and watering unpaved roads. Figures 4.7-6 and 4.7-7 identify additional measures that are applied during high wind conditions. The mitigation measure, therefore, is to require that the measures contained in Tables 1 and 2 of Rule 403 be utilized. This potentially results in a much higher reduction of particulate emissions than if the air monitoring option contained in Rule 403 was employed. The air monitoring option requires monitoring around the project site, and as long as pollutant levels do not exceed threshold limits, no pollutant emission reduction measures are employed. The measure would be triggered prior to the initiation of grading.	Contractor	During construction
Measure AQ-3. During construction, the contractor shall be responsible for sweeping all public streets adjacent to the project site once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). This condition would apply to those areas where construction traffic leaves the project site and travels onto public roadways.	Contractor	During construction
Measure AQ-4. During construction, the contractor shall be responsible for	Contractor	During construction

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
installing wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.		
Measure AQ-5. During final design, contractor specifications shall require that contractors implement the following measures: • Use low emission mobile construction equipment. • Maintain construction equipment engines by keeping them tuned. • Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. • Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators. • Configure construction parking to minimize traffic interference. • Minimize obstruction of through-traffic lanes. When feasible, construction should be planned so that lane closures on existing streets are kept to a minimum. • Schedule construction operations affecting traffic for off-peak hours. • Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service). • Include in construction grading plans a statement that work crews shut off equipment when not in use. • Support and encourage ridesharing and transit incentives for the construction crew.	Contractor	During final design and construction
Measure AQ-6. During construction, any material deposited onto paved roads due to a major storm event must be removed within 72 hours of the event by the contractor. Additional time is allowed for mudslides or similar events that block traffic over the material. In the event of road closures due to mudslides or other overwhelming accumulations of material, public access should be restricted until all the material is removed.	Contractor	During construction
Mitigation Measures for Long Term Air Quality Impacts		
Measure AQ-7. During construction, the contractor shall be responsible for implementing a control measure which specifies three "preventive" and one "mitigative" control option(s) that would be mandatory of all unpaved road connections with paved public roads. The four mandatory control options include:	Contractor	During construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Paving the last 100 feet from an unpaved roadway connection with a paved road; • Chemical stabilization of the last 100 feet from an unpaved roadway connection with a paved road at sufficient frequency and concentration to maintain a stabilized surface at all times. • Installation of dirt removal devices (e.g., tire cleaning device, grizzlies, etc.); • Cleaning of public paved road surface at any time visible track-out occurs.		
Mitigation Measures Related to Floodplains, Waterways, and Hydrologic Systems		
Mitigation measures concerning impacts to floodpains, waterways and hydrologic systems are measures WQ-1 to WQ-4. Refer to Section 8.9 (Mitigation Measures Related to Water Quality) for a description of these measures.	See Measures WQ-1 to WQ-4 from Section 8.9	See Measures WQ-1 to WQ-4 from Section 8.9
Mitigation Measures Related to Water Quality		
Measure WQ-1: Preservation of Adjacent Existing Vegetation. The TCA will preserve to the extent feasible existing vegetation at areas on the construction site where either no construction activity is planned or where it will occur at a later date. The vegetation will be preserved according to the California Storm Water BMPs Municipal Handbook (1993) as listed in the RMP.	TCA	During construction
Measure WQ-2: Construction Site BMPs. The TCA will implement construction site BMPs as appropriate, during construction of the SOCTIIP Alternatives. These BMPs are described in the California Best Management Practice Handbooks for Construction (1993, revision pending), Caltrans, SWMP and Storm Water Quality Handbooks. BMP categories include measures for temporary sediment control, temporary soil stabilization, scheduling, preservation of existing vegetation, conveyance controls, wind control, temporary stream crossings and waste management as well as many other measures which may be implemented during construction of a highway project. These measures are consistent with requirements set forth under the California State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 (General Construction Permit), which governs storm water and non-storm water discharges during construction activities, as well as with those requirements set forth in the Caltrans Permit Order No. 99 - 06 - DWQ (CAS 000003). These BMPs are directed at reducing storm runoff pollutants and eliminating non-storm water discharges.	TCA	During construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Measure WQ-3: Storm Water Pollution Prevention Plan (SWPPP). Prior to start of soil-disturbing activity at the project site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) will be prepared in accordance with and to partially fulfill the General Construction Permit. The SWPPP will be prepared per the SWPPP and Water Pollution Control Program (WPCP) Preparation Manual, (Storm Water Quality Handbooks, November 2000.) The SWPPP will meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology (BAT) which is economically achievable and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP will be implemented concurrently with commencement of the soil-disturbing activity. The SWPPP will need to be certified in accordance with the signatory requirements of the General Construction Permit.	Contractor	Prior to start of soil-disturbing activities
Measure WQ-4: Spill Contingency. Emergency planning for highway spills will be addressed by both operational and structural BMPs. The TCA will take primary responsibility for spill clean-up and contingencies during construction and operation of the project, though coordination with other agencies will be necessary. Operational BMPs include immediate emergency notification through 911 during a spill event. After emergency notification, the following notifications will occur: • The local fire department and the Orange County Fire Authority will then be notified, and emergency actions (road closures, medical evacuation, cleanup of hazardous materials, etc.) will be taken; if the spill occurs on or affects MCB Camp Pendleton, these authorities will be notified. • If the spill is above the Reportable Quantity (RQ), the State Office of Emergency Services (800.852.7550) will be contacted and a control number provided. The National Response Center (800.424.8802) will be contacted to comply with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requirements. The California Hazardous Material Incident Reporting System (CHMIRS) (916.427.4287) will be notified (assuming the spill volume is more than four liters (two gallons)) and appropriate forms filled out. Structural BMPs consist of mechanisms within water quality BMPs to prevent	TCA	During construction and operation of the project

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
large spills from reaching watercourses. These BMPs could consist primarily of operation valves at outlet works (e.g., from basins) that could be closed in an emergency. In this event, cleanup of hazardous materials and pollutants will be required within the basins to remove contaminated materials.		
Measure WQ-5: Operations, Maintenance and Monitoring Plan. When an alternative is selected for implementation an Operations, Maintenance and Monitoring Plan will be developed in consultation with the appropriate agencies, i.e. Caltrans. Maintenance objectives for project BMPs will be addressed and formalized in the Operation, Maintenance and Monitoring Plan. Caltrans will monitor the BMPs to ensure maintenance objectives are being met. Details of the monitoring will comply with Caltrans Storm Water Policy and requirements of the 401 Certification with Caltrans as the holder of the statewide permit for state highways.	TCA and Caltrans	After an alternative is selected for implementation and ongoing during operation of the project
Measure WQ-6: Monitoring of BMPs. The TCA will monitor Caltrans' maintenance of the BMPs for five years to assure compliance with maintenance criteria and schedules. The TCA will provide annual reports to the Regional Water Quality Control Boards documenting the maintenance of the BMPs.	TCA	For five years after project opening
Mitigation Measures Related to Wetlands and Waters of the United States		
Measure WW-1. Prior to construction, the TCA shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.	TCA	Prior to construction
Measure WW-2. During final design of the project, the Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. The TCA Environmental and Engineering Staff shall determine the implementation of those recommendations	Project Biologist, in consultation with TCA	During final design
Measure WW-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues during construction and operation to be addressed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA, the California Coastal	Project Biologist, in consultation with TCA	Prior to construction

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Commission and Caltrans for review to the extent required by permit by such agencies. The primary goals of the BRMP are to ensure that (1) the long-term perpetuation of the existing diversity of habitats through restoration in the project area and adjacent urban interface zones and to minimize offsite or indirect effects; (2) the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum the following: a. Identification of all Environmental Sensitive Areas (ESA). ESAs are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS. b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas. c. Locations of trees to be protected as wildlife habitat (roosting sites). d. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include: • Sources of plant materials and methods of propagation. • Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the right-of-way. • Remedial measures to be taken if performance standards are not met. • Methods and requirements for monitoring of the restoration efforts. • Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas. e. Specific measures for the protection of sensitive habitats to be preserved in and adjacent to the right-of-way to ensure that construction does not		

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
increase beyond the impacts identified in the EIS/SEIR. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. Details of the erosion, siltation, and dust control mitigation measures will be provided in the Storm Water Pollution Prevention Plan (SWPPP). f. A summary of the type and quantification of habitats to be removed. g. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include: • Sources of plant materials and methods of propagation. • Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way. • Remedial measures to be taken if performance standards are not met. • Methods and requirements for monitoring of the restoration efforts. • Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas. h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake and San Diego cactus wren. i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits and biological monitoring requirements. Details of the erosion, siltation and dust control mitigation measures will be outlined in the Storm Water Pollution Prevention Plan (SWPPP).		

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
j. Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements. k. Or equivalent measures, e.g., environmental permits.		
Measure WW-4. In conjunction with the development of final plans and specifications for construction, or other activities involving vegetation/habitat removal, the Project Biologist shall review and approve the contractor's map of all sensitive habitats (Environmentally Sensitive Areas) within 152.4 meters (500 feet) of the grading limits on the grading plans. The ESA maps shall be prepared by the construction contractor's qualified biologist and approved by the TCA. All ESAs to be avoided and performance standards established by the resource agencies shall be clearly noted on the grading, construction, and landscape plans. Additionally, the landscape plans shall indicate that plant materials be local southern Orange County natives.	Project Biologist	During preparation of final construction plans and specifications
Measure WW-5. During grading activities and construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including monitoring of the installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, falsework installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist. Biological monitoring shall be conducted to document adherence to habitat avoidance and minimization measures addressed in the project mitigation measure and as listed in the USFWS, CDFG, and USACOE permits/agreements.	Project Biologist	During grading and construction activities
Measure WW-6. Final design and construction shall restore the perennial river and stream channels and ephemeral drainages and washes to their original contours upon completion of construction where feasible, with the exclusion of areas of permanent impact.	Project Biologist	Upon completion of construction
Measure WW-7. During all construction activities, the Contractor shall ensure that construction equipment or vehicles shall not be stored in areas defined as ESAs, including areas within the jurisdiction of the USACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or USACOE jurisdictional	Contractor, with oversight by Project Biologist	During construction activities

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
areas. Construction equipment staging/storage shall be located in previously disturbed or non-native areas to the maximum extent possible		
Measure WW-8. During all construction activities, the Contractor shall ensure that no waste material shall be discharged to any CDFG or USACOE jurisdictional areas. Spoil sites shall not be located within any CDFG or USACOE jurisdictional areas, or in areas where it could be washed into any surface water body.	Contractor, with oversight by Project Biologist	During construction activities
Measure WW-9. Prior to final design, the Contractor shall prepare the final construction Runoff Management Plan (RMP). The plan shall address the final location of facilities to route and detain corridor runoff for the purpose of maintaining peak flows and flow velocities downstream of the Alignment at existing rates and preventing project pollutants from reaching improved and unimproved downstream drainages. County of Orange Best Management Practices (BMPs) will be included in these runoff facilities of the Alternatives as determined appropriate by the Design Engineer. The final RMP will contain provisions for changes to the plan (e.g., alternative mechanisms plant materials) if necessary during project design and/or construction phases to achieve the stated goals and performance standards at an equal or greater level. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality. The plan shall be submitted to the Regional Water Quality Control Board (RWQCB), Caltrans, and the Orange County Environmental Management Agency (OCEMA) Environmental Planning Division for review and comment. (RMP, Psomas 2003.)	Contractor	Prior to final design
Measure WW-10. The Contractor shall locate staging areas for construction equipment outside of areas in the jurisdiction of the USACOE or CDFG to minimize impacts to sandy creek benches.	Contractor, with oversight by Project Biologist	Prior to construction
Measure WW-11. Prior to final design, the TCA shall prepare a jurisdictional delineation documenting the Waters of the U.S. and wetlands, CDFG, and CCC jurisdictional impacts for the selected alternative. Prior to final design, the TCA shall prepare a functional assessment of the wetland mitigation plan according to the tenets of the USACOE Regulatory Guidance Letter 02 2 to assure that the functions and values have been replaced and that no net loss of waters and wetland values occur. Habitat replacement guidelines shall be developed to identify and quantify habitats that will be removed along with the locations where habitats will be restored or relocated to ensure no net loss.	TCA	The jurisdictional delineation hs been completed and is included in Final SEIR 4

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Mitigation Measures Related to Wildlife, Fisheries, and Vegetation		
Measure WV-1. Mitigation measure WV-1 is the same as mitigation measure WW-1 in Section 8.10. Please see mitigation measure WW-1.	See mitigation measure WW-1 in Section 8.10	See mitigation measure WW-1 in Section 8.10
Measure WV-2. During final design of the project, the TCA Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. TCA Environmental and Engineering Staff shall determine the implementation of those recommendations.	Project Biologist	During final design
Measure WV-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA and Caltrans for review to the extent required by permit by such agencies. The primary goal of the BRMP will be to ensure the long-term perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones. The BRMP shall contain at a minimum the following: a. Identification of all Environmental Sensitive Areas (ESA). ESA are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS; areas supporting endangered, threatened or rare species; and areas supporting vegetation communities described as sensitive. b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas. c. Specific procedures during construction for the protection of sensitive plant, amphibian, reptile, bird, and mammal species, including perimeters around drip line oak trees. d. Locations of trees to be protected as wildlife habitat (roosting sites). e. Procedures for topsoil preservation and erosion control. f. A summary of the type and quantification of habitats to be removed. g. For areas that will be restored, the quality of the adjacent habitat will be	TCA	Prior to construction

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include: • Sources of plant materials and methods of propagation. • Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way. • Remedial measures to be taken if performance standards are not met. • Methods and requirements for monitoring of the restoration efforts. • Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas. h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake, and San Diego cactus wren. i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. Details of the erosion, siltation, and dust control mitigation measures will be outlined in the Storm Water Pollution Prevention Plan (SWPPP). j. .Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements.		

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Measure WV-4. During grading activities and/or construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, false work installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist.	Project Biologist	During grading activities and/or construction operations
Measure WV-5. During grading activities and construction operations, the Project Biologist shall prepare a monthly biological monitoring letter report summarizing site visits, documenting adherence or violations of required habitat avoidance measures, and listing any necessary remedial measures. The report shall be submitted to the TCA and/or other implementing resource agencies.	Project Biologist	Monthly during grading activities and construction operations
Measure WV-6. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall attend preconstruction meetings with construction foremen, bridge engineers, and the TCA to confirm that all environmental conditions are discussed. Monthly, or on an as needed basis, new construction personnel shall complete an educational program. Issues to be covered will include, but are not limited to, environmental measures for avoiding impacts to sensitive biological resources, ESAs, waste disposal, vehicle transportation routes, seasonal restrictions, fueling/maintenance restrictions, and other relevant topics.	Project Biologist	Prior to the commencement of grading activities or other activities involving vegetation/habitat removal
Measure WV-7. In conjunction with final design, the Project Biologist shall work closely with the Contractor to develop native plant palettes for revegetation areas adjacent to the roadway that abut natural open space and will be implemented by the Contractor. Final landscape design plans, which will be approved by the TCA, shall reflect the following and shall be incorporated into the BRMP: • The landscaping along the corridor in open space (non-urban) areas shall be a mix of native, non-invasive, drought tolerant plant species from the scrub, grassland, and chaparral communities. All plants used shall comply with federal, state, and county laws requiring inspection of infestation. The vendor shall provide certification of inspection from the County of Orange and/or San Diego department of agriculture. The Project Biologist shall also inspect all plants before accepting delivery. • The landscaping community type installed shall be consistent with the plant communities that occur in the vicinity of the intended landscape area.	Project Biologist, in conjunction with Contractor and with oversight by TCA	During final design

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Seeds, cuttings, and potted plants shall be collected from local plant material as appropriate, supplemented by material from native plant nurseries. The seed vendor shall furnish certification that the seed has been tested for purity by a certified seed laboratory and does not contain seed of any non-native, invasive species. • Native California plant species found in the project area shall be used. Invasive, noxious weed, or non-native species identified on the State of California List of Noxious Weed Species or the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List shall not be used in landscaping along open space areas. • All mulches used shall be free of invasive species seed. • Landscape areas shall be subject to maintenance during plant establishment (i.e., non-native species removal) that will be directed by the Project Biologist. However, the landscape areas shall not be subject to performance standards and will not be subject to mitigation in the future if construction occurs. • Temporary low-volume irrigation systems, using reclaimed water (where available), shall be included in the final design of the selected alternative. Portions of the landscaped areas within the Caltrans maintenance area and adjacent to the roadway may be subject to fuel modification requirements, which may preclude the use of many project-indigenous species. In these instances, plant palettes may contain both the California native plant cultivars which will be purchased and indigenous plant species found in the project area. This is due to the limited number of indigenous plant species included within the Orange County Fire Authority Fuel Modification Plant List.		
Measure WV-8. Mitigation measure WV-8 is the same as mitigation measure WW-4 in Section 8.10. See mitigation measure WW-4.	See mitigation measure WW-4 in Section 8.10	See mitigation measure WW-4 in Section 8.10
Measure WV-9. Caltrans procedures shall be followed for the protection of ESAs. These procedures are: (1) no construction access, parking, or storage of equipment or materials will be permitted within marked ESAs or other jurisdictional areas; (2) to the maximum extent practicable, construction access points shall be limited in proximity to protected habitat; (3) waste, dirt, and trash shall not be deposited on protected habitat; (4) vehicle transportation routes shall be confined to the narrowest practicable area in areas adjacent to marked, protected habitats during construction/operations activities, (5) no	Contractors	During construction

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
construction personnel shall be permitted access to these areas except for the purpose of invasive species removal without the Project Biologist's approval. and (6) disposal of trash adjacent to ESAs shall be removed/emptied on a daily basis.		
Measure WV-10. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall field verify that protective fencing (t bar/yellow rope and silt fencing when construction is upslope from sensitive habitat) has been installed along the disturbance limits. Additionally, the Project Biologist shall verify that all other Caltrans procedures for ESAs, identified and mapped on grading plans, have been installed by the construction contractor. These protective fencings shall be field verified by the Project Biologist on a regular basis.	Project Biologist	Prior to commencement of grading or other activities involving vegetation/habitat removal and regularly during grading and construction
Measure WV-11. To mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 hectares (1,182 acres) created by the TCA to mitigate biological impacts resulting from construction of the FTC N. Of these 478.7 hectares (1,182 acres), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, non-wetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives. a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact	TCA	Prior to commencement of grading

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost). b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG. c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1 (0.4 ha [one ac] for every 0.4 ha [one ac] lost), or other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program.		
Measure WV-12. (Duplicate of Measure TE-26). Impacts to native grasslands shall be mitigated at a 1:1 ratio through either preservation or restoration in designated open space (e.g., Upper Chiquita Canyon Conservation Easement). Should restoration be proposed, the restoration areas shall be located in areas deemed appropriate by the project biologist for native grassland restoration. Restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The restoration program for native grassland areas shall be included in the BRMP and shall include the following measures. • Site analysis for appropriate soils. • Site preparation specifications based on site analysis, including but not limited to grading, and weeding. • Specifications for plant and seed material appropriate to the locality of the mitigation site and the timing of restoration activities. • Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation. Restoration areas shall be considered successful at five years if the following standards are achieved: • The site does not require substantial maintenance for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species.	TCA and Project Biologist	Prior to commencement of grading and ongoing for five years after establishment of restoration areas

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
including plant reproduction and/or setting of seeds. • Soil at the site exhibits a level of beneficial arbuscular mycorrhizal fungi that is comparable to an appropriate reference site, as demonstrated through soil infestivity potential. • Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit. • An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. Monitoring shall be conducted for five years (or less if site meets success criteria as designated above earlier) to ensure successful establishment of native grassland vegetation within the restored areas. If success standards are not met, remedial measures, hydroseeding, or introduction of container stock shall be implemented as directed by the Project Biologist.		
Measure WV-13. a. TCA will mitigate impacts to coast live oak and elderberry woodland communities by replacing, creating, restoring, or preserving (1) 0.4047 ha (one ac) of the identified resource for every 0.4047 ha (one ac) of the applicable resource impacted by the project, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Preservation and restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. b. The restoration program shall be detailed with the BRMP. Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality. The following performance standards shall apply for the restoration of elderberry woodland areas. Restoration shall be considered successful if:	TCA and Project Biologist	Prior to commencement of grading and ongoing for five years after establishment of restoration areas

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• The site does not require substantial maintenance for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 70 percent. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. For coast live oak woodland, the following standards shall apply: • The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. c. Monitoring shall be conducted for five years (or less if success criteria are met earlier) to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional seed and/or container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.		
Measure WV-14. In conjunction with construction activity, the Contractor shall control dust accumulation on natural vegetation at the source of disturbance by standard dust control measures (Mestre Greve Associates 2003).	Contractor	During grading and construction
Measure WV-15. Prior to final design of the selected alternative, the Project Biologist shall ensure that the location of the proposed wildlife bridges and culvert identified in the NES will provide adequate travel capabilities, contain adequate vegetation cover, have adequate daylight, and have appropriate fencing to encourage animals to use these underpasses. Upon selection of and refinement to, the selected alternative, smaller culverts and bridges that will be necessary to provide drainage and/or avoid impacts to jurisdictional areas shall	Project Biologist	Prior to final design

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
also be designed, at the direction of the Project Biologist, to promote local and regional wildlife movement.		
Measure WV-16. Prior to, or in conjunction with, the permit of application and/or process, Caltrans (Environmental and Maintenance) and resource agencies are to be given an opportunity for review and approval of the design of wildlife movement bridges, undercrossings, and culverts. The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads. a. Wildlife bridges and culverts shall be designed to provide approaching animals a clear view of the habitat or horizon on the opposite site of the structure. The minimum width at the base of the wildlife bridge or culvert shall be six m (20 ft). The minimum vertical clearance shall be 5.2 m (17 ft) from the floor of the bridge/culvert to the bottom of the structure. No artificial lighting shall be installed or used in or around the bridge/culvert, unless otherwise required to meet Caltrans approval. The ground surface of the wildlife bridges and culverts shall be constructed with a slope ratio of 1:1.5 (V:H). b. Dirt or natural vegetation substrates, rather than concrete or other human-made material, will be placed along the bottom of the bridges or culverts as reasonably feasible.	TCA and Project Biologist	Prior to, or at the time of, resource agency permit application and/or process

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
c. Vegetation naturally occurring on the side slopes to the entrances to the underpass will not be removed, to the extent feasible. Where natural vegetation at underpass entrances does not occur, is minimal, or has been removed as a result of bridge or culvert construction, vegetation shall be planted along the slopes that match the closest intact native vegetation. Low-lying shrubs and/or small trees native to the area will be planted to encourage wildlife use of the underpass. d. The appropriate vegetation-type and quantity will be determined by the Project Biologist during construction of the underpass and will consist, at a minimum, of appropriate large shrubs and trees that will achieve at least 1.5 m (five ft) in height at maturity. The replanting will occur during the final stages of underpass construction or immediately following construction in the appropriate season for planting. The planting of vegetation at bridges over drainages shall be compatible with flood control requirements. e. Materials such as rip-rap will not be used in or around the underpass entrances unless required by hydrology/hydraulic conditions.		
Measure WV-17. Prior to operation of the corridor, chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the project biologist, TCA, USFWS, FHWA and Caltrans. Wildlife fencing adjacent (100 m/328 ft) to wildlife movement underpasses will be inspected semiannually to identify and repair any gaps or tears in the fence caused by erosion, storm events, vandalism, burrowing animals, or other means that could allow wildlife access onto the roadway surface. TCA will be responsible for the wildlife fencing for the first three years of completing the corridor, with Caltrans assuming responsibility thereafter.	TCA and Caltrans	During construction and ongoing for three years after project opening
Measure WV-18. Prior to operation of the corridor, road signs indicating the potential for deer and mountain lion movement shall be installed where indicated by the Project Biologist, due to the potential for wildlife to circumvent the wildlife fencing.	Project Biologist and Contractor	Prior to operation of the corridor
Measure WV-19. All bridges and culverts in the final design plan will be monitored for a period of three years to document the effectiveness of use.	Project Biologist	For three years after project opening

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Target species to be evaluated shall be determined by the Regulatory permits, including: USFWS, ACOE and CDFG, specific to each bridge and culvert. Wildlife movement studies will be conducted at each underpass twice each year for at least eight weeks during the periods between March and May and between September and November. The studies will begin during the first full time period (beginning with March or September) occurring after the opening of the corridor. Reports will be prepared and submitted to the TCA annually. Based on results of surveys, recommendations to enhance wildlife use of underpasses shall be provided as appropriate (i.e., fencing modification, vegetation enhancement, or clearing, etc.).		
Measure WV-20. In conjunction with final design, the TCA shall incorporate low-light design features, where feasible, adjacent to the following sensitive wildlife habitats: bridges or culverts within wildlife corridors, and scrub, riparian, and woodland communities. One or more of the following design options shall be used, if feasible, recognizing the constraints of roadway lighting requirements: (1) low-intensity street lamps, (2) low-elevation light poles, or (3) shielding by internal silvering of the globes or external opaque reflectors. Design features shall meet Caltrans approval.	TCA, subject to Caltrans approval	At time of final design
Measure WV-21. During final design, the TCA, in coordination with the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where sensitive fish species do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.	TCA	During final design
Measure WV-22. Prior to construction of the selected alternative, focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance (for all sensitive plant species), and seed collection and salvage measures (for Coulter's saltbush, intermediate mariposa lily, southern tarplant, and many-stemmed dudleya) can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted during the appropriate time of year (i.e., during the flowering period for each species). Locations of sensitive plant species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or	Project Biologist and Contractor	During final design and prior to construction

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
minimize impacts to sensitive plant populations.		
Measure WV-23. Measure WV-23. a. During the spring prior to grubbing or grading (or as determined by the Project Biologist), the limits of individual populations of Coulter's saltbush to be impacted shall be flagged and individual plants shall be marked with pin flags to facilitate the locating of individual plants after flowering. Prior to construction, seeds shall be collected from Coulter's saltbush plants from approximately June through October from ripened seed heads, for later propagation, by personnel experienced in collection of native seed and native plant propagation. This seed shall be stored by a certified seed bank. An appropriate site within the upper Chiquita Canyon Conservation Area or other area shall be identified for the seeding of this species by the Project Biologist. The site shall have similar soils, slope, aspect, and microhabitat characteristics as the site with occupied Coulter's saltbush to support this species. b. Prior to construction, 75 percent of the Coulter's saltbush plants within the area to be impacted shall be translocated to an appropriate site within the Upper Chiquita Canyon Conservation Area or within an appropriate open space dedication area within the region. Prior to the salvage operation, the number of Coulter's saltbush plants to be relocated shall be determined by the Project Biologist. The site can be the same or a different site than is used for the distribution of seed, but shall have similar soils, slope, aspect, and microhabitat characteristics as the site with occupied Coulter's saltbush. A bulldozer or loader shall be used to remove the top 30 cm (one ft) of soil, including all plant material which shall be loaded on flatbed trucks and transported to the receiver site. The Project Biologist shall coordinate all salvaging and relocation effort so that these operations occur in the appropriate season for maximum success. c. Re-establishment of Coulter's saltbush will be monitored for five years. The survival of relocated plants will be recorded each year. Relocation will be considered successful when the survivorship of the relocated plants has stabilized with a 50 percent survival rate, and establishment of seedlings from the seeded material is documented.		
Measure WV-24. a. Intermediate mariposa lily seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall	Project Biologist and Contractor	a. Flagging prior to grubbing or grading; seed collection in late July/early August b. During two successive years and

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
be flagged and individual plants shall be marked with pin flags to facilitate locating individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation. b. Seed collection shall be conducted during two successive years and the following three-year program shall be implemented to ensure the likelihood of success. Propagated mariposa lilies typically exhibit a germination rate of 80 percent; this percentage shall be used to determine the number of seeds to be collected to ensure production of the same number of plants as shall be impacted by construction. The propagated plants shall be grown for two years to allow the bulbs to reach optimal size prior to transplantation. The remaining seed not used for propagation from the first year of seed collection shall be divided in half with one-half hand broadcast during the first year and the remaining one-half hand broadcast the following year. c. The propagated plants shall be introduced (over the three-year program), using at least a 2:1 ratio, into appropriate habitat in open space dedication areas, or as directed by the Project Biologist. Seeding shall occur in similar areas. Site selection shall be based on the presence of suitable habitat as determined by the Project Biologist. Bulbs from the propagated plants shall be planted at the end of the second growing season. The same program shall be followed for seed collected during the second year. Planting of bulbs and hand broadcasting of seed shall be performed in September or October. d. Re-establishment of intermediate mariposa lily will be monitored for three years following initial planting of the propagated plants and seeding. The survival of the plants will be recorded each year. Establishment of the population will be considered successful when the survivorship of the relocated plants has stabilized with a minimum 10 percent flowering in any one year of the monitoring period and establishment of seedlings from the seeded material is documented.		the following three-year program c. During the three-year program
Measure WV-25. a. Areas determined to have appropriate hydrology and soil chemistry (salinity) shall be reseeded with seed collected from populations of southern tarplant. Southern tarplant is restricted to saline, vernally mesic areas, often along the margins of estuaries or areas of high salinity. The Project	a. Project Biologist b. TCA and Project Biologist c. Project Biologist	a. Prior to construction b. For one year prior to construction c. For three years following initial seeding and additionally, if needed, as specified by the Project

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Biologist shall identify candidate areas within open space areas that exhibit suitable conditions for introduction of the tarplant. b. For one year prior to construction as feasible, the TCA shall have southern tarplant seed collected by personnel experienced in collection of native seeds. Seed collection shall be conducted during successive years from September through December. One-half of the first years' collected seed shall be hand broadcast at the reintroduction site with the remaining one-half stored in appropriate conditions for introduction the following year. Seed collected during the second season shall be stored for potential later use in the event that success standards are not met following the seeding during years one and two. c. Because southern tarplant is an annual species, population numbers are expected to naturally fluctuate from year to year depending upon environmental conditions. Reseeded areas shall be monitored for three years following the initial seeding. Establishment shall be considered successful if plant densities during any of the three years of monitoring are comparable to densities of the impacted populations based on sampling quadrants. If established populations do not achieve comparable densities of impacted populations, additional reintroduction sites shall be identified and stored seed, obtained during the collection period, shall be introduced into additional sites over a two-year period (as in the initial reintroduction program described above). The additional sites shall be monitored for three years and shall be considered successful if population numbers at all of the sites achieve densities of impact areas. If established populations have not reached the density threshold following the addition of supplemental sites, further remedial measures shall be implemented as determined appropriate by the Project Biologist.		Biologist
Measure WV-26. a. Many-stemmed dudleya caudexes and seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall be flagged and groups of plants shall be marked with pin flags to facilitate the locating of individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation. Twenty-five percent of the seeds collected will be stored with Rancho Santa Ana Botanical	Project Biologist	Prior to grubbing or grading, seed collection in late July or early August, and monitoring ongoing for three years a. Flagging prior to grubbing or grading; seed collection in late July/early August b. Before grubbing and grading c. For three years after plants are

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Gardens (RSABG) by their standard agreement. The remainder of the seed will be used to establish the dudleya population as described below. b. Caudexes shall be harvested for later planting, using appropriate screens or mesh and shall be conducted by individuals experienced in the salvage of many-stemmed dudleya. Where possible, caudexes will be salvaged by removing soil blocks containing marked dudleya. Both seed and collected caudexes shall be replanted and established at an appropriate site within an open space dedication area at the direction of the Project Biologist. c. Monitoring of the established populations shall be conducted for three years. The propagated caudexes shall be introduced (over the three-year program), using at least a 1:1 ratio. Establishment shall be considered successful if planted/seeded populations total 75 percent of the impacted populations and the population demonstrates recruitment of seedlings. If planted/seeded populations do not achieve 75 percent of the impacted populations, additional collection of seed shall be performed and additional caudexes will be propagated. If planted/seeded populations do not achieve 75 percent thresholds, further remedial measures shall be implemented as recommended by the Project Biologist.		established.
Measure WV-27. Before entering or leaving the construction site, all construction equipment shall be inspected for evidence of invasive species and/or their seeds. Should any plants and/or seeds be detected, the equipment will be washed to ensure no invasive species and/or their seeds will be brought into or removed from the site.	Contractor with assistance from Project Biologist	During construction
Measure WV-28. Prior to construction, substantial populations of invasive plant species identified on the State of California List of Noxious Weed Species and the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List adjacent to the grading limits shall be mapped.	Contractor with assistance from Project Biologist	Prior to construction
Measure WV-29. The Project Biologist shall prepare an invasive species management program to be incorporated into the BRMP. The program shall discuss the invasive species within landscaping and mitigation areas to be eradicated or controlled and eradication methods, which may include mowing, hand removal, or herbicide application. Removal of invasive plant species on the State of California List of Noxious Weed Species with Pest Rating A shall be required, at the direction of the Project Biologist. Eradication, containment, or control of all invasive plant species on the State of California List of Noxious Weed Species with Pest Rating B shall be at the discretion of the	Project Biologist	Prior to construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Project Biologist. The program shall also address invasive species identified in the California Exotic Pest Plant Council Exotic Pest Plants of Greatest Ecological Concern in California List and methods for their control. The potential for contribution of funds to such programs as the Arundo Removal Program to assist with removal of giant reed or other species from riparian habitats such as San Juan Creek shall also be addressed. The program shall also discuss monitoring of the landscaped and mitigation areas to ensure invasive species are properly controlled or eradicated. The maintenance of the mitigation sites along the corridor will be under the supervision of the Project Biologist (Executive Order 13112, Feb. 3, 1999).		
Measure WV-30. Before and during construction (as appropriate), the Project Biologist shall conduct focused nocturnal and diurnal surveys within suitable habitat between February and May (a minimum of one week prior to the onset of construction) to determine the presence or absence of the western spadefoot toad in the impact area. Any western spadefoot toads found within the impact area will be relocated outside the construction area by the Project Biologist. In areas where western spadefoot toads were found, fencing or screening approximately 1.5 m (five ft) in height (with one m (three ft) buried below the surface) will be installed to prevent western spadefoot toads from entering the area after the onset of construction.	Project Biologist and Contractor	Between February and May, and a minimum of one week prior to the onset of construction
Measure WV-32. During grading activities, two-striped garter snakes observed within and adjacent to the impact area will be relocated outside of the construction area either upstream or downstream of the selected alternative by the Project Biologist.	Project Biologist	During grading activities
Measure WV-33. To minimize and offset adverse effects of the selected alternative on the San Diego cactus wren, suitable habitat for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for this species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of San Diego cactus wrens. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual San Diego cactus wrens to be wounded or killed during the clearing of habitat.	Project Biologist and Contractor	Between September and February in San Diego cactus wren habitat
Measure WV-34. If grubbing activities between February and August (generally within the breeding season for San Diego cactus wren) are unavoidable, the following measures will be implemented:	Project Biologist and Contractor	During grading activities that occur between February and August

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
a. Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of San Diego cactus wrens, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys. b. If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual San Diego cactus wrens on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area. c. During construction, no activity will occur within approximately 150 m (500 ft) of active nests.		
Measure WV-35. a. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied raptor nests and nest burrows (for burrowing owls). Occupied raptor nests/burrows shall be mapped on the construction plans by the Project Biologist. The Project Biologist will visit the nest/burrow site at the beginning of the nesting season to verify the use of the nests/burrows for that particular year. b. If nesting activity begins at any nest site, then the active nest/burrow(s) will be protected as an ESA until nesting activity has ended to ensure compliance with Section 3503.5 of the CDFG Code. To protect any active nest/burrow sites, the following restrictions on construction are required between February and June (or until nests are no longer active as determined by the Project Biologist): (1) clearing limits will be established a minimum of approximately 150 m (500 ft) in any direction from raptor nests/burrows (or as otherwise determined by the Project Biologist); and (2) access and surveying will not be allowed within approximately 300 m (900 ft) of nests/burrows (or as otherwise determined by the Project Biologist).	Project Biologist	Prior to construction, with restrictions on construction between February and June
Measure WV-36. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied breeding coyote, bobcat, or mountain lion dens. In the event that an occupied breeding coyote,	Project Biologist	Prior to construction and as specified regarding breeding seasons

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
bobcat, or mountain lion den is located within the impact area, then grading and construction operations shall be redirected temporarily around the den for a distance of approximately 150 m (500 ft) or as otherwise determined by the Project Biologist. The dens shall be resurveyed by the Project Biologist within the last month of the breeding seasons of these species to verify completion of the breeding cycle. Dens shall be removed during the non-breeding season only.		
Measure WV-37. During the spring and summer (May through August) prior to the habitat removal, a qualified bat biologist shall survey all potential roosting habitat proposed for removal by the proposed construction. If a roost is found, the animals will be evicted and the resource sealed or removed so the bats cannot return and would be forced to find alternative roost sites. Tree removal shall be conducted between September and November to avoid hibernating bats (December through February) and maternity season (May through August) if feasible.	Project Biologist	Survey during spring and summer, and tree removal between September and November
Measure WV-38. Impacts to floodplain sage scrub, riparian herb, and other sub-types within the Vernal Pools, Seeps, and Wet Meadows and Marsh plant communities shall be mitigated at a 1:1 ratio or other ratio that compensates for functions and values. Mitigation shall consist of creating the above mentioned community types in the approximate proportions in which they currently exist within the impact area or as otherwise required by the resource agencies. Creation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The creation program for the above areas shall be included in the BRMP and shall include the following measures. • Site analysis for appropriate soils and hydrology. • Site preparation specifications based on site analysis, including but not limited to grading, and weeding. • Soil and plant material salvage from impact areas, as appropriate to the timing of impact and restoration as well as the location of restoration sites. • Specifications for plant and seed material appropriate to the locality of the mitigation site. • Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation. Creation areas shall be considered successful if the following standards are achieved:	Project Biologist	Prior to construction, for a minimum of five years and/or until success standards are met

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• The site does not require substantial maintenance for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit. • An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. Monitoring shall be conducted for five years (or less if success criteria are met as designated above earlier) to ensure successful establishment of hydrophytic vegetation within the restored/created areas by wetland species. If success standards are not met, remedial measures, seeding, or introduction of container stock shall be implemented as directed by the Project Biologist.		
Measure WV-39. TCA will mitigate impacts to riparian scrub, woodland, and forest communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project or other ratio that compensates for functions and values, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP. Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if: • The site does not require substantial maintenance for at least two	TCA and Project Biologist	For a minimum of five years and until success standards are met

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 70 percent in forest scrub communities and five percent in woodland communities. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. For southern coast live oak riparian forest, the following standards shall apply: • The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. Monitoring shall be conducted for a minimum of five years to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.		
Measure WV-40. Impacts to open water shall be mitigated at a 1:1 ratio by the creation of wetlands and impounded features to be incorporated into the herbaceous riparian habitat. The open water mitigation areas shall be located at a site determined by the Project Biologist to have hydrology sufficient to support the desired open water feature. Appropriate hydrological and soils testing shall be performed to ensure that the created open water area function properly. Creation of open water areas shall be maintained as part of the herbaceous riparian habitat restoration.	Project Biologist	At the time of habitat restoration and ongoing
Mitigation Measures Related to Threatened and Endangered Species		
Measure TE-1. Prior to construction, the TCA shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the	TCA	Prior to construction

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
selected alternative in accordance with the adopted mitigation measures and applicable law.		
Measure TE-2. Mitigation measure TE-2 is the same as mitigation measure WV-2 in Section 8.11. See mitigation measure WV-2.	See mitigation measure WV-2 in Section 8.11	See mitigation measure WV-2 in Section 8.11
Measure TE-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, NMFS, CDFG, USACOE, RWQCB, FHWA and Caltrans for review and approval. The primary goals of the BRMP are to ensure that (1) the long-term perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones and minimize offsite or indirect effects; (2) the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum specific construction monitoring programs for thread-leaved brodiaea, arroyo toad, coastal California gnatcatcher, least Bell's vireo, and Pacific pocket mouse.	TCA	Prior to construction
Measure TE-4. Mitigation measure TE-4 is the same as mitigation measure WV-5 in Section 8.11. See mitigation measure WV-5.	See mitigation measure WV-5 in Section 8.11	See mitigation measure WV-5 in Section 8.11
Measure TE-5. Chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the Project Biologist, TCA, USFWS, FHWA and Caltrans. In addition, in areas known to support the arroyo toad, a permanent mesh fence shall be installed at the base of the chain-link fence for at least 1.0 km (0.62 mi) to keep the toads from entering onto the roadway surface.	Project Biologist, TCA, USFWS, FHWA and Caltrans	During final design and construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads.		
Measure TE-6. Prior to construction of the selected alternative, focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance, and seed collection and salvage measures for thread-leaved brodiaea can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted from March through June which is the blooming period for this species. Locations of thread-leaved brodiaea species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or minimize impacts to sensitive plant populations.	Project Biologist	During final design and between March and June, prior to construction
Measure TE-7. a. Prior to construction (e.g., clearing, grubbing or grading), focused surveys for the thread-leaved brodiaea shall be conducted during the flowering period for this species (approximately March through June). The locations of plants identified within the disturbance limits shall be recorded with a Global Positioning System (GPS) unit with sub-meter accuracy. The soils containing thread-leaved brodiaea shall be tested to determine soil texture,	Project Biologist	Between approximately March and June, prior to construction. Monitoring for five years post-relocation

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
and organic matter, and transported to a native plant nursery for germination and propagation. b. Prior to construction, soil containing thread-leaved brodiaea corms within the impact area shall be collected by personnel experienced in the salvage of corms. Areas of soil 0.6 m by one m by 0.6 m (two ft by three ft by two ft) deep or one m by 1.3 m by 0.6 m (three ft by four ft by two ft) deep shall be collected and transported for placement in an appropriate translocation site selected by the Project Biologist. The translocation site shall be located in a conservation area within an open space dedication area within the region and shall have similar soils, aspect, slope, and hydrology to the donor site (i.e., the site from which thread-leaved brodiaea corns were collected). c. Relocation success will be monitored for five years. The number of relocated plants that will emerge in any one year is variable and will depend on seasonal rainfall. Relocation will be considered successful when 10 percent of the relocated population emerges and sets viable seed in any monitoring year. The success criteria may vary as determined by the Project Biologist in consultation with botanists and USFWS staff with recent experience in brodiaea transplantation methodologies in the region.		
Measure TE-8. To avoid impacting vernal marsh FEVM 16 and Riverside fairy shrimp from construction activities, this area shall be flagged and mapped. All construction roads and other construction related activities shall be redirected around this feature. The watershed which supplies this marsh shall also be flagged for avoidance and enclosed with silt fencing per the direction of the Project Biologist to ensure that erosion/ground disturbance does not compromise water quality within the pool. Silt fencing shall remain intact for the duration of construction and until all disturbed soils have been stabilized. Following removal of the silt fencing, fiber rolls, or similar erosion control devices shall be placed around the pool to filter incoming runoff and reduce the potential for siltation or water turbidity until all earth moving activities have ceased and landscaping installed. See also RMP for all mitigation measures.		
Measure TE-9. During final design, the TCA, as described in the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where endangered or threatened fish do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an	TCA	During final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
appropriate depth for fish migration.		
Measure TE-10. An Arroyo Toad Resource Management Plan (ATRMP) will be prepared. The ATRMP will be incorporated into the BRMP, and action items identified in the plan will be implemented by TCA and monitored by the Project Biologist. The plan shall include measures detailing how the impact area will be surrounded with a silt fence enclosure, and how arroyo toads will be removed and relocated from the construction impact area during the breeding season (when they are detectable by vocalizations) and placed in suitable habitat either upstream or downstream of the selected alternative during construction. The ATRMP will identify areas of collection, suitable areas for temporary housing , and restoration guidelines to be in place prior to release of toads to their original location. The plan shall by submitted to the USFWS to the extent required by such agency. The locations of areas known to support arroyo toads shall be identified in the ATRMP and on the ESA maps to comply with the requirements of the biological opinion.	Project Biologist, with approval by USFWS	Prior to construction
Measure TE-11. Prior to initiating any ground-disturbing activities in occupied/suitable habitats, or habitats proximal to suitable or occupied habitats for arroyo toad, exclusionary fencing shall be installed around the perimeter of the construction area. Fencing or screening approximately 60 cm (two ft) in height (30 cm [one ft] of which will be buried below the surface) shall be installed to prevent arroyo toads from entering the area after the onset of construction. The fencing will be installed at least 14 days prior to the initiation of work and must be made of a material appropriate to preclude any arroyo toads from entering the construction area. Fencing will be removed each winter during construction and at the end of project construction. Vehicle use will be restricted within areas known to support populations of the arroyo toad that are shown on the ESA maps.	Project Biologist	Prior to initiating any ground-disturbing activities
Measure TE-12. a. The Project Biologist shall conduct three focused arroyo toad surveys within the fenced construction site for arroyo toads a minimum of 14 nights prior to initiating project construction. If climatic conditions are not appropriate for arroyo toad movement during the surveys, the Project Biologist may attempt to illicit a response from the arroyo toads, during nights with temperatures of 13°C (55°F) or greater, by spraying the project area with water to simulate a rain event. During construction, arroyo toads surveys will be performed a minimum of once per week and on all nights where the combination of rain/humidity and temperature would increase the	Project Biologist	Fourteen nights prior to initiating project construction and during construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
movement of arroyo toads. b. If arroyo toads are found with the construction side of the exclusionary fencing, arroyo toads will be removed by the Project Biologist and relocated from the construction impact area and placed in suitable habitat either upstream or downstream of the construction area as outlined in the Arroyo Toad Resource Management Plan.		
Measure TE-13. The Contractor shall locate staging areas for construction equipment outside of areas within the jurisdiction of the USACOE or CDFG known to support arroyo toad to minimize impacts to sandy creek benches that may provide aestivating habitat for the arroyo toad to avoid taking any individuals.	Contractor, with oversight by Project Biologist	Prior to and during construction
Measure TE-14. When conducting construction and/or other ground-disturbing activities in arroyo toad-occupied habitats or in adjacent upland areas proximal to known arroyo toad habitats, the Contractor shall cover all grubbing spoils or other grading debris with plastic sheeting to prevent arroyo toads from opportunistically burrowing in these exposed and friable soil piles. This sheeting must be placed on the soil piles before sunset and shall remain on (during nighttime hours) for the duration of the construction/ground disturbing activities. The areas where these measures must be implemented shall be determined by the Project Biologist in coordination with the USFWS. If the sheeting does not remain in place due to unforeseen circumstances, (inclement weather or other disturbances) a biologist will monitor the soil piles for the arroyo toad. Any arroyo toads found within the soil piles will be removed and relocated as outlined in the Arroyo Toad Resource Management Plan	Contractor, with oversight by Project Biologist	When conducting construction and/or other ground-disturbing activities
Measure TE-15. The Contractor shall not drive upon construction roads or other roads/surfaces adjacent to arroyo toad occupied habitat after sunset. If the site must be accessed, a biologist permitted to handle arroyo toad must be present in the vehicle to identify any individuals on the road and the vehicle shall not exceed a speed of 16 km per hour (10 mi per hour) within these areas.	Contractor and Project Biologist	After sunset during grading and construction
Measure TE-16. Prior to construction, the Project Biologist shall document the area of pools and gravel bars within the temporary disturbance areas of creeks occupied by the Arroyo Toad. At the conclusion of construction, the TCA shall construct artificial pools and gravel bars within these temporary disturbance areas. The artificial pools and gravel bars shall provide potential breeding and aestivating habitat for arroyo toad. These areas will be identified and established by the Project Biologist in the BRMP. The artificial pools and	TCA and Project Biologist	At the conclusion of construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
gravel bars shall be equal to or greater in size than those areas impacted by project implementation. Because of the natural flooding and scouring conditions of the creeks within the study area, no maintenance of these areas will be required. The construction of these features shall not preclude required Caltrans bridge maintenance. Plans shall be submitted to USFWS for review and approval, to the extent required by such agency, prior to implementation.		
Measure TE-17. Prior to the arroyo toads' re-establishment to their original locations, specific activities to enhance their habitat and improve their potential for re-occupation will be implemented. These measures include the removal (up to 15 days in advance of the re-establishment), to the extent practicable, of predatory species such as bullfrogs, western mosquito fish, yellow bullheads, bluegill, and additional predatory invertebrates, amphibians, and introduced fish species. Plans shall be submitted to USFWS for review and approval prior to implementation to determine compliance with the biological opinion.	Project Biologist, with approval by USFWS	Prior to arroyo toad re-establishment
Measure TE-18. To minimize and offset adverse effects of the selected alternative on the coastal California gnatcatcher, habitat suitable for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for these species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of coastal California gnatcatchers. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual coastal California gnatcatchers to be wounded or killed during the clearing of habitat.	Contractor and Project Biologist	From September to February (if feasible), one day prior to any vegetation disturbance and during all suitable habitat clearing and removal activities
Measure TE-19. If grubbing activities are unavoidable during the coastal California gnatcatcher breeding season, which is between February and August, the following measures will be implemented: Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of coastal California gnatcatchers, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys.	Project Biologist	Between February and August, if needed

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual coastal California gnatcatchers on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area. During construction, no activity will occur within approximately 150 m (500 ft) of active nests.		
Measure TE-23. During final project design, an undercrossing shall be provided in the vicinity of the San Mateo North population of the Pacific pocket mouse for any alternative selected that occurs within this area. The undercrossing shall allow for potential movement of Pacific pocket mice under the alignment. The exact placement and design of the undercrossing shall be determined by the Project Biologist, in coordination with MCB Camp Pendleton and with USFWS during the Section 7 consultation.	Project Biologist, in consultation with MCB Camp Pendleton and USFWS	During final project design
Measure TE-24. Prior to the initiation of construction in areas within or proximal to known sites occupied by the Pacific pocket mouse, a Pacific Pocket Mouse Resource Management Plan (PPMRMP) shall be prepared and submitted to the USFWS for review to determine compliance with the biological opinion and incorporated into the BRMP. This plan shall identify the strategies available for minimizing impacts to comply with the no jeopardy standard of Section 7(a)2 of the Federal Endangered Species Act. The PPMRMP shall identify conservation measures. These conservation measures will be consistent with the Biological opinion issued by the USFWS. Potential conservation measures may include: a. Temporary construction measures—including temporary fencing: • Invasive species control • Habitat management and enhancement • Predator control	Project Biologist with approval by USFWS	Prior to initiation of construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Control of public access • PPM population monitoring Implementation of these conservation measures will be completed in conjunction with USFWS and the landowner, Marine Corp, Camp Pendleton. b. Project Design Features—PPM • Barriers along the boundary • Minimization of roadway lighting • Minimization of fire risk		
Measure TE-25. Mitigation measure TE-25 is the same as mitigation measure WV-11 in Section 8.11. See mitigation measure WV-11.	See mitigation measure WV-11 in Section 8.11.	See mitigation measure WV-11 in Section 8.11.
Measure TE-26. Mitigation measure TE-26 is the same as mitigation measure WV-12 in Section 8.11. See mitigation measure WV-11.	See mitigation measure WV-12 in Section 8.11.	See mitigation measure WV-12 in Section 8.11.
Measure TE-27. Mitigation measure TE-27 is the same as mitigation measure WV-38 in Section 8.11. See mitigation measure WV-38.	See mitigation measure WV-38 in Section 8.11.	See mitigation measure WV-38 in Section 8.11.
Measure TE-28. Mitigation measure TE-28 is addressed through mitigation measure WV-39 in Section 8.11 and a separate measure is not necessary. See mitigation measure WV-39.	See mitigation measure WV-39 in Section 8.11	See mitigation measure WV-39 in Section 8.11
Measure TE-29. Mitigation measure TE-29 is the same as mitigation measure WV-40 in Section 8.11. See mitigation measure WV-40.	See mitigation measure WV-40 in Section 8.11	See mitigation measure WV-40 in Section 8.11
Mitigation Measures Related to Wild and Scenic Rivers		
No mitigation required.	N/A	N/A
Mitigation Measures Related to Costal Barriers		
No mitigation required	N/A	N/A
Mitigation Measures Related to Costal Zone		
Mitigation measures for impacts in the Coastal Zone are found in the following topical areas for which coastal zone permitting is concerned: biological, cultural, paleontological and visual resources. Refer to Sections 8.10 (Mitigation Measures Related to Wetlands and Waters of the United States),	Refer to Sections 8.10 (Mitigation Measures Related to Wetlands and Waters of the	Refer to Sections 8.10 (Mitigation Measures Related to Wetlands and Waters of the United States), 8.12 (Mitigation Measures Related to

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
8.12 (Mitigation Measures Related to Threatened and Endangered Species), 8.16 (Mitigation Measures Related to Historic and Archaeological Resources), 8.18 (Mitigation Measures Related to Visual Resources) and 8.23 (Mitigation Measures Related to Paleontological Resources) for a description of these measures.	United States), 8.12 (Mitigation Measures Related to Threatened and Endangered Species), 8.16 (Mitigation Measures Related to Historic and Archaeological Resources), 8.18 (Mitigation Measures Related to Visual Resources) and 8.23 (Mitigation Measures Related to Paleontological Resources)	Threatened and Endangered Species), 8.16 (Mitigation Measures Related to Historic and Archaeological Resources), 8.18 (Mitigation Measures Related to Visual Resources) and 8.23 (Mitigation Measures Related to Paleontological Resources)
Mitigation Measures Related to Historic and Archeological Resources		
Measure AR-1. Prior to the start of construction activity, a qualified archaeologist shall be retained by the TCA to perform subsurface test level investigation and surface collection for all archaeological sites that have not had formal determinations of eligibility for listing on the NRHP. The test level report evaluating the site shall include discussion of significance (scientific data potential), integrity (location, physical characteristics, and condition), mitigation recommendations, and cost estimates. Final mitigation shall be carried out based on the report recommendations, input by FHWA and SHPO, and a determination as to the site's disposition by the TCA with concurrence of the FHWA. Possible recommendations made by a qualified archaeologist include, but are not limited to, preservation, data recovery, or no mitigation necessary. In addition, TCA shall retain a qualified Native American monitor to be present during the evaluation excavations for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.	TCA and qualified archaeologist	Prior to the commencement of project grading
Measure AR-2. In conjunction with the final design, the TCA shall retain a qualified archaeologist to complete a suitable historic property treatment plan for all eligible cultural resources that will be impacted by the SOCTIIP. A final report of the data recovery operation shall be submitted to the TCA, Caltrans	TCA	In conjunction with the final design and prior to commencement of project grading

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
and FHWA prior to any grading in the archaeological site areas. In addition, TCA shall retain a qualified Native American monitor to be present during the treatment program for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.		
Measure AR-3. Prior to the start of construction activity, the TCA shall retain a qualified archaeologist. The archaeologist shall establish procedures (monitoring plan) for archaeological resource surveillance, and procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources as appropriate. The archaeologist shall also be present at the pregrading conference to explain the established procedures based on a preapproved monitoring plan. If additional or unexpected archaeological resources are discovered, a qualified archaeologist shall determine appropriate actions, in cooperation with the TCA, for testing and/or data recovery. The archaeologist shall submit a follow-up report to the TCA that shall include the period of inspection, an analysis of any artifacts found, the results of any testing or data recovery, and the present repository of the artifacts. In addition, TCA shall retain a qualified Native American monitor to be present during ground disturbing construction activities within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.	TCA and qualified archaeologist	Prior to initiation of grading and ongoing during grading activities
Measure AR-4. In conjunction with the final design, the TCA will investigate various design features including options for reversibility of design, i.e., avoidance of core areas, minimization of cut, maximization of fill, bridge structure on columns, etc., in the vicinity of the Village of Panhe (within the San Mateo Archaeological National Register District) could assist in minimizing impacts to the District as a result of the selected Alternative. If it is determined that a design feature can feasibly assist in minimizing impacts to the District, the TCA will incorporate this feature in the final design for the selected alternative.	TCA	At the time of final design
Measure HR-1. Prior to the start of construction activity (project related demolition), the TCA or other implementing agency/agencies shall retain a qualified architectural historian/historical architect to record National Register of Historic Places listed or eligible buildings, structures, and objects that will be removed by the Alternative, according to Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards. The		

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
documentation will be performed in consultation with the National Park Service (NPS), and the State Office of Historic Preservation (OHP). HABS/HAER documents utilize the Secretary of the Interior's *Standards for Architectural and Engineering Documentation*, which is linked to the Secretary's *Guidelines for Architectural and Engineering Documentation* and the HABS/HAER Procedures Manual which provide more specific guidance and technical information. The level of documentation for each individual resource or district will be determined in consultation with NPS, but may include: Drawings: a full set of measured drawings depicting existing and historic conditions. Photographs: photographs with large format negatives of exterior and interior views, photocopies with large format negatives of select existing drawings or historic views where available. Written data: history and description. HABS/HAER recordation for each resource should update and augment any previously completed documentation of the resource. Documentation should be completed within 180 days of the FHWA approval of the SOCTIIP project. The product should be submitted to the NPS for review and addition to the HABS/HAER collection maintained by the Library of Congress. Copies of the document should also be provided to local institutions or agencies (planning/community development departments, public libraries, historical societies) and made available for public review.		
Measure HR-2. The TCA or other implementing agency/agencies in consultation with local agencies and the SHPO, shall create a permanent display for historic buildings within a local facility readily accessible to the public, (such as such as public libraries, museums, or schools) that will interpret the history and construction of the resource and its historical context. The interpretive display may consist of durable panels and should include items such as: reproductions of historical photographs, original construction drawings, or other drawings, drawings and photographs that are part of HABS/HAER documentation completed as part of the mitigation measures, and explanatory text. Items such as reproductions or actual architectural elements, discarded hardware, or other items used in the original construction may also be incorporated, as may oral histories collected from individuals associated with		

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
the resource in text, audio, and/or video format. The interpretive display should be completed and in place prior to initiation of operations on any part of the selected corridor.		
Measure HR-3. The TCA or other implementing agency/agencies in consultation with the local agencies and SHPO, shall create an internet website on the worldwide web that will interpret the resource impacted by the proposed construction. The website should include written explanatory text discussing the history and context of the resource, historic and contemporary photographs of the resource, drawings and/or diagrams as appropriate. It may also include oral histories collected from individuals associated with the resource, in text, audio, and/or streaming video format. The website may be a stand alone site, or linked to existing websites maintained by local or county historical organizations. The interpretive website should be completed and accessible prior to initiation of operations on the selected corridor.		
Measure HR-4. In the event that design of the project requires the demolition of any Federal, State, or locally listed or eligible historical resource, the TCA or other implementing agency/agencies shall, with the approval of the responsible municipal agency, salvage any historical elements or fittings of the structure(s) which may be useful for reuse or display prior to the commencement of any alteration, grading, or demolition of the site.		
Mitigation Measures Related to Hazardous Materials and Hazardous Waste Sites		
Measure HM-1: Testing For Contaminated Groundwater. Groundwater testing for the presence of pesticides, nitrates, metals and petroleum hydrocarbons will be required by the Regional Water Quality Control Board (RWQCB) prior to construction in all areas where excavation may extend into groundwater based on final design criteria. All wastewater generated during construction will meet all applicable requirements of the RWQCB prior to disposal.	TCA, in accordance with RWQCB requirements	Prior to construction in areas where excavation may extend into groundwater
Measure HM-2: Aerially Deposited Lead. In areas immediately adjacent to existing roads proposed for construction (I-5, arterials), soil samples will be collected and analyzed for lead concentrations during final design, consistent with "Lead Testing Recommendations for Districts with Aerially Deposited Lead (ADL) Variance" (Caltrans 2001), "Invoking the Aerially Deposited Lead Variance" (Caltrans, no date), DTSC "Variance 00-H-VAR-07," and Standard Special Provision SSP 19-900, S5-740. If lead-affected soil is found, the results/conclusions will be included in the Site Investigation Report, the Standard Special Provisions (SSP) and the Material Information Handout	TCA	During final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
(MIH). The SSP and MIH will be incorporated in design specifications and will include measures to safeguard public health before and during construction. Depending on the concentrations and volumes encountered, excavation and disposal of lead-impacted soil may be required. If such excavation is indicated, procedures for handling and disposal will be included in the design specifications. Soil contaminated with ADL will be removed and disposed of, in concurrence with the variance issued to the California Department of Transportation (Caltrans) by the California Department of Toxic Substances Control (DTSC). This material may be reused for embankment fill, retaining wall backfill and/or capped with an appropriate amount of clean fill material. Specifically, DTSC granted Caltrans a variance in 2000 to allow for the use of some lead contaminated soils for fill and backfill during construction of freeway improvements, provided that Caltrans' handling and use of those soils are consistent with the conditions, limitation and requirements described in that variance. A copy of that variance is available for review at the Caltrans District 12 office. This variance is valid through September 22, 2005 per Caltrans and will need to be renewed. It is anticipated that all of the lead contaminated soil in the SOCTIIP study area affected by the Alternatives would be used during the construction of the proposed project. Although there is not expected to be the need to remove and dispose of any lead contaminated soil off site during construction, any excess contaminated soil would be disposed of consistent with all applicable federal, state and local regulations		
Measure HM-3: Agricultural Lands. Prior to grading in agricultural areas, a soil sampling plan and a worker health and safety plan will be prepared and implemented to identify areas of chemically affected soils to minimize the risk of exposure to worker safety during construction. The soil sampling plan will include appropriate sampling criteria for screening excavated soils by profiling for reuse or disposal, as appropriate. Surface soil samples within the disturbance limits will be collected and analyzed for pesticide and herbicide residues. If elevated residue levels are detected, a Risk Management Plan (RMP) for the impacted soil will be developed and implemented during construction.	TCA and Contractor	Prior to grading in agricultural areas and ongoing during project
Measure HM-4: Abandoned Oils Wells or Test Borings. The abandoned oil wells and test borings will be positively located and any remaining components (such as steel surface casings) will be removed before grading. In the event that an undocumented oil well or test boring is encountered during construction of any SOCTIIP Alternative, reabandonment of the well or boring will be	Geotechnical engineer and/or geologist	Prior to project grading

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
implemented to comply with applicable California Department of Oil and Gas (CDOG) requirements.		
Measure HM-5: Asbestos Containing Building Materials. Consistent with the requirements of the South Coast Air Quality Management District (SCAQMD), asbestos sampling and notification will be implemented prior to any demolition or renovation of existing bridges, road structures or buildings. All asbestos contain building waste materials will be properly handled and disposed of consistent with all applicable federal, state and local regulations. Formal notification to SCAQMD will be made at least 10 days before any demolition work, regardless of whether or not asbestos is known to be present.	TCA and Contractor	Prior to demolition or renovation of existing bridges, road structures or buildings
Measure HM-6: Hazardous Materials in Highway Infrastructure. If any existing thermoplastic or painted traffic stripes on existing roads are proposed for removal, testing of those stripes will be performed prior to construction to assess the level of lead and chromium. The testing will identify specific actions that will be implemented to safely remove and dispose of these stripes. It is also possible that some components of bridges or other highway infrastructure may include asbestos-containing materials (ACMs). Building materials in all structures slated for demolition will be surveyed for asbestos content before demolition begins and any materials found to be ACMS will be removed (abated) before demolition, as described in measure HM-5.	TCA and Contractor	Prior to construction
Measure HM-7: Construction Related Hazardous Materials. All construction activities will be required to comply with existing federal, state and local regulations regarding the handling, use, storage and disposal of hazardous materials, including specific regulations on response in the event of accidental release.	TCA and Contractor	Ongoing during construction
Measure HM-8: Hazardous Materials Associated with Existing Utilities. If leakage or damage from existing utilities is identified during construction, appropriate containment and remedial measures will be implemented, as necessary, in consultation with the affected utility provider and in compliance with existing local, state and federal regulations.	TCA and Contractor and affected utility	Ongoing during construction
Measure HM-9: Alignment Specific Database Review. During final design, an updated regulatory database report will be obtained and regulatory records for identified sites of concern, such as leaking underground storage tank locations, will be reviewed. The intent of obtaining and reviewing this updated information will be to evaluate changes in, or the progress of, ongoing monitoring and remediation activities at those properties within or immediately adjacent to the disturbance limits for the selected Alternative. The results of	TCA and Contractor	During final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
this additional database and records review will be used in developing the final construction plans and schedules.		
Measure HM-10: Underground Storage Tanks. The removal of underground storage tanks, if any are affected, will be coordinated by the facility tenant or property owner (which could be the current owner, the TCA, Caltrans or the applicable local jurisdiction), and regulatory closure would be directed and approved by the applicable local oversight regulatory agency. These local oversight regulatory agencies may include the Orange County Health Care Agency, San Diego Hazardous Materials Management District and/or the San Diego and/or Santa Ana Regional Water Quality Control Boards (RWQCBs). Appropriate mitigation will include monitoring the progress of UST closure activities through periodically updating the regulatory database review.		
Measure HM-11: Prima Deshecha Sanitary Landfill. Measure HM-11 is not applicable to the Preferred Alternative.	N/A	N/A
Measure HM-12: Hazardous Materials Sites. During final design, existing businesses within the disturbance limits will be evaluated related to hazardous materials concerns to identify areas where soil sampling is warranted. Based on this reevaluation, subsurface sampling may be conducted to evaluate the presence of previous chemical releases associated with these types of land uses. Identified contamination will be remediated prior to or during construction of the selected Alternative. The right-of-way acquisition process will specifically address the need for hazardous materials remediation. Remediation, consistent with regulatory requirements and standards, will fully mitigate adverse impacts associated with existing hazardous materials or wastes sites on property acquired for the selected Alternative.	TCA and Contractor	During final design and prior to, or during, construction
Measure HM-13: Camp Pendleton. The Department of the Navy (DON) will be consulted and a review of current United States Environmental Protection Agency (EPA) files will be conducted during final design to evaluate whether National Priorities List (NPL) records indicate that hazardous materials releases have occurred beneath the northwestern part of the Base, which may impact the SOCTIIP build Alternative. Current regulatory records pertaining to the integrity of the USTs and associated piping at the Base gas station will be reviewed. In the event that the regulatory files lack records of monitoring or UST integrity test results, subsurface sampling activities will be conducted, including confirmation soil sampling conducted within the disturbance limits of the build Alternative. Evaluation of potentially impacted or environmentally impaired properties will be performed prior to acquisition in order to determine	TCA and Contractor, in consultation with DON	During final design and prior to acquisition

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
the degree of environmental risk and liability for both the buyer and seller.		
Measure HM-14: Camp Pendleton. The right-of-way easement granted by the DON to the TCA (for a non-corridor Alternative) shall contain the following provisions: 1) procedures for control and manifesting of hazardous waste generated by construction or maintenance activities; 2) Assignment of responsibility for hazardous waste management, spill accountability, and hazardous waste disposal (including manifesting); 3) The EPA identification (ID) number to be used to manifest hazardous wastes; 4) Responsibility for acquisition of any required health permits; 5) Procedures for management of HW stored on Camp Pendleton property; 6) Assignment of responsibility for any Notices of Violation or other regulatory enforcement actions occurring within the Alternative right-of-way during construction or operation of the SOCTIIP project.	DON	Prior to acceptance of right-of-way easement
Measure HM-15: TRW Capistrano Test Site. The groundwater well shall be sampled and abandoned in a cooperative effort with TRW in accordance with applicable regulatory guidelines if necessary.	TCA and Contractor	Prior to site acquisition
Measure HM-16: Petroleum Pipeline. If records of pipeline integrity testing are unavailable, a soil screening program, including the collection and analysis of soil samples beneath the pipeline, will be implemented in a cooperative effort with Kinder Morgan, the pipeline operator. The soil sampling will be conducted to evaluate the presence of chemically affected soil. If contaminated soil is documented associated with this pipeline, appropriate remediation in compliance with existing local, state and federal regulations will be implemented, in conjunction with Kinder Morgan.	TCA and Contractor, in conjunction with Kinder Morgan	Prior to construction
Measure HM-17: Electrical Substations. If the final design for a build Alternative calls for the relocation of oil cooled and/or lubricated electrical equipment at existing electrical substations, the TCA will coordinate with the owner of the substation during final design to determine whether an evaluation of soils beneath the relocated equipment is necessary and appropriate. The TCA would also coordinate with the owner of the substation regarding the remediation of any contaminated soil associated with the affected electrical equipment, consistent with applicable local, state and federal regulations.	TCA and affected utility provider	During final design
Measure HM-18: Previously Unknown Hazardous Materials Encountered During Construction. If previously unknown hazardous materials or objects that could contain hazardous materials (such as an undocumented underground storage tank) are discovered during construction, construction personnel will notify TCA immediately and implement measures to control and characterize	Construction personnel and construction contractor	During construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
the materials encountered, including notification of hazardous materials emergency response personnel as appropriate. Characterization of the possible hazardous materials will be similar to the provisions of HM-12. The construction contractor will provide for this contingency in the Health and Safety Plan for the project.		
NES Measure 12 for Construction Storage. During all construction activities, the contractor shall ensure that construction equipment or vehicles shall not be stored within areas defined as Environmentally Sensitive Areas (ESAs), including areas within the jurisdiction of the ACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 m (150 ft) of CDFG or ACOE jurisdictional areas.	Contractor	Ongoing during construction
NES Measure 13 for Construction Disposal. NES measure 13 is the same as mitigation measure WW-8 in Section 8.10.	See mitigation measure WW-8 in Section 8.10	See mitigation measure WW-8 in Section 8.10
Mitigation Measures Related to Visual Resources		
Measure AS-1. Adjacent landforms affected shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces. The TCA shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a preferred Alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.	TCA	During final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Measure AS-2. The TCA shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.	TCA	During final design
Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA along the corridor. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit.	TCA	Final design and during construction
Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto areas outside of the corridor right-of-way . The vertical or horizontal illuminance from roadway lighting sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment through The Donna O'Neill Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative due to roadway lighting sources installed by the TCA	TCA	Final design and during construction
Mitigation Measures Related to Energy		
No mitigation required	N/A	N/A
Mitigation Measures Related to Earth Resources		
Measure G-1. Prior to final design a design level geotechnical report will be prepared. This report will document potential soil-related constraints and hazards such as slope instability, settlement, liquefaction or related secondary seismic impacts that may be present. Acceptance of the report will be subject	TCA	Prior to final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
to approval by the TCA and other agencies that may have jurisdiction. A minimum factor of safety of 1.5 shall be used to determine the final slope configuration. The report shall also include: • Evaluation of potentially expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effect of these soils on the development of the corridor. The design level geotechnical studies will identify potentially liquefiable areas and provide recommendations for mitigation. Any areas that require mitigation would be within the disturbed areas, and no additional impacts would result.		
Measure G-2. In conjunction with final design, it will be demonstrated that side slopes shall be designed and graded so that the potential for surface erosion of the engineered fill is not increased from natural conditions.	TCA	At the time of final design
Measure G-3. In conjunction with construction activity, native vegetation with good soil-binding characteristics and low water requirements will be planted on engineered slopes to reduce erosion and slope instability.	TCA	During construction
Measure G-4. A quality assurance/quality control plan will be maintained during construction. This will include observing, monitoring and testing by a geotechnical engineer and/or geologist during construction to confirm that geotechnical/geologic recommendations are fulfilled, or if different site conditions are encountered, appropriate changes are made to accommodate such issues.	Contractor and geotechnical engineer and/or geologist	During construction
Measure G-5. A detailed review will be made to locate all groundwater wells within the project footprint. Any groundwater wells that occur within the project footprint will be abandoned properly during project construction. As may be required, (i.e., for active wells), the water supply provided by the well will be replaced. Replacement water may be provided by a variety of means, such as installing a new well or a connection to municipal supply.	TCA and Contractor	At the time of final design
Mitigation Measures Related to Military Uses		
Measure M-1: Nighttime Lighting and Shielding. During construction on or in the immediate vicinity of Camp Pendleton, to minimize conflicts with night training by Base personnel, the following will be implemented: • Construction lighting requirements during evening and night activities will be adjusted with proper shielding to focus illumination downwards in designated work areas. To accomplish this, lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties. Lighting will be designed to use the latest style of	TCA, Contractor and Camp Pendleton personnel	During construction on or in the immediate vicinity of Camp Pendleton

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
lighting (known as "mused lighting") to reduce the impact on night vision goggle training activities. • Fixed lighting will not exceed the minimum needed to meet Caltrans standards. Lighting will be shrouded to reduce backscatter and vertical light pollution and will be of a type to minimize effects on adaptation to darkness and changes in light levels. • A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during construction are consistent with the requirements of this mitigation measure. Cranes which would remain extended to a height of 12.2 meters (40 feet) above ground level (AGL) or higher during night-time hours must include the use of a Federal Aviation Administration (FAA) approved aircraft obstruction light mounted at the highest point of the equipment's extension AGL. The aircraft obstruction light must be operational from 30 minutes before sunset until 30 minutes after sunrise each day the equipment is in place and extended above 12.2 meters (40 feet) AGL overnight.		
Measure M-2: Access and Coordination. Construction activities and equipment movement could adversely impact the movement of troops and use of ranges during construction. These impacts will be mitigated by coordination among the TCA, the Contractor and Camp Pendleton personnel. Specifically, the Contractor will identify access routes, staging areas and all expected movement corridors during construction and will produce a design review memoranda/exhibit. These will be reviewed with the TCA and Camp Pendleton personnel to ensure construction activity impacts on Base training are minimized.	TCA, Contractor and Camp Pendleton personnel	During construction on or in the immediate vicinity of Camp Pendleton
Measure M-3: Base Security During Construction. Prior to final design, security measures shall be incorporated into the project construction specifications to ensure that construction workers and others cannot access the Base from the construction areas. These security measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented prior to any project related construction and shall be adequately maintained throughout the construction period.	TCA, Contractor and Camp Pendleton personnel	Prior to final design and throughout construction
Measure M-4: Nighttime Lighting and Shielding. During operation on or immediately adjacent to Camp Pendleton, to minimize conflicts with night	TCA, Contractor and Camp Pendleton	During project operation

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
training by Base personnel, permanent night lighting will be adjusted with proper shielding to focus illumination downwards. Lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties including the Base. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to further minimize potential glare effects on the Base. This design will be implemented at all places on and adjacent to the Base requiring lighting along the road including interchanges and the mainline. To reduce the impact on night vision goggle training activities, fixed lighting on and immediately adjacent to the Base will not exceed the minimum needed to meet Caltrans standards. Lighting on and immediately adjacent to the Base will be shrouded to reduce backscatter and vertical light pollution and should be of a type to minimize effects on adaptation to darkness and changes in light levels. A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during operation on and immediately adjacent to the Base are consistent with the requirements of this mitigation measure.	personnel	
Measure M-5: Land Use Fragmentation/Ground Training. To reduce impacts associated with the fragmentation of land available on Camp Pendleton and to avoid creating a parcel on the Base fully fragmented and inaccessible from the rest of the Base, two underpasses will be constructed to provide clearance for military personnel and equipment movement. The underpasses will be sized and designed to accommodate the equipment and personnel needs as may be defined by the Marine Corps and the DON.	TCA, Contractor and Camp Pendleton personnel	Prior to final design and during construction
Measure M-6: Base Security. Prior to final design, security measures shall be incorporated into the project design to ensure that users of the corridor cannot access the Base. These measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented and fully operable prior to public access to the corridor.	TCA, Contractor and Camp Pendleton personnel	Prior to final design and prior to public access to corridor
Mitigation Measures Related to Mineral Resources		
The mitigation measure concerning impacts to the mineral resources is SE-2. Refer to Section 8.4 (Socioeconomics and Environmental Justice) for a description of this measure.	See Measures WQ-1 to WQ-4 from Section 8.9	See Measures WQ-1 to WQ-4 from Section 8.9
Mitigation Measures Related to Paleontological Resources		
Measure P-1: Pre-Construction Salvage. Prior to the start of any earthmoving	OCC Paleontologist	Prior to the initiation of grading

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
activity, an Orange County Certified (OCC) Paleontologist will be retained to conduct pregrading salvage of any significant exposed fossils identified by the OCC Paleontologist prior to any heavy equipment activity in a particular area. Paleontological monitoring of brush removal shall be performed by a qualified paleontologist, under the supervision of an OCC Paleontologist, to locate and salvage additional significant fossil remains not previously visible. The OCC Paleontologist shall prepare a paleontological technical report that includes methodology, results, and an inventory list of significant fossils recovered.		
Measure P-2: Monitoring Procedures. Prior to the start of any earthmoving activity, an OCC Paleontologist shall be retained to establish procedures, following these mitigation guidelines set forth in this Paleontological Resources Technical Report, for paleontological resource monitoring by qualified paleontological monitors during grading, and procedures for temporarily halting or redirecting work to permit the sampling, identification and evaluation of the fossils as appropriate. The OCC Paleontologist shall also establish emergency procedures applicable to the discovery of unanticipated significant paleontological resources (e.g. large specimens or significant concentrations of specimens as determined by the OCC Paleontologist). The OCC Paleontologist shall be present at the pregrading conference to explain the established procedures to the construction contractors.	OCC Paleontologist	Prior to the initiation of grading
Measure P-3: Construction Monitoring. During all construction activities which involve soil disturbance, the following activities will be conducted: a. An OCC Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed project. Paleontological monitoring will include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present. The monitor will have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens. b. If microfossils are present, the monitor will collect matrix for processing. In order to expedite removal of fossiliferous matrix, the monitor may request heavy machinery assistance to move large quantities of matrix out of the path of construction to designated stockpile areas. Testing of stockpiles will consist of screen washing small samples (approximately 90 kilograms, or 200 pounds) to determine if significant fossils are present. Productive tests will result in screen washing of additional matrix from the stockpiles to a maximum of 2,700 kg (6,000 lbs) per locality to ensure recovery of a scientifically significant sample.	OCC Paleontologist	During grading and all construction activities that involve soil disturbance, and at the conclusion of project grading

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
c. Younger Quaternary Alluvium, San Onofre Breccia and Quaternary Landslide Deposits have a low or indeterminate paleontological sensitivity level, and will be spot-checked in a periodic basis to insure that older underlying sediments are not being penetrated and fossils are not being exposed. All earth-moving in the Williams Formation, Silverado Formation, Santiago Formation, Sespe Formation, Vaqueros Formation, Sespe/Vaqueros Undifferentiated, Topanga Formation, Monterey Formation, Capistrano Formation, Niguel Formation, Older Quaternary Alluvium and Quaternary Marine and Non-Marine Terrace Deposits will be monitored full-time. The moderate to high paleontological sensitivity of these formations requires a maximum effort to recover fossils. d. The Orange County Certified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agencies. e. Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to allow analysis, and deposited in a designated repository such as a County of Orange facility, which shall have the first right-of-refusal of the collection, or the Natural History Museum of Los Angeles County or San Diego Natural History Museum. f. At each fossil locality, field data forms will record the locality, stratigraphic columns will be measured and appropriate scientific samples submitted for analysis. The Orange County Certified Paleontologist will prepare a final mitigation report to be filed with the client, the lead agencies, and the repository.		
Mitigation Measures Related to Public Services and Utilities		
Mitigation Measures for Public Services		
Measure PS-1: Avoidance of the Temporary Use and/or Permanent Acquisition of Public Services and Utilities Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary use during construction and the permanent acquisition of land currently occupied by public services and utilities. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of public services and utilities property will apply to the build Alternatives	TCA	During final design
Measure PS-2: Fire Protection. During construction, in areas subject to	Contractor	During construction in areas subject to

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, the contractor will be required to install signs around construction sites warning of high fire risk and of area closings during the high fire season as declared by OCFA or the MCB Camp Pendleton Fire Department		wildland fires
Measure PS-3: Fire Protection. During operation Caltrans will install signs along the new or improved road segments in areas subject to wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, warning of high fire risk and of area closings during the high fire season declared by OCFA and the MCB Camp Pendleton Fire Department.	Caltrans	Ongoing during operation of the project
Measure PS-4: Fire Protection. Emergency call boxes will be installed along the road in undeveloped areas of high and extreme fire hazard, consistent with existing OCFA, Orange County Transportation Authority, Caltrans, TCA and/or local jurisdiction, as appropriate, policies on emergency call boxes.	Caltrans and/or local jurisdiction	Ongoing during operation of the project
Measure PS-5: Fire Protection. During construction of a build Alternative, the contractor will be required to maintain access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton.	Contractor	During construction
Measure PS-6: Fire Protection. During final design, the long term preservation/provision of access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, will be incorporated in the facility design, in consultation with the OCFA and the MCB Camp Pendleton Fire Department.	TCA	During final design
Measure PS-7: Fire Protection. During construction, the contractor will implement fuel modification techniques as required by the OCFA, and the MCB Camp Pendleton Fire Department in areas on MCB Camp Pendleton, in areas of fire hazard as determined by the OCFA and the MCB Camp Pendleton Fire Department.	Contractor	During construction
Measure PS-8: Fire, Emergency Medical and Law Enforcement. During final design, the TCA, Caltrans and/or the City of San Clemente, as appropriate, will coordinate the addition of OPTICON or other traffic pre-emption devices as used in the City of San Clemente with the City's traffic engineer. These devices will be provided at impacted intersections, as identified in the Traffic Technical Report, to reduce impacts to fire, medical emergency and law enforcement response times.	TCA, Caltrans and/or the City of San Clemente	During final design
Measure PS-9: Fire, Emergency Medical and Law Enforcement. During	Contractor	During construction

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
construction the TCA will require the contractor to coordinate all temporary ramp closures and detour plans with fire, emergency medical and law enforcement providers to minimize temporary delays in response times.		
Measure PS-10: Law Enforcement. Prior to operation, the State of California shall solicit a transfer of concurrent legal (law enforcement) jurisdiction from the federal government to the State for any part of an Alternative that crosses MCB Camp Pendleton as provided in Section 2851 of the Fiscal Year 1999 National Defense Authorization Act (H.R. 3616).	State of California	Prior to operation
Measure PS-13: Solid Waste. Prior to construction of a build Alternative which will generate excess fill, the contractor will be required to offer fill for use in other development projects or to area landfills as daily cover. Landfilling of excess soil and rock material will be considered the option of last resort.	Contractor	Prior to construction
PS-13A: Solid Waste. Excess fill material from construction will not be disposed of at MCB Camp Pendleton landfills, unless such disposal is approved in advance though mutual agreement with the Environmental Security Department's Solid Waste Branch. If Base agreement for such disposal is granted, the contractor shall be responsible for hauling the materials to the Base landfill(s) and for complying with all Base regulations regarding the transport and disposal of that material on the Base.	Contractor	During construction
Measure PS-14: Direct Permanent Impacts on Schools. Measure PS-14 is not applicable to the Preferred Alternative.	N/A	N/A
Measure PS-15: Direct Temporary Impacts on Schools. Measure PS-15 is not applicable to the Preferred Alternative.	N/A	N/A
Measure PS-16: Public Facilities. Measure PS-16 is not applicable to the Preferred Alternative.	N/A	N/A
Mitigation Measures for Public Utilities		
Measure U-1: Utilities. As early as possible during final design, the TCA will consult with each utility provider/owner to avoid or reduce potential impacts on existing and planned utilities through design refinements. Should impacts be unavoidable, all affected facilities shall be relocated or protected in place prior to, during or after construction, as appropriate, and in accordance with the methods and designs approved by the affected utility provider/owner. For utilities located on MCB Camp Pendleton, as early as possible the TCA will consult with and receive approval from the Marine Corps on any utility relocations or realignments prior to discussing the proposed activities with utility providers.	TCA	During final design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Measure U-2: Temporary Use and Permanent Acquisition. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with utility providers whose facilities will be temporary used and/or permanently acquired to determine appropriate action and/or compensation to mitigate for the temporary use and/or permanent acquisition of their property.	TCA	Prior to construction
Measure U-3: MCB Camp Pendleton Percolation Ponds. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 appropriate action and compensation to reduce the effect of the encroachment on MCB Camp Pendleton will be negotiated with the Department of the Navy.	TCA	Prior to construction
Mitigation Measures Related to Recreation Resources		
Mitigation measures concerning impacts to recreation are R-1 to R-5. Refer to Section 8.5 (Mitigation Measures Related to Pedestrian and Bicycle Facilities) for a description of these measures.	See Measures WQ-1 to WQ-4 from Section 8.9	See Measures WQ-1 to WQ-4 from Section 8.9
Project Design Features:		
All the build Alternatives include several project design features (PDFs) intended to reduce and minimize the potential environmental impacts of the SOCTIIP build Alternatives on the human and natural environments. These PDFs include bridges for wildlife crossings, runoff management features, retaining and sound walls, landscaping, and lighting. Although the PDFs are not mitigation measures, they are included in the MMRP in order to ensure and track their implementation. The PDFs for the corridor Alternatives are described below.		
PDF 2-1: Retaining Walls for the Corridor Alternatives. Retaining walls will be provided in some locations along the alignments. Retaining walls can be used to minimize or reduce the amount of grading in areas with substantial topography, or to minimize or reduce right-of-way takes in developed areas. The specific locations of retaining walls will be refined in final design.	TCA	During Final Design
PDF 6-1: Sound Walls for the Corridor Alternatives. Sound walls to reduce noise impacts on adjacent sensitive land uses under the corridor Alternatives will be provided consistent with FHWA, Caltrans, and local noise standards. The locations of the noise walls included in the corridor Alternatives are shown on detailed maps in Appendix K. Some of these noise walls will be outside the disturbance limits and rights-of-way for the corridor Alternatives. Those noise walls would be adjacent to existing sensitive land uses to maximize the noise reduction benefits of these walls for the adjacent sensitive uses. Those walls would be constructed on the affected property, with the permission of the property owner, and would become the property of that property owner. The disturbance limits for these walls would be limited to the area directly adjacent to the walls. The construction access to these wall locations would be from the	TCA and Caltrans	During Final Design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
property owner's access (driveway) from the nearest public road and not from the disturbance limits for the build Alternatives. The noise walls for the SOCTIIP build Alternatives, including walls outside the disturbance limits, are shown on the detailed maps in Appendix K.		
PDF 9-1: Reduction of Downstream Effects Caused By Changes in Flow. If changes in velocity or volume of runoff, the sediment load or other hydraulic changes due to encroachment, crossings, or realignment result in an increased potential for downstream effects in channels, design features to prevent adverse effects are included in the alternatives. These will include one or more of the following (or similar features): • Modifications to channel lining materials (both natural and man-made), including vegetation, geotextile mats, rock, and riprap. • Energy dissipation devices at culvert outlets. • Smoothing the transition between culvert outlets/headwalls/wingwalls and channels to reduce turbulence and scour. • Incorporating retention or detention facilities into designs to reduce peak discharges, volumes, and erosive flow.	TCA	During Final Design
PDF 9-2: Concentrated Flow Conveyance Systems. The TCA will implement concentrated flow conveyance systems to intercept and divert surface flows, and convey and discharge concentrated flows with a minimum of soil erosion, both on-site and off-site where applicable. Ditches, berms, dikes and swales will be used to intercept and direct surface runoff to an overside drain or stabilized watercourse.	TCA	During Final Design
PDF 9-3: Slope and Surface Protection Systems. The TCA will use surface protection to minimize erosion from completed, disturbed surfaces. Surface protection includes but is not limited to vegetative cover or hard surfacing such as concrete, rock, or rock and mortar.	TCA	During Final Design
PDF 9-4. Detention Basins. The TCA will implement EDBs on the SOCTIIP build Alternative to temporarily detain water on the site and allow sediment and particulates to settle out. EDBs will be maintained, monitored and documented per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP. The siting of EDBs requires that sufficient head is available such that water stored in the basin does not cause a backwater condition in the storm drain system, which would limit its capacity. Additionally, high groundwater must be no higher than the bottom elevation of the basin; otherwise, the basin would not drain completely. The siting process also required consideration of sensitive environmental constraints. The EDBs were	TCA	During Final Design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
sited to avoid those areas as well.		
PDF 9-5. Biofiltration Swales and Strips (Vegetated Treatment Strips). The TCA will use biofiltration swales and strips, as shown in the RMP, where applicable and in association with EDBs to convey low flow. One of the primary limitations of using bioswales is that they must be used on slopes less than two percent. Due to the terrain and the design of the Alternatives there were very few locations where they could be applied. Bioswales will be maintained, monitored and documented per RWQCB and Caltrans requirements and will conform to guidelines set forth in the SWMP.	TCA	During Final Design
PDF 9-6. Infiltration Basins. To the extent feasible or necessary, infiltration basins will be implemented to detain runoff and infiltrate it into the soil to prevent contaminants from impairing the beneficial uses of receiving waters. Infiltration basins will be maintained, monitored and documented per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP	TCA	During Final Design
PDF 9-7: Runoff Management PDFs for the Corridor Alternatives. The build Alternatives include Best Management Practices (BMPs) to control the flow of roadway runoff and treat, to the maximum extent practicable (MEP), roadway runoff before it leaves the project site and enters existing water courses or storm drain facilities. PDFs for the SOCTIIP build Alternatives include BMPs such as extended detention basins (EDBs) and grassy swales. The disturbance and right-of-way limits for the build Alternatives, shown on the detailed maps in Appendix A, include areas for EDBs and other BMPs. The PDFs consist of both pollution prevention BMPs and treatment BMPs. Pollution prevention BMPs are used to address design phase elements, construction, and spill mitigation. Treatment BMPs are used in the design to meet regulatory water quality requirements at specific locations. Both pollution prevention and treatment BMPs are included in the build Alternatives to the MEP. Most of the treatment BMPs, such as EDBs, are designed with a safety factor such that they will function in conditions beyond those prescribed by Caltrans National Pollutant Discharge Elimination System (NPDES) permit.	TCA	During Final Design
PDF 9-8. Prior to completion of final design, TCA shall obtain approval of the hydrologic methodology and parameters to be analyzed in the Final Hydrologic Technical Report and incorporated into the Final Location Hydraulic Study from affected jurisdictional agencies.	TCA	During Final Design
PDF 9-9. Final design will include refinements to ensure that the bridges will be constructed to span the 100-year floodplain without raising the 100-year	TCA	During Final Design

Mitigation Monitoring and Reporting Program for the Preferred Alternative (continued)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
base floodplain water surface elevation more than 0.3 meter (1.0 foot), or otherwise causing adverse changes in the extent of the floodplain or the potential for erosion.		
PDF 11-1: Bridges for Wildlife Crossings under the Corridor Alternatives. As described earlier in Section 2.5.1.5, the corridor Alternatives include bridge structures that would provide opportunities for wildlife to cross the corridor alignments. These wildlife crossings are intended to link together areas of suitable wildlife habitat that would otherwise be separated by the corridor alignments. Wildlife crossings are shown on the detailed maps in Appendix A and on Figure 4.11-6 later in this EIS/SEIR. Section 4.11 (Affected Environment, Impacts and Mitigation Measures Related to Wildlife, Fisheries and Vegetation) provides additional discussion regarding wildlife and wildlife corridors in the study area and how wildlife movements are accommodated by the bridges in the corridor Alternatives.	TCA and Project and Biologist	During Final Design
PDF 18-1: Lighting for the Corridor Alternatives. The corridor Alternatives will include pole-mounted lighting at the toll plazas, ramps, and other locations as required by Caltrans standards. Lighting in areas away from the toll plazas, ramps, and other locations as required by Caltrans standards will be minimized to avoid unnecessary light effects in more rural areas adjacent to the corridor. In addition, all lighting along the corridors will be shielded and directed to focus the light on the corridor and its facilities to minimize light leakage outside the corridor limits.	TCA and Caltrans	During Final Design
PDF 8-2: Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.	TCA	During Final Design
PDF 11-2: SDG&E NCCP Operational Protocols. Utility relocation will be conducted in a manner that is consistent with the operational protocols established in SDG&E's Subregional NCCP, including measures that address general behavior for all field personnel, preactivity studies and survey work, maintenance, repair and construction of facilities, and construction and maintenance of access roads.		

FINDINGS, FACTS IN SUPPORT OF FINDINGS AND STATEMENT OF OVERRIDING CONSIDERATIONS REGARDING THE SUBSEQUENT ENVIRONMENTAL IMPACT REPORT FOR THE SOCTIIP

(SCH. No. 2001061046)

Adopted 2/23/06

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1.0 INTRODUCTION.

1.1 State Law.

The California Public Resources Code, Section 21081, the California Environmental Quality Act ("CEQA") provides that no public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that would occur if the project is approved, unless the public agency makes appropriate findings with respect to each significant effect and the agency finds that specific overriding economic, legal, social, technological or other benefits of the project outweigh the significant effects on the environment. The State Guidelines ("Guidelines") promulgated pursuant to CEQA (Tit. 14, Cal. Code Regs. section 15000 et seq.) provides in Section 15091:

(a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR ("Finding 1").

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency ("Finding 2").

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR ("Finding 3").

(b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

(c) The Findings in subsection (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives. The finding in subsection (a)(3) shall describe the specific reasons for rejecting identified mitigation measures and project alternatives.

(d) When making the findings required in subsection (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental

effects. These measures must be enforceable through permit conditions, agreements or other measures.

1.2 Findings.

A combined Subsequent Environmental Impact Report ("SEIR") pursuant to CEQA, and Environmental Impact Statement ("EIS") pursuant to the National Environmental Policy Act ("NEPA", 42 U.S.C. sections 4321-4342, and CEQ NEPA regulations, 40 C.F.R. section 1500 et seq.) has been prepared by the Foothill/Eastern Transportation Corridor Agency ("TCA"), in conjunction with the California Department of Transportation ("Caltrans") and the Federal Highway Administration ("FHWA"). The EIS/SEIR for the South Orange County Transportation Infrastructure Improvement Program ("SOCTIIP", "Project", or "Corridor") identifies significant effects on the environment which may occur as a result of the Project. Section 2.0 of these Findings identifies the significant environmental effects of the Project which cannot feasibly be mitigated below a level of significance. Section 3.0 sets forth potential environmental effects of the Project which are not significant because of the design of the Project or which can feasibly be mitigated below a level of significance. Section 4.0 summarizes the alternatives discussed in the SEIR/EIS and makes findings with respect to the feasibility of alternatives and whether the alternatives would lessen the significant environmental effects of the Project. Section 5.0 sets forth a Statement of Overriding Considerations with respect to the Project.

Although the draft environmental document was prepared as a combined SEIR and EIS, these findings are made solely pursuant to CEQA.

The final SEIR, and the administrative record concerning the Project provide additional facts in support of the findings herein. The mitigation measures set forth in the Mitigation Monitoring and Reporting Program (Attachment 1) are incorporated by reference in these findings, and the findings in Section 2.0 and 3.0 refer to individual mitigation measures as appropriate.

In accordance with CEQA Guidelines section 15091(d), the TCA hereby adopts the Mitigation Monitoring and Reporting Program to report on and/or monitor the mitigation measures and project design features incorporated to avoid or substantially lessen significant environmental effects. Because some mitigation measures provide mitigation for more than one environmental effect, the text of some measures is repeated in more than one section.

The location and custodian of the documents and other materials, which constitute the record of proceedings, is the Environmental Planning Department, Transportation Corridor Agency (TCA) Office, 125 Pacifica, Suite 100, Irvine, CA 92618-3304.

1.3 History of Project Environmental Review.

The proposed southern extension of existing State Route 241 (SR 241) also referred to as the Foothill Transportation Corridor-South (FTC-S), has been the subject of planning efforts for approximately 20 years. Final EIR 123, which was certified by the County of Orange in 1981, resulted in a conceptual alignment for a transportation corridor facility being placed on the County's Master Plan of Arterial Highways (MPAH). The MPAH shows the alignment of the

existing SR 241 and a conceptual alignment for the FTC-S. Between 1989 and 1991, the TCA prepared TCA EIR 3, pursuant to CEQA, for the selection of a locally preferred road alignment for the FTC-S. TCA EIR 3 addressed the C and BX road alignments, developed as part of the alternatives analysis phase of the project, as the primary build alternatives. On October 10, 1991, the Modified C Alignment was selected by the TCA as the locally preferred alternative. Subsequently, at the request of the United States Fish and Wildlife Service (USFWS), the Modified C Alignment was slightly altered to avoid high-quality scrub communities, protect sensitive species and wildlife movement in the Sulfur Canyon area, and minimize impacts to the Pacific pocket mouse. As a result of these changes, this alignment was then renamed the CP Alignment.

In 1996, as a result of the 1994 Memorandum of Understanding Regarding NEPA/Clean Water Act (CWA) Section 404 Integration Process for Surface Transportation Projects (the "NEPA/Section 404 MOU") between FHWA, the U.S. Environmental Protection Agency ("USEPA"), the U.S. Army Corps of Engineers ("USACE"), and the U.S. Fish and Wildlife Service ("USFWS") (collectively, the "NEPA/404 MOU Agencies"), FHWA initiated coordination to implement the policies of the NEPA/Section 404 MOU in developing the EIS and Section 404 permitting for the FTC-S. The NEPA/Section 404 MOU implements the FHWA, ACOE, USEPA and USFWS policies of improved interagency coordination and integration of the NEPA, Endangered Species Act and Section 404 procedures.

The federal agencies participating in this integration process for the Project are the FHWA, EPA, USEPA, USFWS, and ACOE. The Department of the Navy, through the Marine Corps Base-Camp Pendleton (MCB Camp Pendleton), is a cooperating agency, and Caltrans is an active participant as the local liaison for FHWA. The NEPA/404 MOU agencies, MCB Camp Pendleton, Caltrans and the TCA are collectively referred to as the "SOCTIIP Collaborative."

In March 1999, pursuant to the NEPA/Section 404 MOU, a purpose and need statement was approved for the SOCTIIP. Between August 1999 and November 2000, the collaborative developed a list of project alternatives to be evaluated in the EIS/SEIR. In November 2000, the SOCTIIP Collaborative concurred on the Alternatives to be evaluated in the technical studies and in August 2003 concurred on the Alternatives to be carried forward and evaluated in detail in the EIS/SEIR. These Alternatives are described in Section ES.3 of the Final SEIR Executive Summary and are described in detail in Section 2.0 (Alternatives) of the Final SEIR.

The NEPA/404 MOU includes the following major steps:

1. Development of preliminary agreement on NEPA purpose and need and section 404 basic and overall project purpose, identification of criteria for alternate selection, and identification of project alternatives for evaluation.

2. Holding scoping meetings.

3. Development of Draft EIS including agreement on:

   - NEPA purpose and need and section 404 project purpose

   - Criteria for alternative selection

- Project alternatives to be evaluated in the draft EIS

4. Coordination of environmental inventory/impact evaluation.

5. Final EIS Development, including:

   - Preliminary agreement with Fish and Wildlife Service in the project mitigation plan

   - ACOE and EPA preliminary identification of least environmentally damaging practicable alternative

6. FHWA Final EIS approval.

7. FHWA development of record of decision.

8. ACOE permit decision.

Over the last six years, the members of the SOCTIIP Collaborative process have completed Steps 1 through 4 and are in the process of completing Step 5 of the above progression. The ACOE and the EPA recently issued their preliminary agreement that the Preferred Alternative is the least environmentally damaging practicable alternative. The FWS has preliminarily determined that the Preferred Alternative complies with the requirements of the Endangered Species Act. The process utilized by the state and federal agencies to identify the Preferred Alternative is described in more detail in Section 4.0 of these Findings and in the Final SEIR, Section ES.2.3.4.

1.4 Preferred Alternative.

The Preferred Alternative is the A7C-FEC-M Initial Alternative as discussed in the Final SEIR Section 2.2. This alternative has also been identified as the "Green" alternative. The Preferred Alternative is a limited access highway that would extend the existing SR-241, (Foothill Transportation Corridor-North), south from its existing southern terminus at Oso Parkway to I-5 in the vicinity of the Orange/San Diego County line. This extension would be operated as a toll road, as are the existing portions of SR-241, until construction bonds are paid. Section 4.0 of these Findings addresses the findings on Alternatives and includes a comprehensive discussion of the identification and selection of the Preferred Alternative.

These Findings are the Findings for the Preferred Alternative. Findings regarding other alternatives evaluated are provided in Section 4.0 of these Findings.

1.5 Identification of Environmental Setting For Use in Determining Significance of Impacts.

The CEQA Guidelines require environmental impact reports to include a description of the physical environmental conditions in the vicinity of the project and that "[t]his environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. (CEQA Guidelines, § 15125, subd. (a), emphasis

added.) The CEQA Guidelines also provide that an "EIR shall discuss any inconsistencies between the proposed project and applicable general plans" and "[w]here a proposed project is compared with an adopted plan, the analysis shall examine the existing physical conditions . . . as well as the potential future conditions discussed in the plan." (CEQA Guidelines, § 15125 subd.(d) and (e))

The Guideline quoted above does not mandate that a frozen snapshot of existing conditions be used. As noted in an authoritative text on CEQA compliance:

> Both the Guidelines and following Discussion provide that physical conditions . . . normally constitute the baseline for determining impacts, but a lead agency may determine that another baseline is more appropriate, either for overall evaluation of a project's impacts or for evaluation of a particular project impact. For example, if it is known that a certain surrounding environmental condition will either improve or degrade by the time the project is implemented, the lead agency may have a basis for selecting a different baseline for evaluating environmental impacts related to that condition. If the lead agency does elect a different baseline, the lead agency should be careful to explain in the EIR why a different baseline has been selected and to summarize the evidence or determination surrounding the selection of a different baseline.[1]

As the Court of Appeal stated, "[t]he agency has the discretion to resolve factual issues and to make policy decisions. If the determination of a baseline condition requires choosing between conflicting opinions or differing methodologies, it is the function of the agency to make those choices based on all of the evidence. (*Save Our Peninsula Open Space Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 120.)

As provided in the CEQA Guidelines (and case law interpretation of CEQA) the Final SEIR evaluates the effect of the proposed project alternatives against the existing physical conditions in the project area. Because adopted local and regional plans (and official demographic projections adopted for Orange County and Southern California) indicate that population and traffic conditions in the project area will change during the planning horizon of the project, the Final SEIR also evaluates how the alternatives will impact future projected and planned conditions that the regional land use and planning agencies have determined are reasonably certain to occur.

For example, the traffic and circulation section of the Final SEIR (Section 3.0) analyzes traffic conditions under the SOCTIIP build alternatives against a baseline of existing traffic conditions. This analysis was included to assess the project effects relative to existing conditions

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[1] Kostka, Stephen L. and Michael H. Zischke, 2005. Practice Under the California Environmental Quality Act (CEQA), Section 12.26, November 2005 Update, p. 599. See also, Remy, Michael H., et al, Guide to the California Environmental Quality Act (CEQA), 10th ed., 1999, p. 165.

on the ground in accordance with CEQA Guidelines section 15125, subdivision (a). Several different scenarios were evaluated, to inform the public and decision makers of the effects of the project over time as projected population growth occurs and as other planned transportation improvements are implemented. See, for example, Final SEIR, Section 2.4, no action special studies scenarios.

For most of the environmental topics in the Final SEIR and in these Findings, the Board finds that existing environmental conditions are the appropriate baseline condition for the purpose of determining whether an impact is significant. However, the Board finds that the existing physical environmental conditions (current population and traffic levels) do not provide a reasonable baseline for the purpose of determining whether traffic impacts of the project are significant.

The SOCTIIP traffic analysis evaluated two levels of future circulation system improvements, a funded/committed system and the build out of the Master Plan of Arterial Highways (MPAH). Impacts of the SOCTIIP were compared to the impacts that would occur under the different assumptions regarding improvements to the circulation system.

The Board finds that the traffic setting, or baseline, against which impacts should be assessed for determining the significance of traffic impacts is the buildout of the MPAH system and the 14,000 dwelling unit RMV project. This is appropriate for the following reasons. First, the existing traffic condition is an unrealistic baseline due to normal traffic growth, adopted population forecasts and adopted general plans that provide for and predict additional growth in the SOCTIIP study area during the project planning horizon.

Second, it is reasonable to compare project traffic impacts to a baseline of the MPAH buildout because: a) many of the MPAH improvements in the SOCTIIP study area are committed and/or funded, b) other MPAH improvements will be required to be implemented as part of approved development, c) the improvement to La Pata Avenue was the major relevant MPAH improvement not committed at the time of the preparation of the Draft SEIR, but the La Pata improvement is now a condition of approval of the RMV Ranch Plan, and, d) within the SOCTIIP study area, the additional MPAH improvements that are not already committed and/or funded are facilities that will have little effect on the traffic impacts of the project.

Third, it is reasonable to include the development of 14,000 units on the Rancho Mission Viejo Company property in the environmental baseline for evaluation of the significance of traffic impacts because: a) the County approved this level of development, b) the County of Orange, RMV and several environmental organizations entered into a settlement agreement that approves this level of the development on the RMV property, and c) the assumption that this level of development will occur is a more conservative approach to the identification of significant impacts and is in accord with the purposes of CEQA to provide full disclosure of potential impacts.

The air quality analysis provides a comparison of project impacts to two conditions: existing conditions and a future baseline condition with build out of the MPAH and 14,000 units on the Rancho Mission Viejo property. The Board finds that the existing physical environmental conditions (current population and traffic levels) do not provide a reasonable baseline for the

purpose of determining whether air quality impacts of the project are significant. The reasons for this are the same reasons provided above for traffic. Because the air quality modeling is based on the traffic modeling, it is appropriate to make the same baseline comparison for air quality.

2.0 FINDINGS REGARDING IMPACTS THAT CANNOT BE MITIGATED BELOW A LEVEL OF SIGNIFICANCE.

The following sets forth all significant effects of the Corridor, and with respect to each effect, makes one or more of the findings set forth in the Introduction above, states facts in support of such findings, and as appropriate, refers to the Statement of Overriding Considerations which is attached hereto.

2.1 Traffic.

The Final EIS/SEIR discusses long-term traffic conditions with and without the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP). It also discusses potential short-term adverse impacts associated with the construction of each of the SOCTIIP build Alternatives.

The Preferred Alternative will result in short term construction-related adverse traffic impacts as discussed below. The Preferred Alternative will alleviate long-term transportation and circulation deficiencies and congestion. The Preferred Alternative's beneficial impacts are discussed in the Statement of Overriding Considerations.

2.1.1 Significant Effect: Short Term Traffic Impacts. Construction of the Preferred Alternative involves traffic related impacts that would occur temporarily during construction. These impacts are associated with trips and the movement of construction equipment and workers to and from work site(s), materials movement, and diversion of traffic from roads and freeways on which construction will be occurring. These trips would be temporary during construction and would vary depending on the local streets used for access to the construction sites, the number of trips and the time of day those trips are made.

The volume of trips could cause substantial adverse impacts on the area roads on which they occur.

A Construction Traffic Management Plan (CTMP) will be prepared and implemented during all construction related activities. Even with the CTMP, it is possible that some streets may experience substantial short-term degradation in terms of levels of service (LOS), congestion and delays. Therefore, even with mitigation, the short-term traffic adverse impacts during construction of the Preferred Alternative are assumed to be significant.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be

mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Considerations.

(1) The SEIR described the potential construction related traffic impacts of the SOCTIIP build Alternatives, with particular emphasis on defining how a detailed Construction Traffic Management Plan (CTMP), prepared during final design, should direct itself toward mitigating as many impacts as possible within the physical limitations of the road networks and the traffic technology available.

(2) As shown in EIS/SEIR Table 2.4-6, the maximum number of pieces of equipment could be up to 718 pieces of equipment. All the equipment discussed however will not necessarily go on and off the site each day. Some pieces will likely remain on the construction site for months, as was the case for previous TCA projects.

(3) The most likely roads in the project area suitable for bringing both equipment and workers to the site are Oso Parkway, Crown Valley Parkway, Ortega Highway (State Route 74), Avenida Pico and Cristianitos Road, because they would have the minimum effect on residential uses and would maximize use of major roads in the study area.

(4) Assuming a conservative 1.0 person/vehicle occupancy for workers, a maximum of 861 vehicle trips inbound during the AM period and outbound during the PM period is likely in the worst case alternative, based on the maximum number of employees. However, construction work shifts are expected to be either three shifts per day (7:00 AM to 3:00 PM; 3:00 PM to 11:00 PM and, when needed, 11:00 PM to 7:00 AM) or two shifts per day (7:00 AM to 7:00 PM and 7:00 PM to 7:00 AM). For each, the beginnings and the endings of the shifts are generally outside peak travel times.

(5) Measure CT-1. A Construction Traffic Management Plan (CTMP) will be developed during final design by the TCA. The CTMP will include, but not be limited, to:

- Identification of designated haul routes in consultation with the affected local jurisdictions.
- Limiting construction truck and haul traffic to designated routes only.
- Public information and promotional activities including distribution of newsletters, brochures, 24-hour information hot line and press releases. The TCA will coordinate with businesses adjacent to the construction areas and prepare plans for improving carpooling, transit and other shared ride services.
- The use of fast track construction techniques to speed construction times.

- Construction scheduling (start/stop times, major materials deliveries, export hauling, etc.) should be scheduled to avoid AM and PM peak traffic periods on adjacent streets to the extent feasible, so that the majority of construction related traffic occurs outside of peak commuting times.

- Identification of alternative routes and routes across the construction areas for emergency and school vehicles developed in coordination with the affected agencies.

- Changeable message boards and alternative route signs should be used.

- Identification of additional traffic enforcement (increased patrols), as needed to ensure public safety in the vicinity of construction areas and detour routes.

- Coordination and implementation of improved/modified signal timing and synchronization at intersections near the construction area and along routes adversely affected by construction traffic.

- Installation of visual barriers or paddle screens around construction areas to help reduce "rubbernecking" by travelers.

- Coordinate with Caltrans and local agencies to ensure that signage for haul routes, detour routes and public information is consistent.

(6) It is infeasible to completely avoid this significant effect, because it is not possible to construct the facility without construction vehicles and worker trips, transport of materials and constructing connections to existing roadways and the I-5 freeway. It is those connections to existing facilities that will enable the Preferred Alternative traffic relief benefits to occur. Any build alternative would also result in short-term construction traffic impacts.

(7) The facts recited in the Statement of Overriding Consideration are incorporated by reference.

2.2 <u>Land Use</u>.

During construction of the Preferred Alternative, existing or planned land uses may be affected by temporary impacts such as dust, noise, views of construction and disturbed areas, and/or disruptions to surface transportation access. These potential short-term impacts, and any findings associated therewith, are discussed in detail in the short-term impact analyses in the air quality, noise, visual and traffic sections of this EIS/SEIR and the corresponding impact sections of these findings, respectively. Significant impact findings related strictly to land use as a result of construction are discussed below.

In addition, long-term impacts related to land use and the operational characteristics of the Corridor are analyzed in the EIS/SEIR. EIS/SEIR, Figure 4.2-24 shows the alignments of the build Alternatives and the land use jurisdictions which would be affected by those alignments.

Detailed figures showing impacts to land uses by each build Alternative are provided in Appendix A of the Land Use Technical Report.

2.2.1 Significant Effect: Existing Land Use – San Onofre State Beach (SOSB) Cristianitos Subunit. The Preferred Alternative extends south through the Cristianitos Subunit of SOSB. The alignment would not directly impact the San Mateo Campground, but would have an impact on the resource value of SOSB because it would introduce an urban use to an area that is semi-rural with some amount of urban development (e.g. roads, transmission facility, existing Marine housing, transmission lines) valued for its aesthetic values. The direct impacts to the Cristianitos Subunit would reduce the size of SOSB by approximately 117 ha (289 ac) to 161 ha (398 ac).

Findings. The Board hereby makes finding (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project will be lessened, it cannot feasibly be mitigated to a level of insignificance. Measure LU-1 requires TCA to reduce impacts during final design, as feasible. This measure and Project Design Feature 2-1, do not avoid or substantially lessen the significant environmental effect. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure LU-1. Impacts on Existing Land Uses. Design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or permanent acquisition of property, will be incorporated in the final design, where prudent and feasible.

(2) Retaining walls will be provided in some locations along the alignments of the corridor Alternatives. Retaining walls can be used to minimize or reduce the amount of grading in areas with substantial topography, or to minimize or reduce right-of-way takes in developed areas. The specific locations of retaining walls will be refined in final design. (Project Design Feature 2-1.)

(3) The Department of the Navy (DON) owns the property on which the Preferred Alternative traverses the Marine Corps Base in San Diego County. In 1988, the Marine Corps established criteria concerning the evaluation of alternatives on the Base, the most important of which was that any on-Base portion of this proposed toll road must be as closely located to the northern Base boundary as possible and it must be routed in such a manner that it does not impact the Marine Corps mission nor interfere with Camp Pendleton's operational flexibility. A section of the Preferred Alternative crosses through Camp Pendleton within the leased state park and the section meets the Marine Corps criteria.

(4) SOSB is located entirely on lands leased from the DON; the State does not own the land. SOSB is operated by the State, pursuant to a 1971 agreement of lease (the "lease") with the United States. The California Department of Parks & Recreation (CDPR) lease with the United States is specifically subject to the

reserved right of the United States to grant additional easements and rights-of-way over the leased property. Thus, in implementing the authority to lease, CDPR agreed that the United States may grant a right-of-way to a third party. Congress has adopted legislation authorizing the Navy to grant to the TCA an easement within this portion of Camp Pendleton.

(5) No camping sites in the San Mateo Campground would be removed. Access from San Mateo Campground to Trestles Beach would be maintained both during and after construction. With the corridor, the trail would be reconfigured to run adjacent to the reconfigured Cristianitos Road similar to what exists now.

(6) Although the Preferred Alternative reduces the size of the leased parkland, the area to be subject to the easement granted by the Navy for the project is not utilized for any active recreation use and State Parks has no recreational facilities in the area that will be used for the Preferred Alternative.

(7) The Preferred Alternative is located to avoid occupied Pacific Pocket Mouse Habitat.

(8) The disturbance limit of the Preferred Alternative has been reduced and the project is limited to six lanes.

(9) For over two decades, an alignment for the FTC has been anticipated to be in the vicinity of the SOSB and was expected to affect the SOSB property. The FEC-W alignment would affect the SOSB, especially the Cristianitos Subunit, as it bisects this area. The revised General Plan (1984) for the SOSB acknowledged the effects of three projects that had the potential to impact the SOSB, one of which was the corridor, as follows:

> "Three proposed transportation projects would have a major impact on Subunit 1 of San Onofre State Beach, if carried out as planned. These projects are the Foothill Transportation Corridor, the La Pata Avenue Parkway and the bullet train. The FTC and La Pata Avenue are shown in the Master Plan of Arterial Highways component of the Orange County General Plan, adopted in 1983. The Foothill Transportation Corridor would have six or eight lanes, claiming a right-of-way of 300-400 feet wide. The final route for the FTC has not been selected, but the maps show it running along the east side of San Mateo Creek the full length of Subunit 1, intersecting with the San Diego Freeway at the location of Basilone Road interchange." (pp. 57, 1984 San Onofre State Beach Revised General Plan.)

(10) The reference to the FTC running along the east side of the SOSB is consistent with earlier plans for the FTC. In 1984, the SOSB General Plan was adopted.

The lanes currently planned for the Preferred Alternative affecting SOSB would be four to six lanes south of Cristianitos Road.

(11) The alignment of the Preferred Alternative would not impact the majority of other existing land uses in the project vicinity including:

- Tesoro High School. The Preferred Alternative would be adjacent to Tesoro High School and would not have direct or indirect adverse impacts on this land use. The Final EIR for Tesoro High School (formerly Chiquita Canyon High School) included measures to mitigate potential indirect noise impacts associated with a transportation facility in the area of the SOCTIIP corridor Alternatives.

- Rancho Mission Viejo. The Preferred Alternative would not adversely impact cattle grazing on RMV. There are no active agricultural areas and out leases on RMV that would be affected by this alignment. The Preferred Alternative also traverses the access road to the Last Roundup and Amantes Camp, which is a special event area. These areas will not be directly impacted by this Alternative.

- Chiquita Water Reclamation Plant. The alignment of the Preferred Alternative would not impact the existing CWRP in Chiquita Canyon.

- Prima Deshecha Sanitary Landfill. The Preferred Alternative is approximately 2.3 km (1.4 miles) east of the Prima Deshecha Landfill and would not impact any existing operations.

- Camp Pendleton. Preferred Alternative includes ramps at Basilone Road at Green Beach and near the San Onofre Gate below Camp San Onofre (Area 51). Construction in this area could result in a short-term, temporary impact to Camp Pendleton San Onofre Recreation Beach, related mostly to potential noise, access and dust impacts on recreation uses at San Onofre Recreation beach. Temporary impacts to these recreation uses are discussed in Section 4.25. Impacts to amphibious landings and training uses at Green Beach are discussed in detail in Section 4.21. However, these short-term impacts would not change land uses at San Onofre Recreation beach or the military uses at Green Beach in the same area.

(12) The Preferred Alternative will not require the acquisition of any existing homes or businesses. Furthermore, there are no substantive indirect impacts to existing sensitive land uses given the siting of the proposed facility to minimize impacts to existing uses, combined with existing topography and committed open space areas that create "buffers" between the Preferred Alternative and existing land uses.

(13) Alternatives were evaluated that avoid this impact. Those alternatives were determined to be impracticable and/or determined to be infeasible because they

would also result in significant impacts that could not be completely mitigated or would interfere with the training mission of Camp Pendleton. The details of the alternatives and reason for selecting the Preferred Alternative are provided in Section 4.0 of these Findings.

(14) The discussion in Final SEIR Section 4.2.3 is hereby incorporated by reference.

(15) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.2.2 Significant Effect: Committed and Planned Development – San Onofre State Beach (SOSB) Cristianitos Subunit. The SOSB General Plan and Land Use & Facilities Map discuss and depict areas where a proposed 18-hole golf course directly west of the San Mateo Campground, primitive camps and two additional campgrounds north of San Mateo Campground are conceptually planned from the Cristianitos Subunit. The alignment of the Preferred Alternative would likely preclude the implementation of a golf course of this size in the planned location shown in the SOSB General Plan, which would be a significant land use impact.

Findings. The Board hereby makes finding (3).

Facts in Support of Findings. The mitigation measure and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. Measure LU-1 requires TCA to reduce impacts during final design, as feasible. This measure and Project Design Feature 2-1, do not avoid or substantially lessen the significant environmental effect. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure LU-1. Impacts on Existing Land Uses. Design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or permanent acquisition of property, will be incorporated in the final design, where prudent and feasible.

(2) There are no existing implementation plans for these facilities (golf course and campground) and the California Department of Parks and Recreation would be required to get permission from MCB Camp Pendleton to build the golf course on the leased property.

(3) Since the time that the facilities were identified in the SOSB General Plan, TCA is not aware of any funding or focused efforts that would bring these facilities closer to implementation. In light of the state budget, which includes minimal if any funding for additional capital improvements to state parks and infrastructure, and the lack of identified funding resources to implement additional facilities on a State Park on leased land, TCA determines that these economic and implementation considerations make it infeasible to completely mitigate this impact.

(4) There are no known committed or planned land uses on Camp Pendleton that would be affected by the Preferred Alternative.

(5) The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial corridor alternative. The adjustments to the A7C-FEC-M-Initial Alternative reduce the total area within the disturbance limits (including proposed roadway and other improvements, as well as construction staging areas). The reduction in the total disturbance area limits results in a somewhat reduced impact to planned land uses.

(6) The discussion in Section 4.2.3. is hereby incorporated by reference.

(7) Alternatives were evaluated that avoid this impact. Those alternatives were determined to be impracticable and/or determined to be infeasible because they would also result in significant impacts that could not be completely mitigated. The details of the alternatives and reason for selecting the Preferred Alternative are provided in Section 4.0 of these Findings.

(8) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.2.3 Significant Effect. The Preferred Alternative will have adverse cumulative land use impacts on MCB Camp Pendleton by contributing to encroachment impacts on the northern part of the Base. MCB Camp Pendleton is a unique land use due to the military training conducted on the Base. The Preferred Alternative will impact the buffer that SOSB provides and create a physical barrier on the northern boundary of the Base. Although the area is leased now to the State for park use, the lease allows for military training activity to occur in this area. In addition, it is possible that in the future, when the lease expires, the land could revert to active military training area. Implementation of the proposed project would further limit the ability of MCB Camp Pendleton to make use of the area by providing a physical barrier on the northern part of base, in essence causing a reduction in the total training area or potential training area on the Base. This reduction in training area would also be considered a cumulative adverse impact on the Base because training area on the Base is already limited and continues to be further limited by environmental regulations and residential development encroachment.

Findings. The Board hereby makes finding (3).

Facts in Support of Findings. The mitigation measure and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. Measure LU-1 requires TCA to reduce impacts during final design, as feasible. This measure and Project Design Feature 2-1, do not avoid or substantially lessen the significant environmental effect. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure LU-1. Impacts on Existing Land Uses. Design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or

permanent acquisition of property, will be incorporated in the final design, where prudent and feasible.

(2) The TCA will compensate the Navy for the fair market value of the easement granted to the TCA for the project. The funds provided by the TCA will be utilized to offset the costs of various improvements at Camp Pendleton as authorized by Congress.

(3) The TCA funded a study of improvements at Camp Pendleton that will enhance the ability of the Marine Corps to conduct training missions and other activities within the Base.

(4) Access to and from Camp Pendleton by Marine Corps personnel is adversely impacted by congestion on I-5. The Preferred Alternative will provide enhanced access to the Base for Marine Corps personnel by providing an alternative to I-5 in Southern Orange County.

(5) Marine Corps access to the March Air Force Base (Camp Pendleton's primary debarkation site) is adversely affected because of I-5 congestion and because of inadequate alternative transportation routes. The Preferred Alternative will improve access of Marine Corps units to March Air Force Base by providing an alternative to the use of I-5 and Interstate 15.

(6) It is not feasible to further reduce impacts of the Preferred Alternative on Camp Pendleton because the Preferred Alternative is located at the extreme northern portion of Camp Pendleton and other alternatives would result in significant and unavoidable impacts on the natural and built environment.

(7) The discussion in Final SEIR, Section 5.3.2.3 is hereby incorporated by reference.

(8) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.3 Farmland.

Agricultural resources and activities are located in two main areas in the SOCTIIP study area: RMV and MCB Camp Pendleton adjacent to SOSB. RMV is in the County of Orange jurisdiction and the MCB Camp Pendleton is under its own jurisdiction as set forth by the DON and its land use management policies and plans for MCB Camp Pendleton. Agricultural areas in the SOCTIIP study area are shown in the EIS/SEIR on Figure 4.3-1. Lands on RMV have "agricultural preserves" pursuant to the Williamson Act. Agricultural lands on Camp Pendleton would not be subject to state agriculture policies or tax incentives since it is federally-owned property.

2.3.1 Significant Effect: Agricultural Operations on RMV. The Final SEIR shows in Tables 4.3-1 and 4.3-2, that the Preferred Alternative would result in the loss of approximately 82 ha (202 ac) of Williamson Act Agricultural Preserves on RMV. This includes

areas which have been subject to a notice of non-renewal, with the remainder currently remaining in agricultural preserve status. Williamson Act contracts adjacent to the Preferred Alternative are scheduled for withdrawal between 2001 and 2008, and while some of these areas will be withdrawn from agricultural preserves prior to construction, a substantial part of the property will remain in agricultural preserves. The Preferred Alternative would traverse an area of 24.48 ha (60.46 ac) noticed for non-renewal in 2008, and thereby would only adversely impact areas in agricultural preserves by removing land (if grading starts before the non-renewal goes into effect in 2008).

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AG-1. Existing Operations on RMV. During final design, and in coordination with RMV and its agricultural leaseholders, the contractor will finalize the realignments of access roads on the ranch to provide cattle and equipment crossings to minimize impediments to cattle movement and routine agricultural operations and normal business activities.

(2) Measure AG-2. Existing Operations on RMV. Prior to the start of any construction activities, any corrals and/or windmills within the disturbance limits of a SOCTIIP build Alternative will be relocated or replaced. In the event that the RMV or the leaseholder does not want the facility relocated, appropriate compensation for the facility will be provided.

(3) Commitment AGC-1. Existing Operations on RMV. Prior to the start of any construction activity, written notification will be provided to agricultural property owners or leaseholders immediately adjacent to the disturbance limits for the SOCTIIP build Alternative. The notification is to indicate the intent to begin construction, including an estimated date for the start of construction. This notification shall be provided at least three, but no more than 12, months prior to the start of construction activity.

(4) The discussion in Section 4.3.3.2 of the Final SEIR is hereby incorporated by reference.

(5) The decision to develop agricultural land is driven by economic factors that must be weighed by the landowner and/or developer. Notwithstanding the financial incentives of Williamson Act agreements, there exists no policy in the County of Orange General Plan or zoning that would discourage the conversion of the land from agricultural uses to more intense urban uses. And, there are no policies that require preservation of agricultural areas.

(6) The Ranch Plan General Plan Amendment has been approved, providing a combination of development and open space for RMV. Additionally, the

Resources Element relies heavily on voluntary participation in Agricultural Preserve (Williamson Act agreements, referred to by the County as "Agricultural Preserve" agreements) agreements pursuant to the Williamson Act.

(7) The County of Orange General Plan Resources Element (pp. VI-12) acknowledges that growth projections indicate more urbanization resulting in more conversion of agricultural uses in the following statement: "Growth projections through 2020 indicate the continued urbanization of the County. This urban development will continue to convert agricultural acreage to more intensive land uses." It is not feasible for the County to meet its housing and related transportation needs without converting portions of the remaining agricultural land to urban uses.

(8) The Program EIR for The Ranch Plan discussed the factors influencing agricultural uses. The EIR states that for "any parcel valued at more than $20,000 to $25,000 per acre, the viability of agricultural production is limited because a reasonable rent based on these land values would be prohibitive to a profitable agricultural operation" (Draft Program EIR No. 589, page 4.2-7.).

(9) According to the Program EIR for The Ranch Plan, notices of nonrenewal have been filed for all the areas on the RMV property, and the "lands will be removed from the preserve between December 31, 2005 and December 31, 2008, regardless" of The Ranch Plan project, as a result of the nonrenewal process (Draft Program EIR No. 589, page 4.2-11.).

(10) Adoption of one or more of the agricultural preservation programs identified by commenters on the Draft EIS/SEIR would require an amendment to the General Plan and Zoning Code. Specifically, the General Plan and Zoning Code would need to be revised to reflect a dramatic change in County policy concerning the long-term preservation and use of agricultural lands (i.e., conservation of agricultural lands despite market forces and the trend toward urbanization of undeveloped property in South Orange County). In the absence of such a policy change, development and implementation of an agricultural preservation program would directly conflict with current County objectives concerning the accommodation of foreseeable urban growth.

(11) Based on the County of Orange conclusion that RMV could maintain the same number of cattle with the reduced grazing acreage, the loss of grazing land within RMV does not require replacement as mitigation. To the extent that agricultural preservation mitigation for RMV is required, based on the County findings for the RMV project, TCA finds that such mitigation is infeasible.

(12) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.3.2 Significant Effect: NRCS Resources on MCB Camp Pendleton. The Final SEIR shows in Tables 4.3-1 and 4.3-2 that the Preferred Alternative would result in the loss of approximately 2.9 ha (7.1 ac) of Farmland of Statewide Importance on MCB-Pendleton. Also, due to an alignment shift, the Preferred Alternative would affect an additional 1 ha (2.57 ac) of rated agricultural land on MCB Camp Pendleton. This represents approximately 0.04 percent of farmland in the SOCTIIP study area. Based on the quality of these soil resources as defined by the NRCS, the Preferred Alternative would adversely impact farmlands.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measure and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) The Caltrans CIA Guidelines suggest that certain design measures can potentially reduce the total acreage of impacts to agricultural resources. These include minimizing shoulder width using concrete median barriers instead of wider medians. Additional types of design exceptions or modifications are generally not refined until final design. It is anticipated that design refinements would be incorporated as feasible without affecting the safety or operation of the road, to avoid or minimize impacts on resources, including agricultural resources. Mitigation Measure LU-1 implements this Caltrans Guideline.

(2) The typical standard for lost resources is replacement. However, with agricultural land, replacement is difficult and very expensive. In Orange County, the cost alone would make replacement as a mitigation measure impractical, as market conditions for land continue to heavily favor development over agricultural uses.

(3) The agricultural land that will be lost due to the Preferred Alternative within Camp Pendleton is land that is leased by Camp Pendleton for farming uses. TCA has determined that mitigation through agricultural preservation or an easement is not feasible for the reasons described above and for the following reasons.

- First, the acreage impacted within Camp Pendleton is very small, approximately 10 acres for the Preferred Alternative. The Farmland Conversion Form in Appendix E shows the average farm size as 167 acres. There is no established agricultural easement program on Camp Pendleton because the land is controlled by the United States. Therefore, there is no mechanism by which TCA can add on to an existing program to assist in creating or preserving a larger farm parcel within Camp Pendleton. Due to the large size of Camp Pendleton, there are no private lands available for farming, other than the Rancho Mission Viejo Company property discuss above) for several miles.

- Secondly, as described above and based on the U.S. ownership of Camp Pendleton and the committed land uses in south Orange County, no parcels

are available in the general vicinity for such easements or preservation. It is expected that Camp Pendleton will continue to lease some of the land on Camp Pendleton for agricultural use to the extent that such uses are compatible with military requirements (see MCO P5090.2A, Environmental Compliance and Protection Manual, July 1998, and the Camp Pendleton Integrated Natural Resources Management Plan [INRMP], November 2001). Agricultural leases are typically for five years (INRMP). However, the continuance of agricultural leases and the possible reduction or expansion of such leases is solely within Camp Pendleton's control and jurisdiction.

(4) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.3.3 Significant Effect. The Preferred Alternative would directly impact part of the agricultural operations at San Clemente Ranch in the San Mateo Valley on MCB Camp Pendleton, which is the largest contiguous row crop lease on the Base, covering nearly 246 ha (600 ac) in San Mateo Valley adjacent to SOSB and San Mateo Creek. The Preferred Alternative would remove the east part of the 3.5 ha (8.7 ac) parcel currently bisected by Cristianitos Road. This represents approximately 18.9 percent of the total area being farmed in this area. Also, the existing access road for this operation immediately north of I-5 could be impacted temporarily during construction. Removal of this area from production would negatively impact the leaseholder and impacts to the access road would be a significant adverse impact on this operation.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AG-3. Agricultural Operations on Camp Pendleton (San Clemente Ranch). During final design, the contractor will develop a realigned access road for the San Clemente Ranch to ensure all-weather access to the agricultural operations in the leased area on MCB Camp Pendleton. The timing of the construction of this realigned access road will be coordinated with the agricultural operator to ensure that peak operation times are not affected. The realigned road must be completed prior to closure of the existing road.

(2) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.3.4 Significant Effect. The Preferred Alternative will contribute to cumulative adverse impacts on agricultural resources in southern California because the Alternative would result in the permanent use of agricultural land for road purposes. The long-

term viability of agricultural resources in the study area or the region may be affected by growth pressure regardless of whether a SOCTIIP build Alternative is built. In fact, the approved Ranch Plan would result in the removal of 266 acres of Prime Farmland, 32.9 acres of Farmland of Statewide Importance, and 528.3 acres of Unique Farmland. In the aggregate, development of the Ranch Plan would result in the loss of 827.2 acres of Important Farmland. In addition, the development of the Ranch Plan will result in the non-renewal of 1,856 acres under Williamson Act contract and in the associated Agricultural Preserve (upon renewal date), in addition to the 9,840 acres to be removed between December 31, 2005, and December 1, 2008, through the non-renewal process regardless of the Ranch Plan project.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AG-3. Agricultural Operations on Camp Pendleton (San Clemente Ranch). During final design, the contractor will develop a realigned access road for the San Clemente Ranch to ensure all-weather access to the agricultural operations in the leased area on MCB Camp Pendleton. The timing of the construction of this realigned access road will be coordinated with the agricultural operator to ensure that peak operation times are not affected. The realigned road must be completed prior to closure of the existing road.

(2) Commitment AGC-1. Existing Operations on RMV. Prior to the start of any construction activity, written notification will be provided to agricultural property owners or leaseholders immediately adjacent to the disturbance limits for the SOCTIIP build Alternative. The notification is to indicate the intent to begin construction, including an estimated date for the start of construction. This notification shall be provided at least three, but no more than 12, months prior to the start of construction activity.

(3) The facts recited in Sections 2.3.1 and 2.3.2 are incorporated by reference.

(4) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.4 Pedestrian and Bicycle Facilities.

The study area for pedestrian, bicycle and trail facilities was defined as the area within 0.4 km (0.25 mi) from the centerline of the SOCTIIP build Alternatives. This study area covers a broad band on both sides of the alignment of each build Alternative and is wide enough to ensure that pedestrian, bicycle and trail facilities which might be impacted, directly or indirectly, by the SOCTIIP Alternatives would be identified and assessed.

Pedestrian and bicycle facilities (facilities) in the SOCTIIP study area refer to trails, bikeways and sidewalks that are typically marked and are implemented and maintained by public agencies and private groups. Facilities in the SOCTIIP study area include riding and hiking trails and bikeways. Regional riding and hiking trails are unpaved and off-road, and are used by pedestrians, equestrians and/or bicyclists. Bikeways are off-road, paved or unpaved public or private paths that allow pedestrian and bicycle use. In addition, Class II and Class III bikeways are also found in the SOCTIIP study area. Class II bikeways along paved roads and are identified with a striped line separating the bikeway from the road travel lanes. Class III bikeways are also found along paved roads but they are not striped. They are only identified by signage. Sidewalks in the study area, which are also considered to be pedestrian trails, are found along most roads. The findings presented herein identify impacts to any of the aforementioned pedestrian and bicycle facilities that would result from the construction and operation of the Preferred Alternative.

2.4.1 Significant Effect. The Preferred Alternative will cross the alignments of the proposed San Juan Creek Trail extension and proposed Cristianitos Trail. Accordingly, construction of the Preferred Alternative requires temporary use of the property and will result in significant air quality impacts to proposed San Juan Creek Trail Extension and Proposed Cristianitos Trail due to the proximity of these facilities to the centerline of the Preferred Alternative.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Air quality mitigation measures AQ-1 through AQ-6 are hereby incorporated by reference.

(2) It is not feasible to further reduce the identified effects because the Preferred Alternative is a linear facility that by necessity is required to cross the San Juan Creek Trail extension and proposed Christianitos Trail.

(3) Other alternatives would have more severe impacts on pedestrian and bicycle facilities.

(4) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein..

2.4.2 Significant Effect. Construction of the Preferred Alternative and operation the Corridor will result in permanent visual impacts to proposed San Juan Creek Trail Extension and the proposed Cristianitos Trails.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AS-1. Adjacent landforms affected by the build Alternatives shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces.

The TCA shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a Preferred Alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.

(2) Measure AS-2. The TCA shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.

(3) Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA along the corridor. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is

provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit.

(4) Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto areas outside of the corridor right-of-way . The vertical or horizontal illuminance from roadway lighting sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment through The Donna O'Neill Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative due to roadway lighting sources installed by the TCA.

(5) Measure R-1. Avoidance of the Temporary Occupancy and/or Permanent Acquisition of Recreation Resources Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary occupancy during construction and the permanent acquisition of land currently occupied by or proposed for use by recreation resources. In the event that the temporary occupancy or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of recreation resources property will apply to the build Alternatives consistent with Uniform Relocation Assistance.

(6) Measure R-2. Consultation with Owners/Operators of Recreation Resources. In conjunction with measures R-3 and R-4 (compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, refer to Section 4.6), the TCA will consult with the affected property owner/operator of recreation resources temporarily used or permanently acquired by a build Alternative. The purposes of this consultation will be to:

- Identify and implement opportunities to protect recreation resources in place.
- Identify and implement opportunities to replace lost recreation facilities within the existing recreation property.
- Combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and minimize adverse impacts on recreation resources.

(7) Measure R-3. Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

(8) Measure R-4. Direct Temporary Impacts (Occupancy of Property During Construction) on Recreation Resources. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be temporarily occupied during construction to determine appropriate action and or compensation to mitigate for the temporary occupancy.

(9) Measure R-5. Impacts on Trails. During final design, the TCA will provide for crossings of planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local agency with responsibility for the trail, as appropriate. Construction plans will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.

(10) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

(11) It is not feasible to further reduce the identified effects because the Preferred Alternative is a linear facility that by necessity is required to cross the identified trails.

2.5 Air Quality.

The Preferred Alternative is in the South Coast Air Basin (SCAB) except for the southern portion, which is in San Diego County. The SCAB encompasses all of Orange County and the non-desert parts of Los Angeles, Riverside and San Bernardino Counties. The climate and topography in the SCAB make the SCAB highly conducive to the formation of air pollution. The segments of the build Alternatives in San Diego County are in the most north part of the San Diego Air Basin (SDAB), which shares similar meteorological conditions with the adjacent Orange County areas in the SCAB. Air quality in the SCAB and SDAB is regulated by federal, state and regional control authorities

The USEPA has overall responsibility for insuring that the nation meets the national ambient air quality standards (NAAQS). The USEPA has oversight authority over state and local air quality planning and regulatory actions through requirements set forth in the federal Clean Air Act (CAA), as amended in 1990 (42 U.S.C. Section 7401 et. seq.). The NAAQS are set at levels to protect public health with an adequate margin of safety.

The California Air Resources Board (CARB), a department of the California Environmental Protection Agency (CalEPA), is responsible for regulating mobile sources of pollution (including automobiles and trucks), preparing the State Implementation Plan (SIP) on the basis of locally prepared plans and serving in an oversight capacity over all regional and county air pollution control districts in California.

Regionally, all air districts in California are regulated through the California Health and Safety Code in Division 26 (Health and Safety Code Section 39000 et. seq.), which sets forth their general powers and duties. The two districts with jurisdiction over the areas traversed by the Preferred Alternative are the SCAQMD, which includes Orange County, and the San Diego County Air Pollution Control District (SDAPCD).

Potential air quality impacts are typically divided into short-term construction-related impacts and long-term operational impacts. Potential long-term air quality impacts are commonly divided into regional and local impacts. The findings herein are categorized according to these divisions.

2.5.1 **Significant Effect**. The Preferred Alternative will result in short-term emissions during construction. Air pollutants will be emitted by construction equipment and fugitive dust will be generated from grading activities. The pollutant emissions due to grading activities would be primarily PM_{10} while emissions from construction equipment would be CO, ROG, NO_x, SOx and PM_{10} emissions. During construction of the Preferred Alternative CO, ROG, NO_x, and PM_{10} emissions are projected to exceed the SCAQMD criteria thresholds. The greatest levels of air pollution emissions occur during peak periods of construction, which is most likely when demolition, grading and site preparation would be occurring simultaneously. The Preferred Alternative does not require demolition activities related to existing homes and businesses, because none will be taken.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AQ-1. During construction, contractor specifications shall incorporate directions to contractors to control fugitive dust. Fugitive dust shall be controlled by regular watering, paving construction roads, or other dust preventive measures, as defined in SCQAMD Rule 403.

After clearing, grading, earth moving or excavation the following activities will be performed by the construction contractor:

- Seeding and watering will be performed until viable vegetation cover is in place in inactive areas.
- Soil binders will be spread.
- Areas will be wet down sufficiently to form a crust on the surface. Repeated soakings will be performed as necessary to maintain this crust.
- Reduce speeds to 10 to 15 mph in construction zones on unpaved areas.

(2) Measure AQ-2. During construction, measures contained in Tables 1 and 2 of SCAQMD Rule 403 will be implemented by the construction contractor. Control of particulate emissions from construction activities is best controlled through the requirements contained in SCAQMD's Rule 403, Tables 1 and 2. Tables 1 and 2 are reproduced here as Tables 4.7-60 and 4.7-61. The measures contained in these tables are presented as an option to air quality monitoring in Rule 403. Table 4.7-60 contains measures such as maintaining an adequate moisture content in the soil, watering grading areas, establishing ground cover in inactive areas and watering unpaved roads. Table 4.7-61 identifies additional measures that are applied during high wind conditions. The mitigation measure, therefore, is to require that the measures contained in Tables 1 and 2 of Rule 403 be utilized. This potentially results in a much higher reduction of particulate emissions than if the air monitoring option contained in Rule 403 was employed. The air monitoring option requires monitoring around the project site, and as long as pollutant levels do not exceed threshold limits, no pollutant emission reduction measures are employed. The measure would be triggered prior to the initiation of grading.

(3) Measure AQ-3. All public streets adjacent to the project site shall be swept once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). This condition would apply to those areas where construction traffic leaves the project site and travels onto public roadways.

(4) Measure AQ-4. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.

(5) Measure AQ-5. During final design, contractor specifications shall require that contractors implement the following measures:

- Use low emission mobile construction equipment.
- Maintain construction equipment engines by keeping them tuned.
- Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators.
- Configure construction parking to minimize traffic interference.
- Minimize obstruction of through-traffic lanes. When feasible, construction should be planned so that lane closures on existing streets are kept to a minimum.
- Schedule construction operations affecting traffic for off-peak hours.

- Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service).
- Include in construction grading plans a statement that work crews shut off equipment when not in use.
- Support and encourage ridesharing and transit incentives for the construction crew.

(6) The peak construction PM_{10} emissions are minor compared to the total average annual of 416 tons per day (882,000 pounds per day) of particulate matter currently released in the whole SCAB (2000) and forecast to be 908,000 pounds per day for 2006. The PM_{10} emissions from the Preferred Alternative would only be approximately 1000 pounds per day.

(7) The criteria SCAQMD are intended to be set at the lowest levels for which air quality impacts may occur. The fact that the project is projected to exceed the criteria implies that there will be increases in the concentrations of these pollutants that would be measurable. For example, the state PM_{10} standards are exceeded in the study area, and slight increases in the concentrations of PM_{10} may occur. The federal PM_{10} standard is not exceeded in the area, and it is not anticipated that the quantities of pollutants released would be so great as to cause a violation of the federal standards. The increases would be local to the construction activities and would be temporary.

(8) SCAQMD and SCAG, in coordination with local governments and the private sector, have developed the Air Quality Management Plan (AQMP) for the SCAB. The overall control strategy for the AQMP is to meet applicable state and federal requirements and to demonstrate attainment with the ambient air quality standards (AAQS).

(9) The SOCTIIP alternatives were evaluated to determine whether they would meet conformity requirements in the State Implementation Plan. FHWA projects must be found to conform before they are adopted, accepted, approved or funded. Transportation projects must conform to the following criteria established in the CAA Section 176(c)(2)(C): They must come from a conforming transportation plan and TIP. The Preferred Alternative is consistent with the RTIP.

(10) It is not feasible to reduce the construction emissions below the significance thresholds. All mitigation measures suggested by commentors have been considered and, when reasonable and feasible, have been added to the list of mitigation measures. To reduce emissions simply by reducing the rate of grading/construction is not reasonable. This approach could extent the construction period to several years, which would have other impacts. Similar results would occur for all Alternative, except the No Action Alternative.

(11) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.5.2 Significant Effect. Regional air quality emissions will decrease from existing conditions with or without the SOCTIIP Alternatives. The amount of HC, CO and NOx emissions decrease in future years compared to existing conditions. PM_{10} emissions increase in future years compared with existing conditions, although during intervening years, prior to 2025, the emissions are reduced. Overall, regional air quality indicated by traffic emissions will be better in future years compared to existing conditions. Accordingly, the long-term regional air quality impacts due to the Preferred Alternative with mitigation measures will be reduced. However, there remains a long-term significant adverse impact for NO_x emissions because NO_x emissions exceed SCAQMD significance thresholds while the Corridor is operational.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Air Quality mitigation measures AQ-1 through AQ-5 are hereby incorporated by reference.

(2) There are overall reductions in operational emissions of the Preferred Alternative when compared to the A7C-FEC-M Ultimate Alternative because the Preferred Alternative is limited to a maximum of six lanes.

(3) HC and CO emissions are reduced compared to existing emissions and the No Action Alternatives because with the Corridor more vehicles will be traveling at higher speeds than under existing and No Action Alternative congested conditions.

(4) The FHWA and the TCA acknowledge that NOx is a precursor of ozone. The increases in NOx projected for the project Alternatives are a result of reducing congestion and increasing travel speeds on the roadway network. While reducing congestion and increasing travel speeds reduce the emissions of hydrocarbons (also a precursor of ozone) and CO, increased speeds over 35 miles per hour result in an increase in NOx emissions. (Refer to pages 5-4 and 5-5 in the Air Quality Technical Report for a more in-depth discussion).

Reducing design speed and/or speed limits would change the basic project description and would be inconsistent with federal and state highway design standards. Furthermore, reduced design and/or posted speeds would have the effect of reducing the corridor's traffic capacity, which would be inconsistent with the purpose of the project as included in the Draft EIS/SEIR and agreed to by the NEPA/Section 404 signatory agencies (including EPA) to improve the transportation infrastructure system to alleviate existing and future traffic

congestion and accommodate the need for mobility, access, goods movement and future traffic demand on I-5 and the arterial network in the study area. Therefore, reducing design speeds as a mitigation measure is infeasible.

The design speed is determined by the type of roadway facility to be constructed to ensure consistency with federal and state highway design standards. The proposed extension of SR-241 would be designated a State Route, which are state highways serving intrastate and interstate travel. Consistent with federal and state highway design standards, the proposed toll road Alternatives are designed for speeds up to 70 miles per hour (mph). The posted speed on the proposed toll road Alternatives may be up to 65 mph. Actual travel speeds will vary depending on travel conditions (i.e., weather, roadway elevation grades, level of service). The FHWA, Caltrans and the TCA do not have authority to lower design speeds arbitrarily; therefore the USEPA's recommendation to reduce the design speed and/or speed limits is not feasible to implement. In addition, such measures are inappropriate because speeds over 35 miles per hour would create the most NOx emissions, and reductions in speeds that are typical of a toll road would not result in a substantial reduction in NOx emission. Currently, the TCA funds patrolling operations by the California Highway Patrol on the other corridors to ensure that speed limits are enforced and excessive speeds do not occur. The TCA anticipates that it will continue to fund patrolling operations by the California Highway Patrol on the toll road extension, similar to existing patrolling operations on the other corridors, to ensure compliance with the posted speed limits.

(5) The South Coast Air Quality Management District (AQMD) is the air pollution control agency for the four-county region including Los Angeles and Orange Counties and parts of Riverside and San Bernardino Counties. An alignment similar to the alignment of the Preferred Alternative is included in the Air Quality Management Plan (AQMP) and in the modeling for the AQMP. As defined in the AQMP and the AQMP modeling, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, the Preferred Alternative is consistent with the AQMP and the AQMP modeling.

(6) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.6 <u>Wildlife, Fisheries and Vegetation</u>.

2.6.1 <u>Significant Effect</u>. <u>Short Term Construction Impacts to Sensitive Plant Communities</u>. Impacts to the upland communities of Venturan-Diegan transitional coastal sage scrub, sage scrub-grassland ecotones, sage scrub-chaparral ecotones, native grassland, floodplain sage scrub and other scrub are considered significant. These plant communities are classified as sensitive vegetation communities because of their limited distribution. Impacts to these communities would be mitigated primarily through the acquisition and preservation of such communities. Regional open space planning efforts in the area, including the southern subregion of the NCCP, have not been finalized, although it is anticipated

that the Southern Orange County NCCP will reflect the Rancho Mission Viejo Ranch Plan which provides substantial long-term protection for natural resources in this subregion. The NCCP will provide for no net loss of habitat value from the present, meaning no net reduction in the ability of the subregion to maintain viable populations of covered species and communities over the long-term. (1993 NCCP Conservation Guidelines.)

However, a net loss of these sensitive communities of unique assemblage of plants and wildlife would occur as a result of implementation of the Preferred Alternative. Therefore, impacts to these upland communities would be considered significant and adverse even after mitigation.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to a level of insignificance. Implementation of the Mitigation Measures listed below will minimize construction impacts to sensitive plant communities, however, even with mitigation a net loss of these rare communities would occur. The combination of project mitigation and planned regional open space in The Ranch Plan and NCCP, will result in protection of all significant resources in the project area. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Considerations.

(1) Measure WV-1. Prior to construction, the TCA shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.

(2) Measure WV-2. During final design of the project, the TCA Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. TCA Environmental and Engineering Staff shall determine the implementation of those recommendations.

(3) Measure WV-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA, and Caltrans for review to the extent required by permit by such agencies.

The primary goal of the BRMP will be to ensure the long-term perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones. The BRMP shall contain at a minimum the following:

a. Identification of all Environmental Sensitive Areas (ESA). ESA are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS; areas supporting endangered, threatened, or rare species; and areas supporting vegetation communities described as sensitive.

b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas.

c. Specific procedures during construction for the protection of sensitive plant, amphibian, reptile, bird, and mammal species, including perimeters around drip line oak trees.

d. Locations of trees to be protected as wildlife habitat (roosting sites).

e. Procedures for topsoil preservation and erosion control.

f. A summary of the type and quantification of habitats to be removed.

g. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include:

- Sources of plant materials and methods of propagation.
- Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way.
- Remedial measures to be taken if performance standards are not met.
- Methods and requirements for monitoring of the restoration efforts.
- Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas.

h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake and San Diego cactus wren.

i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not

increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits and biological monitoring requirements. Details of the erosion, siltation and dust control mitigation measures will be outlined in the Storm Water Pollution Prevention Plan (SWPPP).

j. Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements.

k. Or equivalent measures, e.g., environmental permits.

(4) Measure WV-4. During grading activities and/or construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, false work installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist.

(5) Measure WV-5. During grading activities and construction operations, the Project Biologist shall prepare a monthly biological monitoring letter report summarizing site visits, documenting adherence or violations of required habitat avoidance measures, and listing any necessary remedial measures. The report shall be submitted to the TCA and/or other implementing resource agencies.

(6) Measure WV-6. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall attend preconstruction meetings with construction foremen, bridge engineers, and the TCA to confirm that all environmental conditions are discussed. Monthly, or on an as needed basis, new construction personnel shall complete an educational program. Issues to be covered will include, but are not limited to, environmental measures for avoiding impacts to sensitive biological resources, ESAs, waste disposal, vehicle transportation routes, seasonal restrictions, fueling/maintenance restrictions, and other relevant topics.

(7) Measure WV-7. In conjunction with final design, the Project Biologist shall work closely with the Contractor to develop native plant palettes for revegetation areas adjacent to the roadway that abut natural open space and will be implemented by the Contractor. Final landscape design plans, which will be approved by the TCA, shall reflect the following and shall be incorporated into the BRMP:

- The landscaping along the corridor in open space (non-urban) areas shall be a mix of native, non-invasive, drought tolerant plant species from the scrub, grassland, and chaparral communities. All plants used shall comply with federal, state, and county laws requiring inspection of infestation. The vendor shall provide certification of inspection from the County of Orange and/or San Diego department of agriculture. The Project Biologist shall also inspect all plants before accepting delivery.
- The landscaping community type installed shall be consistent with the plant communities that occur in the vicinity of the intended landscape area.
- Seeds, cuttings, and potted plants shall be collected from local plant material as appropriate, supplemented by material from native plant nurseries. The seed vendor shall furnish certification that the seed has been tested for purity by a certified seed laboratory and does not contain seed of any non-native, invasive species.
- Native California plant species found in the project area shall be used. Invasive, noxious weed, or non-native species identified on the State of California List of Noxious Weed Species or the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List shall not be used in landscaping along open space areas.
- All mulches used shall be free of invasive species seed.
- Landscape areas shall be subject to maintenance during plant establishment (i.e., non-native species removal) that will be directed by the Project Biologist. However, the landscape areas shall not be subject to performance standards and will not be subject to mitigation in the future if construction occurs.
- Temporary low-volume irrigation systems, using reclaimed water (where available), shall be included in the final design of the selected alternative.

Portions of the landscaped areas within the Caltrans maintenance area and adjacent to the roadway may be subject to fuel modification requirements, which may preclude the use of many project-indigenous species. In these instances, plant palettes may contain both the California native plant cultivars which will be purchased and indigenous plant species found in the project area. This is due to the limited number of indigenous plant species included within the Orange County Fire Authority Fuel Modification Plant List.

(8) Measure WV-8. In conjunction with the development of final plans and specifications for construction, or other activities involving vegetation/habitat removal, the Project Biologist shall review and approve the contractor's map of all sensitive habitats (Environmentally Sensitive Areas, or ESAs) within 152.4 meters (500 feet) of the grading limits on the grading plans. ESAs are defined as sensitive habitats including, but not limited to, scrub; native grassland; riparian communities; and areas subject to the jurisdiction of the CDFG, USACOE, and USFWS. The ESA maps shall be prepared by the construction

contractor's qualified biologist and approved by the TCA. All ESAs to be avoided and performance standards established by the resource agencies shall be clearly noted on the grading, construction, and landscape plans. Additionally, the landscape plans shall indicate that plant materials shall be local southern Orange County native species.

(9) Measure WV-9. Caltrans procedures shall be followed for the protection of ESAs. These procedures are: (1) no construction access, parking, or storage of equipment or materials will be permitted within marked ESAs or other jurisdictional areas; (2) to the maximum extent practicable, construction access points shall be limited in proximity to protected habitat; (3) waste, dirt, and trash shall not be deposited on protected habitat; (4) vehicle transportation routes shall be confined to the narrowest practicable area in areas adjacent to marked, protected habitats during construction/operations activities, (5) no construction personnel shall be permitted access to these areas except for the purpose of invasive species removal without the Project Biologist's approval, and (6) disposal of trash adjacent to ESAs shall be removed/emptied on a daily basis.

(10) Measure WV-10. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall field verify that protective fencing (t-bar/yellow rope and silt fencing when construction is upslope from sensitive habitat) has been installed along the disturbance limits. Additionally, the Project Biologist shall verify that all other Caltrans procedures for ESAs, identified and mapped on grading plans, have been installed by the construction contractor. These protective fencings shall be field verified by the Project Biologist on a regular basis.

(11) Measure WV-11. To mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 ha (1,182 ac) created by the TCA to mitigate biological impacts resulting from construction of the FTC-N. Of these 478.7 ha (1,182 ac), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, non-wetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives.

a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional

preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost).

b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG.

c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1 (0.40 ha [one ac] for every 0.40 ha [one ac] lost), or other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program.

(12) Measure WV-12. Impacts to native grasslands shall be mitigated at a 1:1 ratio through either preservation or restoration in designated open space (e.g., Upper Chiquita Canyon Conservation Easement). Should restoration be proposed, the restoration areas shall be located in areas deemed appropriate by the project biologist for native grassland restoration. Restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The restoration program for native grassland areas shall be included in the BRMP and shall include the following measures.

- Site analysis for appropriate soils.
- Site preparation specifications based on site analysis, including but not limited to grading, and weeding.
- Specifications for plant and seed material appropriate to the locality of the mitigation site and the timing of restoration activities.
- Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation.

Restoration areas shall be considered successful at five years if the following standards are achieved:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Soil at the site exhibits a level of beneficial arbuscular mycorrhizal fungi that is comparable to an appropriate reference site, as demonstrated through soil infestivity potential.
- Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit.
- An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for five years (or less if site meets success criteria as designated above earlier) to ensure successful establishment of native grassland vegetation within the restored areas. If success standards are not met, remedial measures, hydroseeding, or introduction of container stock shall be implemented as directed by the Project Biologist.

(13) Measure WV-13.

a. TCA will mitigate impacts to coast live oak and elderberry woodland communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Preservation and restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist.

b. The restoration program shall be detailed with the BRMP. Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality.

The following performance standards shall apply for the restoration of elderberry woodland areas. Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.

- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For coast live oak woodland, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

c. Monitoring shall be conducted for five years (or less if success criteria are met earlier) to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional seed and/or container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

(14) Measure WV-14. In conjunction with construction activity, the Contractor shall control dust accumulation on natural vegetation at the source of disturbance by standard dust control measures.

(15) Measure WV-22. Prior to construction of the selected alternative, focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance (for all sensitive plant species), and seed collection and salvage measures (for Coulter's saltbush, intermediate mariposa lily, southern tarplant, and many-stemmed dudleya) can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted during the appropriate time of year (i.e., during the flowering period for each species). Locations of sensitive plant species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or minimize impacts to sensitive plant populations.

(16) Measure WV-24.

a. Intermediate mariposa lily seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall be flagged and individual plants shall be marked with pin flags to facilitate locating individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation.

b. Seed collection shall be conducted during two successive years and the following three-year program shall be implemented to ensure the likelihood of success. Propagated mariposa lilies typically exhibit a germination rate of 80 percent; this percentage shall be used to determine the number of seeds to be collected to ensure production of the same number of plants as shall be impacted by construction. The propagated plants shall be grown for two years to allow the bulbs to reach optimal size prior to transplantation. The remaining seed not used for propagation from the first year of seed collection shall be divided in half with one-half hand broadcast during the first year and the remaining one-half hand broadcast the following year.

c. The propagated plants shall be introduced (over the three-year program), using at least a 2:1 ratio, into appropriate habitat in open space dedication areas, or as directed by the Project Biologist. Seeding shall occur in similar areas. Site selection shall be based on the presence of suitable habitat as determined by the Project Biologist. Bulbs from the propagated plants shall be planted at the end of the second growing season. The same program shall be followed for seed collected during the second year. Planting of bulbs and hand broadcasting of seed shall be performed in September or October.

d. Re-establishment of intermediate mariposa lily will be monitored for three years following initial planting of the propagated plants and seeding. The survival of the plants will be recorded each year. Establishment of the population will be considered successful when the survivorship of the relocated plants has stabilized with a minimum 10 percent flowering in any one year of the monitoring period and establishment of seedlings from the seeded material is documented.

(17) Measure WV-25.

a. Areas determined to have appropriate hydrology and soil chemistry (salinity) shall be reseeded with seed collected from populations of southern tarplant. Southern tarplant is restricted to saline, vernally mesic areas, often along the margins of estuaries or areas of high salinity. The Project Biologist shall identify candidate areas within open space areas that exhibit suitable conditions for introduction of the tarplant.

b. For one year prior to construction as feasible, the TCA shall have southern tarplant seed collected by personnel experienced in collection of native seeds. Seed collection shall be conducted during successive years from September through December. One-half of the first years' collected seed shall be hand broadcast at the reintroduction site with the remaining one-half stored in appropriate conditions for introduction the following year. Seed collected during the second season shall be stored for potential later use in the event that success standards are not met following the seeding during years one and two.

c. Because southern tarplant is an annual species, population numbers are expected to naturally fluctuate from year to year depending upon environmental conditions. Reseeded areas shall be monitored for three years following the initial seeding. Establishment shall be considered successful if plant densities during any of the three years of monitoring are comparable to densities of the impacted populations based on sampling quadrants. If established populations do not achieve comparable densities of impacted populations, additional reintroduction sites shall be identified and stored seed, obtained during the collection period, shall be introduced into additional sites over a two-year period (as in the initial reintroduction program described above). The additional sites shall be monitored for three years and shall be considered successful if population numbers at all of the sites achieve densities of impact areas. If established populations have not reached the density threshold following the addition of supplemental sites, further remedial measures shall be implemented as determined appropriate by the Project Biologist.

(18) Measure WV-26.

a. Many-stemmed dudleya caudexes and seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall be flagged and groups of plants shall be marked with pin flags to facilitate the locating of individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation. Twenty-five percent of the seeds collected will be stored with Rancho Santa Ana Botanical Gardens (RSABG) by their standard agreement. The remainder of the seed will be used to establish the dudleya population as described below.

b. Caudexes shall be harvested for later planting, using appropriate screens or mesh and shall be conducted by individuals experienced in the salvage of many-stemmed dudleya. Where possible, caudexes will be salvaged by removing soil blocks containing marked dudleya. Both seed and collected caudexes shall be replanted and established at an appropriate site within an open space dedication area at the direction of the Project Biologist.

c. Monitoring of the established populations shall be conducted for three years. The propagated caudexes shall be introduced (over the three-year program), using at least a 1:1 ratio. Establishment shall be considered successful if planted/seeded populations total 75 percent of the impacted populations and the population demonstrates recruitment of seedlings. If planted/seeded populations do not achieve 75 percent of the impacted populations, additional collection of seed shall be performed and additional caudexes will be propagated. If planted/seeded populations do not achieve 75 percent thresholds, further remedial measures shall be implemented as recommended by the Project Biologist.

(19) Measure WV-27. Before entering or leaving the construction site, all construction equipment shall be inspected for evidence of invasive species and/or their seeds. Should any plants and/or seeds be detected, the equipment will be washed to ensure no invasive species and/or their seeds will be brought into or removed from the site.

(20) Measure WV-28. Prior to construction, substantial populations of invasive plant species identified on the State of California List of Noxious Weed Species and the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List adjacent to the grading limits shall be mapped.

(21) Measure WV-29. The Project Biologist shall prepare an invasive species management program to be incorporated into the BRMP. The program shall discuss the invasive species within landscaping and mitigation areas to be eradicated or controlled and eradication methods, which may include mowing, hand removal, or herbicide application. Removal of invasive plant species on the State of California List of Noxious Weed Species with Pest Rating A shall be required, at the direction of the Project Biologist. Eradication, containment, or control of all invasive plant species on the State of California List of Noxious Weed Species with Pest Rating B shall be at the discretion of the Project Biologist. The program shall also address invasive species identified in the California Exotic Pest Plant Council Exotic Pest Plants of Greatest Ecological Concern in California List and methods for their control. The potential for contribution of funds to such programs as the Arundo Removal Program to assist with removal of giant reed or other species from riparian habitats such as San Juan Creek shall also be addressed. The program shall also discuss monitoring of the landscaped and mitigation areas to ensure invasive species are properly controlled or eradicated. The maintenance of the mitigation sites along the corridor will be under the supervision of the Project Biologist (Executive Order 13112, Feb. 3, 1999).

(22) Measure WV-30. Before and during construction (as appropriate), the Project Biologist shall conduct focused nocturnal and diurnal surveys within suitable habitat between February and May (a minimum of one week prior to the onset of construction) to determine the presence or absence of the western spadefoot toad

in the impact area. Any western spadefoot toads found within the impact area will be relocated outside the construction area by the Project Biologist. In areas where western spadefoot toads were found, fencing or screening approximately 1.5 m (five ft) in height (with one m (three ft) buried below the surface) will be installed to prevent western spadefoot toads from entering the area after the onset of construction.

(23) Measure WV-38. Impacts to floodplain sage scrub, riparian herb, and other sub-types within the Vernal Pools, Seeps, and Wet Meadows and Marsh plant communities shall be mitigated at a 1:1 ratio or other ratio that compensates for functions and values. Mitigation shall consist of creating the above mentioned community types, in the approximate proportions in which they currently exist within the impact area or as otherwise required by the resource agencies. Creation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The creation program for the above areas shall be included in the BRMP and shall include the following measures.

- Site analysis for appropriate soils and hydrology.
- Site preparation specifications based on site analysis, including but not limited to grading, and weeding.
- Soil and plant material salvage from impact areas, as appropriate to the timing of impact and restoration as well as the location of restoration sites.
- Specifications for plant and seed material appropriate to the locality of the mitigation site.
- Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation.

Creation areas shall be considered successful if the following standards are achieved:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit.
- An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for five years (or less if success criteria are met as designated above earlier) to ensure successful establishment of hydrophytic

vegetation within the restored/created areas by wetland species. If success standards are not met, remedial measures, seeding, or introduction of container stock shall be implemented as directed by the Project Biologist.

(24) Measure WV-39. TCA will mitigate impacts to riparian scrub, woodland, and forest communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project, or other ratio that compensates for functions and values, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP.

Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community.

The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent in forest scrub communities and 5 percent in woodland communities.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For southern coast live oak riparian forest, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.

- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for a minimum of five years to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

(25) Measure WV-40. Impacts to open water shall be mitigated at a 1:1 ratio by the creation of wetlands and impounded features to be incorporated into the herbaceous riparian habitat. The open water mitigation areas shall be located at a site determined by the Project Biologist to have hydrology sufficient to support the desired open water feature. Appropriate hydrological and soils testing shall be performed to ensure that the created open water area function properly. Creation of open water areas shall be maintained as part of the herbaceous riparian habitat restoration.'

(26) As described in mitigation measure WV-11, TCA previously established the Upper Chiquita Canyon Conservation Area and thus, provided early mitigation for 327 acres of impact. The area was preserved in 1996. Thus, the construction loss of sensitive habitat has already been offset to the maximum extent feasible by preserving a resource area several years before the impact would occur.

(27) The only way to completely avoid this impact is to select an alternative that avoids impacts to sensitive plant communities. This is not feasible because the alternative that avoids this impact, the I-5 alternative, has been found to be impracticable as described in the Final EIR, section 2.2.3. In addition, the I-5 alternative has substantial impacts on other resources, such as the built environment and social and economic conditions.

2.6.2 Significant Effect. Short Term Construction Impacts Sensitive Plant Species. Direct impacts to Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, and Palmer's grapplinghook are considered significant and adverse because these species are not widespread in California, the species distribution in Orange County are not well documented, and the plants within the impact area represent a substantial portion of the known regional population. In addition, the subject populations are unique because they occur on the edge of a known species' range (e.g., populations in the impact area occur at the southernmost extent of the range where *Calochortus weedii* var. *intermedius* intergrades with *C. w.* var. *weedii*). Further, project impacts are considered significant because a large number of plants would be impacted and some plants in Orange County have been extirpated (southern tarplant and Palmer's grapplinghook) or have been extirpated throughout the region (southern tarplant and Palmer's grapplinghook).

Mitigation for impacts to these species is provided through seed collection and translocation of plants to suitable protected and monitored restoration sites. However, the successful performance of these translocated plants is not guaranteed and very little is currently known about the ability to successfully transplant these species. Success will be partly dependent

on the adequate selection of a restoration site with similar microhabitat characteristics to the donor site. Mitigation through seed collection and translocation may not be sufficient to off-set impacts to the above plant species. Therefore, impacts to these plant species would be considered significant and adverse even after mitigation.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The following facts or mitigation measure indicate that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to below a level of significance. Implementation of the Mitigation Measures listed below will minimize construction impacts to sensitive plant species, however, the successful performance of translocated plants is not guaranteed. Therefore, impacts to the Coulter's saltbrush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, and Palmer's grapplinghook are considered significant and adverse even with incorporation of the mitigation measures listed above. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Considerations.

(1) Measures WV-1 through WV-14, previously listed, substantially mitigate significant effect 2.6.2.

(2) Measures WV-22 through WV-28 also provides substantial mitigation for significant effect 2.6.2.

(3) Measures WV-38 through WV-40 also mitigate significant effect 2.6.2.

(4) As described in mitigation measures WV-22, WV-24 through WV-26 prior to construction, seed, and caudexes will be collected and plants will be salvaged for re-planting elsewhere. There measures ensure that plant material will be reused and native plants grown from local seed. It is not feasible to offset this impact any further than as described because construction will require the removal of existing vegetation.

(5) The only way to completely avoid this impact is to select an alternative that avoids impacts to sensitive plant species. This is not feasible because the alternative that avoids this impact, the I-5 alternative, has been found to be impracticable as described in the Final EIR, section 2.2.3. In addition, the I-5 alternative has substantial impacts on other resources, such as the built environment and social and economic conditions.

2.6.3 Significant Effect. Long Term Impacts Related to Habitat Fragmentation and Wildlife Movement. Long-term impacts to wildlife habitats may result in habitat fragmentation.

Habitat fragmentation primarily due to urbanization is irreversible. Functioning wildlife corridors provide the opportunity for various species in remaining habitat to survive and for locally extirpated populations to become reestablished if fragmented habitats are linked. San Mateo Creek, San Onofre Creek, Cristianitos Creek, San Juan Creek, Segunda Deshecha Cañada, Prima Deshecha Cañada, Cañada Gobernadora, Cristianitos Canyon, Blind Canyon, Gabino

Canyon, and Cañada Chiquita all contain wildlife corridors in the study area. Bridges and other undercrossings have been proposed to reestablish habitat connections in places where wildlife movement has the potential to be impeded by the proposed project. Smaller drainages connecting or adjacent to major drainages could become new areas of wildlife corridors after project completion.

Long-term impacts to wildlife habitat occurring as a result of the Preferred Alternative would result from construction/operation noise, lighting, increased mortality associated with vehicular interactions, urban pests, and invasive plant material. Direct impacts from project construction combined with indirect disturbance of the habitat areas associated with a wildlife corridor may ultimately preclude the use of that corridor by a variety of wildlife species. In addition, habitat shifts (toward non-native and/or disturbed type communities) that may occur over time (through indirect effects) can render wildlife corridors unusable for many species, as they may no longer provide food, cover or ease of travel for many species.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measure and other facts described below support the finding that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to below a level of insignificance. Implementation of the Mitigation Measures listed below will minimize long-term impacts to wildlife habitat that results in habitat fragmentation, however, habitat shifts and the interaction between vehicular traffic and wildlife may render wildlife corridors unusable for many species. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Considerations.

(1) Measures WV-1 through WV-6 and WV-8 through WV-10, previously listed will mitigate these impacts during construction and minimize impacts during final design.

(2) Measure WV-15. Prior to final design of the selected alternative, the Project Biologist shall ensure that the location of the proposed wildlife bridges and culvert identified in the NES will provide adequate travel capabilities, contain adequate vegetation cover, have adequate daylight, and have appropriate fencing to encourage animals to use these underpasses. Upon selection of and refinement to, the selected alternative, smaller culverts and bridges that will be necessary to provide drainage and/or avoid impacts to jurisdictional areas shall also be designed, at the direction of the Project Biologist, to promote local and regional wildlife movement.

(3) Measure WV-16. Prior to or in conjunction with the permit of application and/or process, Caltrans (Environmental and Maintenance) and resource agencies are to be given an opportunity for review and approval of the design of wildlife movement bridges, undercrossings, and culverts.

The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is

appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads.

a. Wildlife bridges and culverts shall be designed to provide approaching animals a clear view of the habitat or horizon on the opposite site of the structure. The minimum width at the base of the wildlife bridge or culvert shall be six m (20 ft). The minimum vertical clearance shall be 5.2 m (17 ft) from the floor of the bridge/culvert to the bottom of the structure. No artificial lighting shall be installed or used in or around the bridge/culvert, unless otherwise required to meet Caltrans approval. The ground surface of the wildlife bridges and culverts shall be constructed with a slope ratio of 1:1.5 (V:H).

b. Dirt or natural vegetation substrates, rather than concrete or other human-made material, will be placed along the bottom of the bridges or culverts as reasonably feasible.

c. Vegetation naturally occurring on the side slopes to the entrances to the underpass will not be removed, to the extent feasible. Where natural vegetation at underpass entrances does not occur, is minimal, or has been removed as a result of bridge or culvert construction, vegetation shall be planted along the slopes that match the closest intact native vegetation. Low-lying shrubs and/or small trees native to the area will be planted to encourage wildlife use of the underpass.

d. The appropriate vegetation-type and quantity will be determined by the Project Biologist during construction of the underpass and will consist, at a minimum, of appropriate large shrubs and trees that will achieve at least 1.5 m (five ft) in height at maturity. The replanting will occur during the final stages of underpass construction or immediately following construction in the appropriate season for planting. The planting of vegetation at bridges over drainages shall be compatible with flood control requirements.

e. Materials such as rip-rap will not be used in or around the underpass entrances unless required by hydrology/hydraulic conditions.

(4) Measure WV-17. Prior to operation of the corridor, chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the project biologist, TCA, USFWS, FHWA, and Caltrans.

Wildlife fencing adjacent (100 m/328 ft) to wildlife movement underpasses will be inspected semiannually to identify and repair any gaps or tears in the fence caused by erosion, storm events, vandalism, burrowing animals, or other means that could allow wildlife access onto the roadway surface. TCA will be responsible for the wildlife fencing for the first three years of completing the corridor, with Caltrans assuming responsibility thereafter.

(5) Measure WV-18. Prior to operation of the corridor, road signs indicating the potential for deer and mountain lion movement shall be installed where indicated by the Project Biologist, due to the potential for wildlife to circumvent the wildlife fencing.

(6) Measure WV-19. All bridges and culverts in the final design plan will be monitored for a period of three years to document the effectiveness of use. Target species to be evaluated shall be determined by the Regulatory permits, including: USFWS, ACOE and CDFG, specific to each bridge and culvert. Wildlife movement studies will be conducted at each underpass twice each year for at least eight weeks during the periods between March and May and between September and November. The studies will begin during the first full time period (beginning with March or September) occurring after the opening of the corridor. Reports will be prepared and submitted to the TCA annually. Based on results of surveys, recommendations to enhance wildlife use of underpasses shall be provided as appropriate (i.e., fencing modification, vegetation enhancement, or clearing, etc.).

(7) Measure WV-20. In conjunction with final design, the TCA shall incorporate low-light design features, where feasible, adjacent to the following sensitive wildlife habitats: bridges or culverts within wildlife corridors, and scrub, riparian, and woodland communities. One or more of the following design options shall be used, if feasible, recognizing the constraints of roadway lighting requirements: (1) low-intensity street lamps, (2) low-elevation light poles, or (3) shielding by internal silvering of the globes or external opaque reflectors. Design features shall meet Caltrans approval.

(8) Measure WV-21. During final design, the TCA, in coordination with the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where sensitive fish species do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement.

This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.

(9) Measure WV-32. During grading activities, two-striped garter snakes observed within and adjacent to the impact area will be relocated outside of the construction area either upstream or downstream of the selected alternative by the Project Biologist.

(10) Measure WV-33. To minimize and offset adverse effects of the selected alternative on the San Diego cactus wren, suitable habitat for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for this species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of San Diego cactus wrens. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual San Diego cactus wrens to be wounded or killed during the clearing of habitat.

(11) Measure WV-34. If grubbing activities between February and August (generally within the breeding season for San Diego cactus wren) are unavoidable, the following measures will be implemented:

a. Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of San Diego cactus wrens, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys.

b. If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual San Diego cactus wrens on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area.

c. During construction, no activity will occur within approximately 150 m (500 ft) of active nests.

(12) Measure WV-35.

a. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied raptor nests and nest burrows (for burrowing owls). Occupied raptor nests/burrows shall be mapped on the construction plans by the Project Biologist. The Project Biologist will visit

the nest/burrow site at the beginning of the nesting season to verify the use of the nests/burrows for that particular year.

b. If nesting activity begins at any nest site, then the active nest/burrow(s) will be protected as an ESA until nesting activity has ended to ensure compliance with Section 3503.5 of the CDFG Code. To protect any active nest/burrow sites, the following restrictions on construction are required between February and June (or until nests are no longer active as determined by the Project Biologist): (1) clearing limits will be established a minimum of approximately 150 m (500 ft) in any direction from raptor nests/burrows (or as otherwise determined by the Project Biologist); and (2) access and surveying will not be allowed within approximately 300 m (900 ft) of nests/burrows (or as otherwise determined by the Project Biologist).

(13) Measure WV-36. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied breeding coyote, bobcat, or mountain lion dens. In the event that an occupied breeding coyote, bobcat, or mountain lion den is located within the impact area, then grading and construction operations shall be redirected temporarily around the den for a distance of approximately 150 m (500 ft) or as otherwise determined by the Project Biologist. The dens shall be resurveyed by the Project Biologist within the last month of the breeding seasons of these species to verify completion of the breeding cycle. Dens shall be removed during the non-breeding season only.

(14) Measure WV-37. During the spring and summer (May through August) prior to the habitat removal, a qualified bat biologist shall survey all potential roosting habitat proposed for removal by the proposed construction. If a roost is found, the animals will be evicted and the resource sealed or removed so the bats cannot return and would be forced to find alternative roost sites. Tree removal shall be conducted between September and November to avoid hibernating bats (December through February) and maternity season (May through August) if feasible.

(15) PDF 11-1. Bridges for Wildlife Crossings under the Corridor Alternatives. As described earlier in Section 2.5.1.5, the corridor Alternatives include bridge structures that would provide opportunities for wildlife to cross the corridor alignments. These wildlife crossings are intended to link together areas of suitable wildlife habitat that would otherwise be separated by the corridor alignments. Wildlife crossings are shown on the detailed maps in Appendix A and on Figure 4.11-6 later in this EIS/SEIR. Section 4.11 (Affected Environment, Impacts and Mitigation Measures Related to Wildlife, Fisheries and Vegetation) provides additional discussion regarding wildlife and wildlife corridors in the study area and how wildlife movements are accommodated by the bridges in the corridor Alternatives.

(16) The Rancho Mission Viejo Company, the County of Orange, the U.S. Fish and Wildlife Service, the California Department of Fish and Game and the TCA are

cooperating in the development of a National Communities Conservation Plan ("NCCP") and Special Area Management Plan ("SAMP") which will provide additional conservation and protection of biological resources in the project area. The NCCP will provide for no net loss of habitat value from the present, meaning no net reduction in the ability of the subregion to maintain viable populations of target species over the long-term. (1993 NCCP Conservation Guidelines.)

(17) Even though the Preferred Alternative would result in fragmentation of the natural open space area in the southern subregion, there is a substantial amount of natural resources (over 30,000 acres of habitat in large blocks) to the east and west of the Preferred Alternative. In addition, mitigation measures, including replacement planting of habitat resources and wildlife crossings, will reduce the impacts of fragmentation. Therefore, these impacts will not prevent the reserve from functioning as intended.

(18) It is infeasible to reduce the significant effect to insignificance because the effects cannot be completed avoided with the construction of the project. The Preferred Alternative will be located within areas planned for development in the Rancho Mission Viejo Ranch Plan to the maximum extent possible given the need to avoid and minimize other significant effects such as impacts on wetlands and the built environment.

(19) Attachment 10 to the Responses to Comments, NCCP/HCP and SAMP/MSAA Consistency Analysis and Compatibility Map, is incorporated by reference.

(20) The facts recited in the Statement of Overriding Consideration are incorporated by reference.

2.6.4 Significant Effect. Cumulative Impacts to Wildlife, Fisheries, and Vegetation. The proposed project and the cumulative projects identified in the project study area will cumulatively affect local habitat for a range of vertebrate wildlife including effects on habitat fragmentation and wildlife movement.

The proposed project will contribute to significant and adverse impacts to sensitive plant communities and sensitive plant species.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The following mitigation measures and other facts described below support the finding that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to a level of insignificance. Implementation of Mitigation Measures WV-1 through WV-22, WV-24 through WV-29, and WV- 32 through WV-40 will minimize impacts to sensitive plant species and communities and to impacts related to habitat fragmentation, however, habitat shifts and the interaction between vehicular traffic and wildlife may render wildlife corridors unusable for many species. Even with mitigation the proposed project will result in net loss of sensitive plant species and communities. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Considerations.

(1) Measures WV-1 through WV-22, WV-24 through WV-29, and WV-32 through WV-40, previously listed, also mitigate this cumulative impact.

(2) The Rancho Mission Viejo Company, the County of Orange, the U.S. Fish and Wildlife Service, the California Department of Fish and Game and the TCA are cooperating in the development of a National Communities Conservation Plan ("NCCP") and Special Area Management Plan ("SAMP") which will provide additional conservation and protection of biological resources in the project area. The NCCP will provide for no net loss of habitat value from the present, meaning no net reduction in the ability of the subregion to maintain viable populations of target species over the long-term. (1993 NCCP Conservation Guidelines.)

(3) Even though the Preferred Alternative would result in fragmentation of the natural open space area in the southern subregion, there is a substantial amount of natural resources (over 30,000 acres of habitat in large blocks) to the east and west of the Preferred Alternative. In addition, mitigation measures, including replacement planting of habitat resources and wildlife crossings, will reduce the impacts of fragmentation. Therefore, these impacts will not prevent the reserve from functioning as intended.

(4) It is infeasible to reduce the significant effect to insignificance because the effects cannot be completed avoided with the construction of the project. The Preferred Alternative will be located within areas planned for development in the Rancho Mission Viejo Ranch Plan to the maximum extent possible given the need to avoid and minimize other significant effects such as impacts on wetlands and the built environment.

(5) Attachment 10 to the Responses to Comments, NCCP/HCP and SAMP/MSAA Consistency Analysis and Compatibility Map, is incorporated by reference.

(6) The facts recited in the Statement of Overriding Consideration are incorporated by reference.

2.7 Threatened and Endangered Species.

2.7.1 Significant Effect. Short Term Impacts to the Arroyo Toad. Direct impacts to occupied drainages (San Juan, San Mateo, San Onofre, and Cristianitos creeks) that are known to or are likely to support arroyo toad. In addition, impacts to upland habitats adjacent or proximal to known locations of arroyo toad could also represent an unquantifiable significant adverse direct impact, as individuals of the species may be present under the soil surface in nearby upland areas. Furthermore, impacts to upland areas that do not provide burrowing habitat may still represent a significant adverse impact if project-related activities or improvements displace a substantial amount of habitat that may be used for foraging and/or upland dispersal movements.

The creek crossings by the Preferred Alternative would be constructed in a relatively perpendicular manner, and with the mitigation measures provided, this impact would be reduced to a level below significant. However, the Preferred Alternative would be aligned

closely to, and run parallel with, Cristianitos and San Mateo creeks. Therefore it is anticipated that the short-term direct impacts associated with the alignments would have significant and adverse effects on the species even after mitigation.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The following mitigation measures and other facts described below support the finding that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to below a level of significance. Implementation of the Mitigation Measures listed below will minimize construction impacts to the Arroyo Toad, however, a significant impact will remain. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Considerations.

(1) Measures TE-1 through TE-4 previously listed, also mitigate this impact.

(2) Measure TE-5. Chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the Project Biologist, TCA, USFWS, FHWA, and Caltrans. In addition, in areas known to support the arroyo toad, a permanent mesh fence shall be installed at the base of the chain-link fence for at least 1.0 km (0.62 mi) to keep the toads from entering onto the roadway surface.

The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads.

(3) Measure TE-10. An Arroyo Toad Resource Management Plan (ATRMP) will be prepared and will comply with the requirements of Section 7(a)(2) of the Federal Endangered Species Act. The ATRMP will be incorporated into the BRMP, and action items identified in the plan will be implemented by TCA and monitored by

the Project Biologist. The plan shall include measures detailing how the impact area will be surrounded with a silt fence enclosure, and how arroyo toads will be removed and relocated from the construction impact area during the breeding season (when they are detectable by vocalizations) and placed in suitable habitat either upstream or downstream of the selected alternative during construction. The ATRMP will identify areas of collection, suitable areas for temporary housing, and restoration guidelines to be in place prior to release of toads to their original location. The plan shall be submitted to the USFWS to the extent required by such agency. The locations of areas known to support arroyo toads shall be identified in the ATRMP and on the ESA maps to comply with the requirements of the biological opinion.

(4) Measure TE-11. Prior to initiating any ground-disturbing activities in occupied/suitable habitats, or habitats proximal to suitable or occupied habitats for arroyo toad, exclusionary fencing shall be installed around the perimeter of the construction area. Fencing or screening approximately 60 cm (two ft) in height (30 cm [one ft] of which will be buried below the surface) shall be installed to prevent arroyo toads from entering the area after the onset of construction. The fencing will be installed at least 14 days prior to the initiation of work and must be made of a material appropriate to preclude any arroyo toads from entering the construction area. Fencing will be removed each winter during construction and at the end of project construction. Vehicle use will be restricted within areas known to support populations of the arroyo toad that are shown on the ESA maps.

(5) Measure TE-12.

a. The Project Biologist shall conduct three focused arroyo toad surveys within the fenced construction site for arroyo toads a minimum of 14 nights prior to initiating project construction. If climatic conditions are not appropriate for arroyo toad movement during the surveys, the Project Biologist may attempt to illicit a response from the arroyo toads, during nights with temperatures of 13°C (55°F) or greater, by spraying the project area with water to simulate a rain event. During construction, arroyo toads surveys will be performed a minimum of once per week and on all nights where the combination of rain/humidity and temperature would increase the movement of arroyo toads.

b. If arroyo toads are found with the construction side of the exclusionary fencing, arroyo toads will be removed by the Project Biologist and relocated from the construction impact area and placed in suitable habitat either upstream or downstream of the construction area as outlined in the Arroyo Toad Resource Management Plan.

(6) Measure TE-13. The Contractor shall locate staging areas for construction equipment outside of areas within the jurisdiction of the USACOE or CDFG known to support arroyo toad to minimize impacts to sandy creek benches that may provide aestivating habitat for the arroyo toad to avoid taking any individuals.

(7) Measure TE-14. When conducting construction and/or other ground-disturbing activities in arroyo toad-occupied habitats or in adjacent upland areas proximal to known arroyo toad habitats, the Contractor shall cover all grubbing spoils or other grading debris with plastic sheeting to prevent arroyo toads from opportunistically burrowing in these exposed and friable soil piles. This sheeting must be placed on the soil piles before sunset and shall remain on (during nighttime hours) for the duration of the construction/ground disturbing activities. The areas where these measures must be implemented shall be determined by the Project Biologist in coordination with the USFWS. If the sheeting does not remain in place due to unforeseen circumstances, (inclement weather or other disturbances) a biologist will monitor the soil piles for the arroyo toad. Any arroyo toads found within the soil piles will be removed and relocated as outlined in the Arroyo Toad Resource Management Plan

(8) Measure TE-15. The Contractor shall not drive upon construction roads or other roads/surfaces adjacent to arroyo toad occupied habitat after sunset. If the site must be accessed, a biologist permitted to handle arroyo toad must be present in the vehicle to identify any individuals on the road and the vehicle shall not exceed a speed of 16 km per hour (10 mi per hour) within these areas.

(9) Measure TE-16. Prior to construction, the Project Biologist shall document the area of pools and gravel bars within the temporary disturbance areas of creeks occupied by the Arroyo Toad. At the conclusion of construction, the TCA shall construct artificial pools and gravel bars within these temporary disturbance areas. The artificial pools and gravel bars shall provide potential breeding and aestivating habitat for arroyo toad. These areas will be identified and established by the Project Biologist in the BRMP. The artificial pools and gravel bars shall be equal to or greater in size than those areas impacted by project implementation. Because of the natural flooding and scouring conditions of the creeks within the study area, no maintenance of these areas will be required. The construction of these features shall not preclude required Caltrans bridge maintenance. Plans shall be submitted to USFWS for review and approval, to the extent required by such agency, prior to implementation.

(10) Measure TE-17. Prior to the arroyo toads' re-establishment to their original locations, specific activities to enhance their habitat and improve their potential for re-occupation will be implemented. These measures include the removal (up to 15 days in advance of the re-establishment), to the extent practicable, of predatory species such as bullfrogs, western mosquito fish, yellow bullheads, bluegill, and additional predatory invertebrates, amphibians, and introduced fish species. Plans shall be submitted to USFWS for review and approval prior to implementation to determine compliance with the biological opinion.

(11) Measure TE-27. Impacts to floodplain sage scrub, riparian herb and other sub-types within the Vernal Pools, Seeps, and Wet Meadows and Marsh plant communities (as defined in Section 5.0 of the NES) shall be mitigated at a 1:1 ratio or other ratio that compensates for function and values. Mitigation shall

consist of creating the above-mentioned community types in the approximate proportions in which they currently exist within the impact area or as otherwise required by the resource agencies. Creation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The creation program for the above areas shall be included in the BRMP and shall include the following measures.

- Site analysis for appropriate soils and hydrology.
- Site preparation specifications based on site analysis, including but not limited to grading and weeding.
- Soil and plant material salvage from impact areas, as appropriate to the timing of impact and restoration as well as the location of restoration sites.
- Specifications for plant and seed material appropriate to the locality of the mitigation site.
- Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation.

Creation areas shall be considered successful if the following standards are achieved:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit.
- An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for five years (or less if success criteria are met as designated above earlier) to ensure successful establishment of hydrophytic vegetation within the restored/created areas by wetland species. If success standards are not met, remedial measures, seeding, or introduction of container stock shall be implemented as directed by the Project Biologist.

(12) Measure TE-28. Impacts to riparian scrub, woodland, and forest communities (as defined in Section 5.0 of the NES) shall be mitigated by mitigation of such communities at a 1:1 ratio or other ratio that compensates for functions and values. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP.

Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community.

The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For southern coast live oak riparian forest, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for a minimum of five years to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

(13) Measure TE-29. Impacts to open water shall be mitigated by the creation of wetlands and/or impounded feature to be incorporated into the herbaceous riparian habitat restoration to compensate for function and values. The open water mitigation areas shall be located at a site determined by the Project Biologist to have hydrology sufficient to support the desired open water feature. Appropriate hydrological and soils testing shall be performed to ensure that the created open water area functions properly. Creation of open water areas shall be maintained as part of the herbaceous riparian habitat restoration.

(14) Because the Preferred Alternative is crossing San Juan, San Mateo, and San Onofre creeks with substantial bridge structures, the project will not preclude the ability of the arroyo toad to use these areas after construction. Design features reflect consultation with the USFWS, ACOE, and USEPA during the refinement process for the project, regarding the design and location of bridge structures. Since the road is above the creeks, impacts will be negligible, as water will flow around the column supports maintaining the existing natural processes within the creek.

(15) The Preferred Alternative will not effect four of the five primary constituent elements ("PCEs") for arroyo toad critical habitat. For PCEs one through four, the Preferred Alternative will not: change hydrologic or flooding regimes, alter low-gradient stream segments, change sediment flow, and will not completely or substantially impede migration, dispersal or recolonization. The Preferred Alternative will remove a small amount of riparian and adjacent upland habitat, through the bridge supports within the creek, and roadbed and right-of-way adjacent to the bridges. Regarding sediment flow, as described in the hydrology analysis in the Draft EIS/SEIR and in the sediment transport analysis (RBF Consulting, 2004. Sediment Continuity Analysis, lower San Mateo Creek, attached to the Responses to Comments to the EIS/SEIR), runoff from the roadway for water quality storm events is exceptionally small. The use of extended detention as a primary mitigation tool provides for both water quality mitigation as well as mitigation for changes in watershed hydrology. Changes to the peak flow rate and/or runoff volume (for the return periods studied) in the after-project condition within San Mateo Creek are less than 3%. The storm water treatment program effectively limits impacts to a level with no discernable cumulative adverse effects. The Preferred Alternative will have an insignificant effect on the transport of sediment within the San Mateo Creek watershed.

(16) The Preferred Alternative is expected to result in no net loss of habitat value for the arroyo toad. The net habitat value equation takes into consideration habitat gains (through preservation and/or restoration) and loss (project impacts). there will not be an appreciable loss of habitat for this species. The habitat avoidance measures and gains by the proposed project (i.e., increased water quality entering San Mateo Creek [see Section 4.8 of the Final SEIR]) will offset the habitat losses to result in no net loss of habitat values.

(17) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.7.2 **Significant Effect. Short Term Impacts to the California Gnatcatcher.** Impacts to the California gnatcatcher from construction include removal, degradation, modification, or fragmentation of Coastal Sage Scrub (CSS) habitat and CSS/grassland ecotones, especially those communities dominated by California sagebrush and California buckwheat. The California gnatcatcher is dependent upon the CSS plant community, which this species utilizes for breeding, foraging, shelter, and dispersal opportunities. The loss

of areas of occupied CSS resulting from the Preferred Alternative would affect a large area of potential nesting and foraging habitat and represents a significant adverse impact to the California gnatcatcher even after mitigation.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to below a level of significance. Implementation of the Mitigation Measures listed below will minimize construction impacts to the California Gnatcatcher, however, a significant impact will remain. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Considerations.

(1) Measures TE-1 through TE-4, previously listed, also mitigate for this impact.

(2) Measure TE-18. To minimize and offset adverse effects of the selected alternative on the coastal California gnatcatcher, habitat suitable for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for these species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of coastal California gnatcatchers. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual coastal California gnatcatchers to be wounded or killed during the clearing of habitat.

(3) Measure TE-19. If grubbing activities are unavoidable during the coastal California gnatcatcher breeding season, which is between February and August, the following measures will be implemented:

Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of coastal California gnatcatchers, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys.

If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual coastal California gnatcatchers on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area.

During construction, no activity will occur within approximately 150 m (500 ft) of active nests.

(4) Measure TE-25 previously listed, also mitigates this impact.

(5) Measure TE-27 previously listed, also mitigates for this impact (to floodplain sage scrub).

(6) This loss would not preclude the ability of the southern subregion to conserve this species in the subregion because approximately 99.2 percent of the recorded occurrence within the southern subregion would remain after completion of the alignment.

(7) The limited acreage of critical habitat and low number of gnatcatcher locations affected by the project indicate that there will be similarly minimal effect on those habitat components that are essential for the primary biological needs of the species, including foraging, nesting, rearing of young, intra-specific communication, roosting, dispersal, genetic exchange, or sheltering.

(8) The Preferred Alternative alignment includes wildlife bridges and culverts which serve to maintain linkages within and between the critical habitat units. As detailed in mitigation measure WV-15, the location of the proposed wildlife bridges and culverts will provide adequate travel capabilities, contain adequate vegetation cover, have adequate daylight, and have appropriate fencing to encourage animals to use these underpasses. The bridges, arch culverts, and box culverts that provide for wildlife undercrossings have been incorporated into the project design at locations that are consistent with the linkages identified in the NCCP/HCP guidelines.

(9) As described in Response to Comment 021-258, the Mitigation Bank Agreement for the Upper Chiquita Canyon Conservation Area/Mitigation Bank ("Chiquita Preserve") authorizes the TCA to conduct restoration activities to create additional habitat.

The area currently supports the following four different plant communities: annual grasslands, coastal sage scrub, oak woodlands and perennial grasslands. Some of the areas are ecotones that transition from annual grasslands to coastal sage scrub. Degraded or low-quality habitat areas that have potential for restoration or enhancement include areas dominated by ruderal vegetation or non-native grassland, as well as native habitats with a high-percent cover of invasive, non-native species. Degraded or low-quality habitat areas that have potential for restoration or enhancement include areas dominated by ruderal vegetation or non-native grassland, as well as native habitats with a high-percent cover of invasive, non-native species.

The TCA is currently working with the USFWS to determine the extent to which additional credits could be developed. Under the Bank Agreement, the TCA must apply to the USFWS and the CDFG for additional credits and must provide a restoration plan for approval by those agencies. FHWA/TCA are currently

consulting with USFWS and CDFG on the appropriate utilization of the credits and specific areas and sizes of restoration activities.

(10) With the Preferred Alternative in place, there will be no net loss of habitat value for the California gnatcatcher. The chart below summarizes the net habitat value gains and losses relative to the gnatcatcher and its coastal sage scrub habitat based on an evaluation of the Chiquita Preserve by a restoration ecologist.

California Gnatcatcher
SOCTIIP A7C-FEC-M
Habitat Values

A7C-FEC-M impacts to coastal sage scrub	- 385 acres
A7C-FEC-M impacts to gnatcatcher use areas	- 15 use areas
Chiquita Conservation - Existing	+ 327 credits (occupied)
Chiquita Restoration - Proposed	+241 credits
Chiquita bird locations - Existing	+31 locations
Chiquita bird locations - estimated for restoration	+12 locations

As shown, habitat values will be increased with the Preferred Alternative.

(11) Indirect impacts will be avoided through the hydrology and runoff system and measures such as lighting design to avoid light spillage.

(12) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.7.3 Significant Effect. Long Term Impacts to the Arroyo Toad. Indirect and direct impacts to occupied drainages (San Juan, San Mateo, San Onofre, and Cristianitos creeks) that are known to or are likely to support arroyo toad would represent a significant adverse impact to the species. Although dependent on water to breed, this species is known to wander into adjacent upland habitats far from water where it may forage and burrow, and has been found to occur in upland habitats over 500 m (1,640 ft) from Cristianitos Creek. Road mortality represents a larger impact for this species than many other threatened or endangered species, due to the propensity of the arroyo toad to use the uplands and attempt to cross the project. It is anticipated that for the Preferred Alternative, the long-term indirect and direct impacts associated with the alignments would have significant and adverse effects on the species even after mitigation.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts below support the finding that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to a level of insignificance.

(1) Measures TE-1 through TE-4, TE-5, TE-10 through TE-17, TE-25 and TE-27 through TE-29 previously listed also mitigate for this impact.

(2) Because the Preferred Alternative is crossing San Juan, San Mateo, and San Onofre creeks with substantial bridge structures, the project will not preclude the ability of the arroyo toad to use these areas after construction. Design features reflect the consultation of the USFWS, ACOE, and USEPA during the refinement process for the project, regarding the design and location of bridge structures for any alternative in the vicinity of these areas. Since the road is above the creeks impacts will be negligible, as water will flow around the column supports maintaining the existing natural processes within the creek.

(3) The Preferred Alternative will not affect four of the five primary constituent elements ("PCEs") for arroyo toad critical habitat. For PCEs one through four, the Preferred Alternative will not: change hydrologic or flooding regimes, alter low-gradient stream segments, change sediment flow, and will not completely or substantially impede migration, dispersal or recolonization. The Preferred Alternative will remove a small amount of riparian and adjacent upland habitat, through the bridge supports within the creek, and roadbed and right-of-way adjacent to the bridges. Regarding sediment flow, as described in the hydrology analysis in the Draft EIS/SEIR and in the sediment transport analysis (RBF Consulting, 2004. Sediment Continuity Analysis, lower San Mateo Creek, attached to the Responses to Comments to the EIS/SEIR), runoff from the roadway for water quality storm events is exceptionally small. The use of extended detention as a primary mitigation tool provides for both water quality mitigation as well as mitigation for changes in watershed hydrology. Changes to the peak flow rate and/or runoff volume (for the return periods studied) in the after-project condition within San Mateo Creek are less than 3%. The storm water treatment program effectively limits impacts to a level with no discernable cumulative adverse effects. The Preferred Alternative will have an insignificant effect on the transport of sediment within the San Mateo Creek watershed.

(4) The Preferred Alternative is expected to result in no net loss of habitat value for the arroyo toad. The net habitat value equation takes into consideration habitat gains (through preservation and/or restoration) and loss (project impacts). There will not be an appreciable loss of habitat for this species. The habitat avoidance measures and gains by the proposed project (i.e., increased water quality entering San Mateo Creek [see Section 4.8 of the Final SEIR]) will offset the habitat losses to result in no net loss of habitat values.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.7.4 Significant Effect. Cumulative Impacts to Threatened and Endangered Species.

California Gnatcatcher. The Preferred Alternative will have a direct impact on the California gnatcatcher. A number of the cumulative projects will also have impacts on the California gnatcatcher, including RMV, Whispering Hills, Coastal Ranch, Pacific Point/San Juan Meadows, and Marblehead Coastal developments. Therefore, a cumulative adverse impact to the California gnatcatcher would result from implementation of the Preferred Alternative and planned or future projects in south Orange County (56 pairs and 19 individuals). In conjunction with past, present and reasonably foreseeable future projects, the Preferred Alternative would have adverse cumulative effects.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts below support the finding that, although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to below a level of insignificance.

(1) Implementation of Mitigation Measures TE-1 through TE-12, TE-14 through TE-19, and TE- 23 through TE-29, all previously listed, will minimize impacts to threatened and endangered species.

(2) The contribution to cumulative loss would not preclude the ability of the southern subregion to conserve this species in the subregion because approximately 99.2 percent of the recorded occurrences within the southern subregion would remain after completion of the alignment.

(3) The limited acreage of critical habitat and low number of gnatcatcher locations affected by the Preferred Alternative indicate that there will be similarly minimal effect on those habitat components that are essential for the primary biological needs of the species, including foraging, nesting, rearing of young, intra-specific communication, roosting, dispersal, genetic exchange, or sheltering.

(4) The Preferred Alternative alignment includes wildlife bridges and culverts which serve to maintain linkages within and between the critical habitat units. As detailed in mitigation measure WV-15, the location of the proposed wildlife bridges and culverts will provide adequate travel capabilities, contain adequate vegetation cover, have adequate daylight, and have appropriate fencing to encourage animals to use these underpasses. The bridges, arch culverts, and box culverts that provide for wildlife undercrossings have been incorporated into the project design at locations that are consistent with the linkages identified in the NCCP/HCP guidelines.

(5) With the Preferred Alternative in place, there will be no net loss of habitat value for the California gnatcatcher. The chart below summarizes the net habitat value gains and losses relative to the gnatcatcher and its coastal sage scrub habitat based on an evaluation of the Chiquita Preserve by a restoration ecologist.

California Gnatcatcher
SOCTIIP A7C-FEC-M
Habitat Values

A7C-FEC-M impacts to coastal sage scrub	- 385 acres
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Chiquita bird locations - Existing	+31 locations
Chiquita bird locations - estimated for restoration	+12 locations

As shown, habitat values will be increased with the Preferred Alternative.

(6) Indirect impacts will be avoided through the hydrology and runoff system and measures such as lighting design to avoid light spillage.

(7) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.8 <u>Historic and Archaeological Resources</u>.

All build alternatives impact known cultural resources. EIS/SEIR Table 4.16-1 lists each of the archeological sites in the area of disturbance of each alternative and their status relative to the National Register of Historic Places ("NRHP"). As shown in Table 4.16-1, for all alternatives and the 300-foot buffer, there are 18 sites determined to be eligible for the NRHP; 32 sites that have been determined not to be eligible for the NRHP; and 60 sites for which eligibility has not been determined (a total of 110 sites). Seven sites along the San Mateo Drainage in San Diego County and one in Orange County are considered components of the San Mateo Archaeological District (SMAD). The SMAD is considered eligible for listing on the NRHP under Criteria A and D, with its Criterion A eligibility centered on the recognition of SMAD as the ethnographic village of Panhe.

SMAD is located in the southwestern portion of the project. It is believed to be the location of the ethnohistoric village of Panhe. SMAD includes seven sites: CA-ORA-22, CA-SDI-13071, CA-SDI-4282, CA-SDI-4535, CA-SDI-8435, CA-SDI-11,703 and CA-SDI-11929. The district is eligible for the National Register under Criteria A (contribution to broad and specific patterns of Juaneño history) and D (potential to address issues regarding the prehistory of coastal southern California). The district occupies an area measuring approximately 1,800 m N/S by 570m E/W and includes approximately 180 acres (73 hectares)

Twenty-three archaeological sites have been mapped within the disturbance limits of the Preferred Alternative. Of these 23 sites, 15 have been either previously destroyed by others, determined ineligible for listing on the California Register of Historical Resources (CRHR), and/or the National Register of Historic Places (NRHP), or are eligible for the CRHR/NRHP

under Criterion 4/D only. Those sites that remain will be impacted by construction of the Preferred Alternative. Excavations for evaluation, characterization of the resource; and/or data recovery are designed to capture the data potential of these types of sites, and therefore reduce the significance of potential project impacts to these resources.

2.8.1 Significant Effect. 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. The remaining 8 sites out of the 23 referenced within the disturbance limits of the Preferred Alternative are considered components of the San Mateo Archaeological District (SMAD), which has been determined eligible for inclusion on the CRHR under Criteria 1 and 4, and the NRHP under Criteria A and D. The Criterion 1 (of the CRHR) and Criterion A (of the NRHP) eligibility of the SMAD reflects its status as the ethnographic village of Panhe, a Juaneño village occupied at the point of European contact. This element of the resource's eligibility also reflects its status as a Traditional Cultural Property that has been used for ceremony by living tribal members. The Criterion 4 (of the CRHR) and Criterion D (of the NRHP) eligibility of the SMAD addresses the data potential the site may contain that would help address important questions about prehistory. Excavation through the required data recovery program will reduce project impacts to the Criterion 4/D eligibility of the SMAD below a level of significance. However, it is more difficult to develop mitigation measures that will reduce impacts to the historic association of a place with an important event in history. Construction of the Preferred Alternative may cause an adverse impact to those elements of the SMAD that convey its eligibility under Criterion 1/A.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AR-1. Prior to the start of construction activity, a qualified archaeologist shall be retained by the TCA to perform subsurface test level investigation and surface collection for all archaeological sites that have not had formal determinations of eligibility for listing on the NRHP. The test level report evaluating the site shall include discussion of significance (scientific data potential), integrity (location, physical characteristics, and condition), mitigation recommendations, and cost estimates. Final mitigation shall be carried out based on the report recommendations, input by FHWA and SHPO, and a determination as to the site's disposition by the TCA with concurrence of the FHWA. Possible recommendations made by a qualified archaeologist include, but are not limited to, preservation, data recovery, or no mitigation necessary. In addition, TCA shall retain a qualified Native American monitor to be present during the evaluation excavations for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(2) Measure AR-2. In conjunction with the final design, the TCA shall retain a qualified archaeologist to complete a suitable historic property treatment plan for all eligible cultural resources that will be impacted by the SOCTIIP. A final report of the data recovery operation shall be submitted to the TCA, Caltrans and FHWA prior to any grading in the archaeological site areas. In addition, TCA shall retain a qualified Native American monitor to be present during the treatment program for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(3) Measure AR-3. Prior to the start of construction activity, the TCA shall retain a qualified archaeologist. The archaeologist shall establish procedures (monitoring plan) for archaeological resource surveillance, and procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources as appropriate. The archaeologist shall also be present at the pre-grading conference to explain the established procedures based on a pre-approved monitoring plan. If additional or unexpected archaeological resources are discovered, a qualified archaeologist shall determine appropriate actions, in cooperation with the TCA, for testing and/or data recovery. The archaeologist shall submit a follow-up report to the TCA that shall include the period of inspection, an analysis of any artifacts found, the results of any testing or data recovery, and the present repository of the artifacts. In addition, TCA shall retain a qualified Native American monitor to be present during ground disturbing construction activities within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(4) Measure AR-4. In conjunction with the final design, the TCA will investigate various design features including options for reversibility of design, i.e., avoidance of core areas, minimization of cut, maximization of fill, bridge structure on columns, etc., in the vicinity of the Village of Panhe (within the San Mateo Archaeological National Register District) could assist in minimizing impacts to the District as a result of the selected Alternative. If it is determined that a design feature can feasibly assist in minimizing impacts to the District, the TCA will incorporate this feature in the final design for the selected alternative.

(5) Mitigation measures have been included in the FEIR that will reduce impacts to the ethnographic/cultural facet of the SMAD to the extent feasible. It is believed that there are no feasible mitigation measures that will reduce these impacts below a level of significance because testing and data recovery cannot offset the impacts to the historic association with the SMAD.

(6) The design of the Preferred Alternative reduces the impacts to the maximum extent feasible, by limiting the total number of lanes, and by completely avoiding two of the archeological sites associated with Panhe, CA-ORA-22 and CA-SDI-8435. While the potential impacts of the SOCTIIP on the Criterion 1/A eligibility

of the SMAD may be substantial, these impacts will not be so severe as to completely destroy the overall significance of the SMAD under either Criteria.

(7) Alternatives were evaluated that avoid this impact. Those alternatives were determined to be impracticable and/or determined to be infeasible because they would also result in significant impacts that could not be completely mitigated. The details of the alternatives and reason for selecting the Preferred Alternative are provided in Section 4.0 of these Findings.

(8) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.8.2 Significant Effect. The destruction of archaeological sites and the built environment produces a significant cumulative impact because these non-renewable records of past cultures become permanently unavailable. There will be a cumulative significant adverse impact on historic and archaeological resources as a result of the Preferred Alternative. With the implementation of mitigation measures, these impacts would be mitigated although the impact would remain cumulatively significant.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AR-1. Prior to the start of construction activity, a qualified archaeologist shall be retained by the TCA to perform subsurface test level investigation and surface collection for all archaeological sites that have not had formal determinations of eligibility for listing on the NRHP. The test level report evaluating the site shall include discussion of significance (scientific data potential), integrity (location, physical characteristics, and condition), mitigation recommendations, and cost estimates. Final mitigation shall be carried out based on the report recommendations, input by FHWA and SHPO, and a determination as to the site's disposition by the TCA with concurrence of the FHWA. Possible recommendations made by a qualified archaeologist include, but are not limited to, preservation, data recovery, or no mitigation necessary. In addition, TCA shall retain a qualified Native American monitor to be present during the evaluation excavations for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(2) Measure AR-2. In conjunction with the final design, the TCA shall retain a qualified archaeologist to complete a suitable historic property treatment plan for all eligible cultural resources that will be impacted by the SOCTIIP. A final report of the data recovery operation shall be submitted to the TCA, Caltrans and

FHWA prior to any grading in the archaeological site areas. In addition, TCA shall retain a qualified Native American monitor to be present during the treatment program for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(3) Measure AR-3. Prior to the start of construction activity, the TCA shall retain a qualified archaeologist. The archaeologist shall establish procedures (monitoring plan) for archaeological resource surveillance, and procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources as appropriate. The archaeologist shall also be present at the pre-grading conference to explain the established procedures based on a pre-approved monitoring plan. If additional or unexpected archaeological resources are discovered, a qualified archaeologist shall determine appropriate actions, in cooperation with the TCA, for testing and/or data recovery. The archaeologist shall submit a follow-up report to the TCA that shall include the period of inspection, an analysis of any artifacts found, the results of any testing or data recovery, and the present repository of the artifacts. In addition, TCA shall retain a qualified Native American monitor to be present during ground disturbing construction activities within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(4) Measure AR-4. In conjunction with the final design, the TCA will investigate various design features including options for reversibility of design, i.e., avoidance of core areas, minimization of cut, maximization of fill, bridge structure on columns, etc., in the vicinity of the Village of Panhe (within the San Mateo Archaeological National Register District) could assist in minimizing impacts to the District as a result of the selected Alternative. If it is determined that a design feature can feasibly assist in minimizing impacts to the District, the TCA will incorporate this feature in the final design for the selected alternative.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.9 Visual Resources.

The study area for visual resources is within the viewsheds of the alignments of the SOCTIIP build Alternatives. The focus of these Findings is the viewshed of the Preferred Alternative. The viewshed is defined as the area within 2,000 m (1.25 mi) of the alignment that can be seen from the alignment and from which the alignment can be seen. At greater distances, intervening topography, buildings or trees and shrubs generally blocked views of the alignments from developed areas.

In the study area, the sensitive viewer groups are residential viewers, including viewers from the historic O'Neill residence, users of wilderness parks, state parks, The Donna O'Neill

Land Conservancy, the Ladera Ranch Land Conservancy and motorists on designated scenic roads. Residents are sensitive viewers because of the concerns related to changes in the perceived attractiveness of views from their properties and potential changes in property values. Users of wilderness parks, state parks and the Land Conservancies are sensitive viewers because part of the expectation of this group includes the enjoyment of the scenic, undeveloped views provided in and/or from these parks. Motorists on designated scenic roads are sensitive viewers because applicable jurisdictions have identified scenic resources and views along these routes that motorists anticipate viewing. All other viewer groups are not considered to be sensitive.

Assessment Units ("AU") were identified for the build Alternatives and the visual impacts of the Alternatives were evaluated for each AU. Because of the linear nature of the build Alternatives, the variety of topography that is crossed including developed and undeveloped areas, and presence of intervening features that would block views of the alignments, the entirety of an Alternative can not be seen at one time from one location. Therefore, rather than treating the visual impacts of an Alternative as a single unit, the corridor Alternatives, including the Preferred Alternative, were divided into AU. An AU is the segment of a project alignment that is within the viewshed of one or more sensitive viewer groups, if sensitive viewers can see the segment. If no sensitive viewers can see the segment, then the AU was identified based on the similarity of visual resources along the alignment. Implementation of the Preferred Alternative results in following significant effects.

2.9.1 Significant Effect. In AU 31, the travel lanes of the Preferred Alternative will be visible in the center of the view, and from the Donna O'Neill Land Conservancy, which has a policy of preservation of scenic resources. There will be substantial areas of cut and fill as well as a bridge resulting in the removal of large areas of chaparral. The visual intactness would change because of the amount of the toll road travel lanes and the bridge that will be visible in the view and the unity of the visual components would change because of the straight line of the road and bridge that will interrupt the curvilinear pattern of the ridges. This change in visual quality would be significant for visitors, and in conflict with the policies, of The Donna O'Neill Land Conservancy.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Due to mitigation, the vividness of the view would not appreciably change because the areas of cut and fill following establishment of vegetation will blend with the surrounding areas, and the paved travel lanes will not highly contrast with the other components of the view.

(2) The Preferred Alternative is limited to a maximum of six lanes.

(3) Measure AS-1. Adjacent landforms affected by the build Alternatives shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical

investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces.

The TCA shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a Preferred Alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.

(4) Measure AS-2. The TCA shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.

(5) The Preferred Alternative alignment will result in the preservation of large blocks of Open Space and retention of wildlife corridors. The FEC-W and FEC-M cross Cañada Gobernadora and bifurcate open space areas east of the A7C-FEC-M Alternative. The FEC-M alternative has the greatest impact on existing open space and has an adverse impact on retention of large blocks of open space on the RMV property. The FEC-M alternative is in very close proximity to Cristianitos Creek and impacts a large number of thread leaved brodiaea plants. The A7C-FEC-M Alternative (the Preferred Alternative), with its more western location minimizes impacts on open space areas by being located in proximity to existing development and within the areas approved for development in the Ranch Plan. It allows for retention of large blocks of open space east of the alignment and retains

major wildlife movement corridors and allows greater wildlife connectivity between the RMV property and the Cleveland National Forest.

(6) The Preferred Alternative takes land in The Donna O'Neill Conservancy. However, the SOCTIIP Collaborative agreed that the beneficial affects of the Preferred Alternative crossing into the western portion of The Donna O'Neill Conservancy outweighed the potential impacts. The benefits include: greater habitat connectivity into eastern Orange County; avoidance of high value aquatic resources including wetlands in the Blind Canyon/Gabino Canyon confluence; keeping in close proximity to neighboring development thereby minimizing habitat fragmentation; and minimization of viewshed impacts to residents in developed areas of San Clemente, including Talega. The Donna O'Neill Conservancy would be compensated for this impact. The TCA has initiated discussions with The Donna O'Neill Conservancy Board of Directors and the landowner to discuss right-of-way acquisition and potential mitigation strategies for impacts to The Donna O'Neill Conservancy. Mitigation strategies presented to The Donna O'Neill Conservancy included open space land for additional set-aside areas, either contiguous or non-contiguous to the existing Donna O'Neill Conservancy, or monetary compensation to The Donna O'Neill Conservancy.

(7) PDF 8-2. Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.

(8) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.9.2 Significant Effect. In AU 32, implementation of the Preferred Alternative will include the construction of soundwalls on the east part of the Talega development. The soundwall will block open view to the east from adjacent residences, which would be a significant effect on these residences.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AS-1 and AS-2 are hereby incorporated by reference.

(2) The alignment for the Preferred Alternative is a refinement of the original FEC Alternative alignment considered in TCA EIR No. 3. The visual quality impacts on viewers in Talega would be essentially the same as previously considered.

(3) PDF 8-2. Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.

(4) Because an alignment similar to the Preferred Alternative is on the MPAH (as a conceptual alignment), buyers in Talega are informed of the potential location of a corridor build alternative in disclosure statements they sign when they purchase a home.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.9.3 Significant Effect. In AU 33, implementation of the Preferred Alternative will result in reduction in visual quality for users of San Onofre State Beach, Cristianitos Subunit, especially viewers from San Mateo Campground. The vividness will change because the project soundwall will become a dominant feature of the view. The intactness of this view will change from because the road embankment is so close to the campground that it will become a prominent feature in the view instead of the hill and the retaining wall and guardrail will contribute urban features to the view which is currently largely undeveloped. The final design of the retaining wall is smaller than shown in the Draft EIS/SEIR view simulations. However, the unity of the visual elements will still change because the plane of the fill slopes and straight lines of the edge of the retaining wall and the edge of the toll road surface will substantially interrupt the existing curvilinear patterns of the view. The overall visual rating would change from moderately high to moderately low would be a significant adverse impact on the sensitive viewers in SOSB and particularly in the San Mateo campground.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Mitigation measures AS-1 and AS-2 are hereby incorporated by reference.

(2) The Preferred Alternative will include a much smaller retaining wall, approximately 2-3 feet than what was shown in the visual simulations and analysis in the Draft EIR.

(3) The Department of the Navy (DON) owns the property on which the Preferred Alternative traverses the Marine Corps Base in San Diego County. In 1988, the Marine Corps agreed that only one potential alignment of the proposed extension of the Foothill South project could be evaluated on Camp Pendleton as long as it met certain criteria, the most important of which was that any on-Base portion of this proposed toll road must be as closely located to the northern Base boundary as possible and it must be routed in such a manner that it does not impact the Marine Corps mission nor interfere with Camp Pendleton's operational flexibility. The Preferred Alternative (for that section of the toll road which crosses through Camp Pendleton) meets the Marine Corps criteria. SOSB is located entirely on lands leased from the DON; the State does not own the land. SOSB is operated by the State, pursuant to a 1971 agreement of lease (the "lease") with the United States. The California Department of Parks & Recreation (CDPR) lease with the United States is specifically subject to the reserved right of the United States to grant additional easements and rights-of-way over the leased property. Thus, in implementing the authority to lease, CDPR agreed that the United States may grant a right-of-way to a third party. Congress has adopted legislation authorizing the Navy to grant to the TCA an easement within this portion of Camp Pendleton.

(4) PDF 2-1. Retaining Walls for the Corridor Alternatives. Retaining walls will be provided in some locations along the alignments. Retaining walls can be used to minimize or reduce the amount of grading in areas with substantial topography, or to minimize or reduce right-of-way takes in developed areas. The specific locations of retaining walls will be refined in final design.

(5) PDF 8-2. Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.

(6) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

(7) The facts recited in the Statement of Overriding Consideration are incorporated by reference.

2.9.4 **Significant Effect**. In AU 33, implementation of the Preferred Alternative will result in the reduction in visual quality for residents of San Mateo Point Housing of Camp Pendleton. The soundwall in this area will obscure all of the existing view behind it except for the crest of the ridge in the background, and the soundwall will become the dominant feature in the view. The vividness and intactness of the existing view will changed from moderate to low with the introduction of the soundwall. The unity of the visual components would also change from moderate to low because the pattern of hills and ridges behind I-5 will be eliminated from the view. The overall resulting visual rating, looking southeast, for the residents of San Mateo Point Housing would be low. This change in visual quality would be a significant adverse effect.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measures AS-1 and AS-2 are hereby incorporated by reference.

(2) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

(3) PDF 8-2. Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.

(4) The Department of the Navy (DON) owns the property on which the Preferred Alternative traverses the Marine Corps Base in San Diego County. In 1988, the Marine Corps agreed that only one potential alignment of the proposed extension of the Foothill South project could be evaluated on Camp Pendleton as long as it met certain criteria, the most important of which was that any on-Base portion of this proposed toll road must be as closely located to the northern Base boundary as possible and it must be routed in such a manner that it does not impact the Marine Corps mission nor interfere with Camp Pendleton's operational flexibility. The Preferred Alternative (for that section of the toll road which crosses through Camp Pendleton) meets the Marine Corps criteria. SOSB is located entirely on lands leased from the DON; the State does not own the land. SOSB is operated by the State, pursuant to a 1971 agreement of lease (the "lease") with the United States. The California Department of Parks & Recreation (CDPR) lease with the United States is specifically subject to the reserved right of the United States to

grant additional easements and rights-of-way over the leased property. Thus, in implementing the authority to lease, CDPR agreed that the United States may grant a right-of-way to a third party. Congress has adopted legislation authorizing the Navy to grant to the TCA an easement within this portion of Camp Pendleton.

(5) The facts recited in the Statement of Overriding Consideration are incorporated by reference.

2.9.5 Significant Effect. In AU 33, implementation of the Preferred Alternative would result in conflicts with policies of San Onofre State Beach ("SOSB") regarding blockage of views of the ocean. The SOSB General Plan identifies scenic resources including geomorphic features and vegetation to be of great importance and it is SOSB policy to protect these resources. Constructing the Preferred Alternative involves the removal of vegetation and the cut and fill alterations of the landform within the inland portion of SOSB. Once built, partial view blockages would occur for westbound drivers on Cristianitos Road in SOSB. These impacts to visual resources within the SOSB thereby have create a significant effect.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measures AS-1 and AS-2 are hereby incorporated by reference.

(2) The Department of the Navy (DON) owns the property on which the Preferred Alternative traverses the Marine Corps Base in San Diego County. In 1988, the Marine Corps established criteria to govern their consideration of alignments on the base, the most important of which was that any on-Base portion of this proposed toll road must be as closely located to the northern Base boundary as possible and it must be routed in such a manner that it does not impact the Marine Corps mission nor interfere with Camp Pendleton's operational flexibility. The Preferred Alternative (for that section of the toll road which crosses through Camp Pendleton) meets the Marine Corps criteria. SOSB is located entirely on lands leased from the DON; the State does not own the land. SOSB is operated by the State, pursuant to a 1971 agreement of lease (the "lease") with the United States. The California Department of Parks & Recreation (CDPR) lease with the United States is specifically subject to the reserved right of the United States to grant additional easements and rights-of-way over the leased property. Thus, in implementing the authority to lease, CDPR agreed that the United States may grant a right-of-way to a third party. Congress has adopted legislation authorizing the Navy to grant to the TCA an easement within this portion of Camp Pendleton.

(3) PDF 8-2. Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped

land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.

(4) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.9.6 Significant Effect. In AU 33, implementation of the Preferred Alternative conflicts with policies of the County of San Diego related to scenic highways. The County of San Diego has designated I-5 from the City of Oceanside city limits north to the Orange County border as a Scenic Route and identifies any physical change which will substantially affect the viewshed of a designated scenic highway to have a significant visual effect. Implementation of the connector ramps that cross I-5 will introduce a long elevated structure to the views of the densely vegetated San Mateo Creek area and the agricultural fields north of I-5. The connector ramps will be in the foreground view of motorists and would substantially and adversely change the viewshed to the northeast. The southern part of the connector ramps will also change ocean views for motorists on I-5. Therefore, implementation of the project along the south part of AU33 would have a substantial adverse impact related to adopted policies and plans of San Diego County.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measures AS-1 and AS-2 are hereby incorporated by reference.

(2) The Department of the Navy (DON) owns the property on which the Preferred Alternative traverses the Marine Corps Base in San Diego County. In 1988, the Marine Corps established criteria governing evaluation of alternatives on the Base, the most important of which was that any on-Base portion of this proposed toll road must be as closely located to the northern Base boundary as possible and it must be routed in such a manner that it does not impact the Marine Corps mission nor interfere with Camp Pendleton's operational flexibility. The Preferred Alternative (for that section of the toll road which crosses through Camp Pendleton) meets the Marine Corps criteria. SOSB is located entirely on lands leased from the DON; the State does not own the land. SOSB is operated by the State, pursuant to a 1971 agreement of lease (the "lease") with the United States. The California Department of Parks & Recreation (CDPR) lease with the United States is specifically subject to the reserved right of the United States to grant additional easements and rights-of-way over the leased property. Thus, in

implementing the authority to lease, CDPR agreed that the United States may grant a right-of-way to a third party. Congress has adopted legislation authorizing the Navy to grant to the TCA an easement within this portion of Camp Pendleton.

(3) PDF 8-2. Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.

(4) Alternatives were evaluated that avoid this impact. Those alternatives were determined to be impracticable and/or determined to be infeasible because they would also result in significant impacts that could not be completely mitigated. The details of the alternatives and reason for selecting the Preferred Alternative are provide in Section 4.0 of these Findings.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.9.7 Significant Effect. In AU 37, implementation of the Preferred Alternative would result in reduction in visual quality for motorist on Ortega Highway due to remedial grading, cut and fill, the toll road travel lanes and an elevated structure over Ortega Highway and a bridge over San Juan Creek. These project elements would change the vividness from this viewpoint from very because the bridge across San Juan Creek and the fill north of Ortega Highway obscure part of the panoramic view beyond these features. The intactness would change because of the urban appearance of the bridge. The unity of the visual components would change because of the straight lines and urban form of the project that interrupt the curvilinear pattern of the panoramic rural view and the light color of the bridge that contrasts with the predominantly green colors of the existing view. These impacts result in a significant effect to a regionally significant viewpoint along Ortega Highway.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measures AS-1 and AS-2 are hereby incorporated by reference.

(2) The Preferred Alternative must cross Ortega Highway in order to achieve the project purpose and need and any crossing will have a visual effect.

(3) PDF 8-2. Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.

(4) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.9.8 Significant Effect. Development trends in the study area have incrementally changed the appearance of parts of the study area from agricultural and open space to urbanized viewscape. The Preferred Alternative will introduce the urban elements of the toll road into areas that currently have a rural visual character. The urbanizing elements of the proposed project in rural areas include the toll or arterial road surfaces, connector ramps and toll plazas. The Preferred Alternative would, together with other projects in the area, contribute to changing the existing visual character of the rural areas to a more urban visual character. Therefore, the Preferred Alternative, when considered with other projects in the area, is anticipated to contribute to a cumulative long-term adverse impact related to visual resources in the study area.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AS-1. Adjacent landforms affected by the build Alternatives shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces.

The TCA shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the

Foothill/Eastern Transportation Corridor. The guidelines will be developed during final design of a preferred alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.

(2) Measure AS-2. The TCA shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.

(3) Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA along the corridor. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit.

(4) Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto areas outside of the corridor right-of-way . The vertical or horizontal illuminance from roadway lighting sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment through The Donna O'Neill Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative due to roadway lighting sources installed by the TCA.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.10 Military Uses.

Camp Pendleton is a unique entity in the SOCTIIP study area with highly specialized uses and unusual conditions focused on a singular mission, military training and combat preparation. The impact assessment in the EIS/SEIR addresses the effects of the SOCTIIP Alternatives in the entire study area. Section 4.21 provides a discussion of the impacts of the SOCTIIP Alternatives specifically on Camp Pendleton and the Military Mission at the Base. This information is provided in one consolidated "military" section so the reader can see all the information related to Camp Pendleton in one location. However, the impact analysis for each environmental issue area is discussed not only in the Military Impact section, but also in each individual environmental issue area section of the EIS/SEIR.

Accordingly, the findings presented herein contain information on specific "military" impacts such as impacts to special use airspace, aviation training, ground training and security, while the findings for the other "environmental impacts," that may occur on Camp Pendleton, are discussed in other findings sections that are unrelated to strictly military issues.

The potential impacts of the SOCTIIP Alternatives on the Military Mission at Camp Pendleton are evaluated in detail in the "Military Impacts Technical Report" (P&D Consultants, 2003) and are summarized in the EIS/SEIR.

2.10.1 Significant Effect. Implementation of the Preferred Alternative would result in a significant land use impact due to the temporary and permanent loss of land available for military training at Camp Pendleton. Construction activities would temporarily interfere with up to 509.2 acres of land currently available for training and implementation and operation of the Preferred Alternative would result in the permanent loss of up to 829.6 acres of land available for training and other potential military uses.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure M-5. Land Use Fragmentation/Ground Training. To reduce impacts associated with the fragmentation of land available on Camp Pendleton and to avoid creating a parcel on the Base fully fragmented and inaccessible from the rest of the Base, two underpasses will be constructed to provide clearance for military personnel and equipment movement. The underpasses will be sized and designed to accommodate the equipment and personnel needs as may be defined by the Marine Corps and DON.

(2) Measure LU-1. Impacts on Existing Land Uses. Design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or permanent acquisition of property, will be incorporated in the final design, where prudent and feasible.

(3) Camp Pendleton will be compensated for the fair market value of the easement to be granted to the TCA. The funds will be applied to improvements to the Base authorized by Congress.

(4) Camp Pendleton has approximately 125,000 acres of land for military combat training and preparation.

(5) The Department of the Navy (DON) owns the property on which the Preferred Alternative traverses the Marine Corps Base in San Diego County. In 1988, the Marine Corps established criteria governing alternatives on the Base, the most important of which was that any on-Base portion of this proposed toll road must be as closely located to the northern Base boundary as possible and it must be routed in such a manner that it does not impact the Marine Corps mission nor interfere with Camp Pendleton's operational flexibility. The Preferred Alternative (for that section of the toll road which crosses through Camp Pendleton) meets the Marine Corps criteria. SOSB is located entirely on lands leased from the DON; the State does not own the land. SOSB is operated by the State, pursuant to a 1971 agreement of lease (the "lease") with the United States. The California Department of Parks & Recreation (CDPR) lease with the United States is specifically subject to the reserved right of the United States to grant additional easements and rights-of-way over the leased property. Thus, in implementing the authority to lease, CDPR agreed that the United States may grant a right-of-way to a third party. Congress has adopted legislation authorizing the Navy to grant to the TCA an easement within this portion of Camp Pendleton.

(6) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.10.2 <u>Significant Effect</u>. The long-term impact of the Preferred Alternative on ground and amphibious training activities would be significant due to the temporarily loss up to 509.2 acres of land and permanent loss of up to 829.6 acres of land available for training and other potential military uses. The Corridor would result in a linear barricade between the northernmost part of the Base adjacent to the City of San Clemente and the remainder of the Base. Troop movement and training activities in this area would be permanently impeded to some extent by the presence of the Corridor. Therefore, the permanent acquisition of an easement for implementation of the Preferred Alternative and the resulting segmentation of this area of potential training land on the Base would result in an adverse impact on the Military Mission of Camp Pendleton.

<u>Findings</u>. The Board hereby makes findings (1) and (3).

<u>Facts in Support of Findings</u>. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure M-5 is hereby incorporated by reference and provides mitigation for this impact.

(2) The Preferred Alternative is consistent with the 1988 Commandant Letter and the 1992 Statement of Intent for constructing a corridor project on Camp Pendleton.

(3) The TCA will compensate the Navy for the fair market value of the easement granted to the TCA for the project. The funds provided by the TCA will be utilized to offset the costs of various improvements at Camp Pendleton as authorized by Congress.

(4) The TCA funded a study of improvements at Camp Pendleton that will enhance the ability of the Marine Corps to conduct training missions and other activities within the Base.

(5) Access to and from Camp Pendleton by Marine Corps personnel is adversely impacted by congestion on I-5. The Preferred Alternative will provide enhanced access to the Base for Marine Corps personnel by providing an alternative to I-5 in Southern Orange County.

(6) Marine Corps access to the March Air Force Base (Camp Pendleton's primary debarkation site) is adversely affected because of I-5 congestion and because of inadequate alternative transportation routes. The Preferred Alternative will improve access of Marine Corps units to March Air Force Base by providing an alternative to the use of I-5 and Interstate 15.

(7) It is not feasible to further reduce impacts of the Preferred Alternative on Camp Pendleton because the Preferred Alternative is located at the extreme northern portion of Camp Pendleton and other alternatives would result in significant and unavoidable impacts on the natural and built environment.

(8) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.10.3 Significant Effect. MCB Camp Pendleton is a unique land use due to the military training conducted on the Base. The layout of the Base is designed to provide a safety buffer around the impact areas (areas where projectile weapons, explosive ordnance and artillery are used), which are located at the center of the Base. The Preferred Alternative would have cumulative impacts to this land use by creating a physical barrier on the northern boundary of the Base. The Preferred Alternative would limit the ability of MCB Camp Pendleton to make use of the area by providing a physical barrier on the northern part of base, in essence causing a reduction in the total training area or potential training area on the Base. This reduction in training area would be considered a cumulative adverse impact on the Base because training area on the Base is already limited and continues to be further limited by regulations and residential development encroachment.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure M-1. Nighttime Lighting and Shielding. During construction of the SOCTIIP build Alternatives on or in the immediate vicinity of Camp Pendleton, to minimize conflicts with night training by Base personnel, the following will be implemented:

- Construction lighting requirements during evening and night activities will be adjusted with proper shielding to focus illumination downwards in designated work areas. To accomplish this, lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to reduce the impact on night vision goggle training activities.
- Fixed lighting will not exceed the minimum needed to meet Caltrans standards. Lighting will be shrouded to reduce backscatter and vertical light pollution and will be of a type to minimize effects on adaptation to darkness and changes in light levels.
- A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during construction are consistent with the requirements of this mitigation measure.
- Cranes which would remain extended to a height of 12.2 meters (40 feet) above ground level (AGL) or higher during night-time hours must include the use of a Federal Aviation Administration (FAA) approved aircraft obstruction light mounted at the highest point of the equipment's extension AGL. The aircraft obstruction light must be operational from 30 minutes before sunset until 30 minutes after sunrise each day the equipment is in place and extended above 12.2 meters (40 feet) AGL overnight.

(2) Measure M-2. Access and Coordination. Construction activities and equipment movement could adversely impact the movement of troops and use of ranges during construction. These impacts will be mitigated by coordination among the TCA, the Contractor and Camp Pendleton personnel. Specifically, the Contractor will identify access routes, staging areas and all expected movement corridors during construction and will produce a design review memoranda/exhibit. These will be reviewed with the TCA and Camp Pendleton personnel to ensure construction activity impacts on Base training are minimized.

(3) Measure M-3. Base Security During Construction. For any corridor alignment which traverses or is in the immediate vicinity of Camp Pendleton, prior to final design, security measures shall be incorporated into the project construction specifications to ensure that construction workers and others cannot access the

Base from the construction areas. These security measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented prior to any project related construction and shall be adequately maintained throughout the construction period.

(4) Measure M-4. Nighttime Lighting and Shielding. During operation of a SOCTIIP build Alternative on or immediately adjacent to Camp Pendleton, to minimize conflicts with night training by Base personnel, permanent night lighting will be adjusted with proper shielding to focus illumination downwards. Lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties including the Base. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to further minimize potential glare effects on the Base. This design will be implemented at all places on and adjacent to the Base requiring lighting along the road including interchanges and the mainline. To reduce the impact on night vision goggle training activities, fixed lighting on and immediately adjacent to the Base will not exceed the minimum needed to meet Caltrans standards. Lighting on and immediately adjacent to the Base will be shrouded to reduce backscatter and vertical light pollution and should be of a type to minimize effects on adaptation to darkness and changes in light levels.

A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during operation on and immediately adjacent to the Base are consistent with the requirements of this mitigation measure.

(5) Measure M-5. Land Use Fragmentation/Ground Training. To reduce impacts associated with the fragmentation of land available on Camp Pendleton and to avoid creating a parcel on the Base fully fragmented and inaccessible from the rest of the Base, two underpasses will be constructed to provide clearance for military personnel and equipment movement. The underpasses will be sized and designed to accommodate the equipment and personnel needs as may be defined by the Marine Corps and the DON.

(6) Measure M-6. Base Security. For any corridor alignment which traverses or is immediately adjacent to Camp Pendleton, prior to final design, security measures shall be incorporated into the project design to ensure that users of the corridor cannot access the Base. These measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented and fully operable prior to public access to the corridor.

In addition, refer to mitigation measures for other CEQA topic sections as applicable to Camp Pendleton.

(7) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.11 Mineral Resources.

2.11.1 Significant Effect. The Preferred Alternative crosses San Juan Creek, and may pose slight limitations on future mining of sand and gravel deposits in the project vicinity. The minor impacts of the Preferred Alternative related to sand the gravel resources, combined with the adverse impacts of the Arroyo Trabuco Golf Course and the potential impacts of the Ranch Plan on sand and gravel resources on RMV, would be a cumulative significant effect on mineral resources in the SOCTIIP study area.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure SE-2. Property Acquisition and Relocation Assistance. Prior to acquisition of right of way, the TCA will comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 in the acquisition of all property within the right-of-way necessary for the proposed project. All displaced households and businesses will be contacted to ensure that each eligible displacee receives their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources will be available to all eligible displaced persons or businesses without discrimination. TCA will also comply with the Public Park Preservation Act as applicable.

(2) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12 Recreation Resources.

2.12.1 Significant Effect. The Donna O'Neill Land Conservancy will be significantly impacted by the construction and operation of the Preferred Alternative. Due to the location of the Conservancy, in relation to the Preferred Alternative alignment, short term construction-related air quality impacts will be significant and long term visual impacts to the Conservancy will be significant because the corridor divides the Conservancy and would require the removal of substantial amounts of vegetation and alteration of the ridges with cut and fill.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure AQ-1. During construction, contractor specifications shall incorporate directions to contractors to control fugitive dust. Fugitive dust shall be controlled by regular watering, paving construction roads, or other dust preventive measures, as defined in SCAQMD Rule 403.

After clearing, grading, earth moving or excavation the following activities will be performed by the construction contractor:

a. Seeding and watering will be performed until viable vegetation cover is in place in inactive areas.

b. Soil binders will be spread.

c. Areas will be wet down sufficiently to form a crust on the surface. Repeated soakings will be performed as necessary to maintain this crust.

d. Reduce speeds to 10 to 15 mph in construction zones on unpaved areas.

(2) Measure AQ-2. During construction, measures contained in Tables 1 and 2 of SCAQMD Rule 403 will be implemented by the construction contractor. Control of particulate emissions from construction activities is best controlled through the requirements contained in SCAQMD's Rule 403, Tables 1 and 2. Tables 1 and 2 are reproduced here as Figures 4.7-5, 4.7-6 and 4.7-7. The measures contained in these tables are presented as an option to air quality monitoring in Rule 403. Figure 4.7-5 contains measures such as maintaining an adequate moisture content in the soil, watering grading areas, establishing ground cover in inactive areas and watering unpaved roads. Figures 4.7-6 and 4.7-7 identify additional measures that are applied during high wind conditions. The mitigation measure, therefore, is to require that the measures contained in Tables 1 and 2 of Rule 403 be utilized. This potentially results in a much higher reduction of particulate emissions than if the air monitoring option contained in Rule 403 was employed. The air monitoring option requires monitoring around the project site, and as long as pollutant levels do not exceed threshold limits, no pollutant emission reduction measures are employed. The measure would be triggered prior to the initiation of grading.

(3) Measure AQ-3. During construction, the contractor shall be responsible for sweeping all public streets adjacent to the project site once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). This condition would apply to those areas where construction traffic leaves the project site and travels onto public roadways.

(4) Measure AS-1. Adjacent landforms affected by the build Alternatives shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces.

The TCA shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a Preferred Alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.

(5) Measure AS-2. The TCA shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.

(6) Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA along the corridor. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit.

(7) Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto areas outside of the corridor right-of-way . The vertical or horizontal illuminance from roadway lighting sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment through The Donna O'Neill Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative due to roadway lighting sources installed by the TCA.

(8) The Conservancy will receive compensation for property acquired to construct the Corridor.

(9) The Preferred Alternative minimizes impacts on biological resources in the area of the Conservancy by locating the project on the west side of the Conservancy and as close to existing development as is feasible.

(10) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.2 Significant Effect. Due to the alignment of the Preferred Alternative, the Talega Community Park will be significantly impacted by short term construction noise.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane

closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.3 Significant Effect. The Pacific Golf Club will be significantly impacted by short term noise during construction of the Preferred Alternative.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a

manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.4 Significant Effect. The SOSB Cristianitos Subunit 1 will be significantly impacted by short term noise during construction, long term operational noise, short term air quality impacts and long term impacts to visual quality.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) Measure N-7. Final Noise Analysis. During final design, the TCA will prepare a final noise analysis based on the detailed and finalized design developed during final design. Feasibility considerations for each sound barrier must meet FHWA/Caltrans criteria including a minimum of 5 dB of noise reduction at the impacted receiver. Additional feasibility considerations are (1) topography, (2) access requirements for driveways, ramps, etc; (3) the presence of cross streets, (4) other noise sources in the area and (5) safety considerations. The TCA will finalize noise mitigation requirements for the selected Alternative and coordinate design with the local agency. As appropriate, the Final Noise Assessment Technical Report and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report will provide specific recommendations that will then be incorporated into the Construction documentation (i.e., final design) for building purposes.

(5) Measure N-8. Long-Term Noise Impacts. During construction, the TCA shall implement permanent sound barriers, including walls, berms or combinations of walls and berms. The sound barrier and/or supplemental berm must provide a minimum of 5 dB of noise reduction at the impacted receiver as refined during final design. The locations of these proposed sound barrier/berms are shown on Figures by Alternative in Appendix K. The construction contractor will be responsible for constructing the sound barrier/berm for the selected Alternative and as refined during final design. As appropriate, the Final Noise Assessment Technical Report will be reviewed and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report provides specific recommendations that ate then translated into the construction documentation (i.e., final design) for build purposes. The design and specifications of the sound walls, shown on Figures 5.2-79 through 5.2-82

(Appendix K of the Draft EIS/SEIR), on MCB Camp Pendleton shall be approved by the Commanding General of Camp Pendleton.

(6) Measure AQ-1. During construction, contractor specifications shall incorporate directions to contractors to control fugitive dust. Fugitive dust shall be controlled by regular watering, paving construction roads, or other dust preventive measures, as defined in SCAQMD Rule 403.

After clearing, grading, earth moving or excavation the following activities will be performed by the construction contractor:

a. Seeding and watering will be performed until viable vegetation cover is in place in inactive areas.

b. Soil binders will be spread.

c. Areas will be wet down sufficiently to form a crust on the surface. Repeated soakings will be performed as necessary to maintain this crust.

d. Reduce speeds to 10 to 15 mph in construction zones on unpaved areas.

(7) Measure AQ-2. During construction, measures contained in Tables 1 and 2 of SCAQMD Rule 403 will be implemented by the construction contractor. Control of particulate emissions from construction activities is best controlled through the requirements contained in SCAQMD's Rule 403, Tables 1 and 2. Tables 1 and 2 are reproduced here as Figures 4.7-5, 4.7-6 and 4.7-7. The measures contained in these tables are presented as an option to air quality monitoring in Rule 403. Figure 4.7-5 contains measures such as maintaining an adequate moisture content in the soil, watering grading areas, establishing ground cover in inactive areas and watering unpaved roads. Figures 4.7-6 and 4.7-7 identify additional measures that are applied during high wind conditions. The mitigation measure, therefore, is to require that the measures contained in Tables 1 and 2 of Rule 403 be utilized. This potentially results in a much higher reduction of particulate emissions than if the air monitoring option contained in Rule 403 was employed. The air monitoring option requires monitoring around the project site, and as long as pollutant levels do not exceed threshold limits, no pollutant emission reduction measures are employed. The measure would be triggered prior to the initiation of grading.

(8) Measure AQ-3. During construction, the contractor shall be responsible for sweeping all public streets adjacent to the project site once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). This condition would apply to those areas where construction traffic leaves the project site and travels onto public roadways.

(9) Measure AS-1. Adjacent landforms shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to

minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces.

The TCA shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a Preferred Alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.

(10) Measure AS-2. The TCA shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.

(11) Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA along the corridor. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit.

(12) Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto areas outside of the corridor right-of-way . The vertical or horizontal illuminance from roadway lighting

sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment through The Donna O'Neill Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative due to roadway lighting sources installed by the TCA.

(13) Project refinements have resulted in a reduction in the number of utility poles/towers near the entrance to the San Mateo Campground on SOSB Cristianitos Subunit 1. While some of the new infrastructure that will be constructed as part of the project may be of greater height than what currently exists, project changes will reduce the overall visual clutter in this area by reducing the total number of poles and towers.

(14) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(15) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.5 Significant Effect. The Vista Bahia Stadium Park will be significantly impacted by short term construction noise impacts.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to

minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.6 Significant Effect. The San Clemente Municipal Golf Course will be significantly impacted by short term construction noise impacts.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance

prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.7 Significant Effect. The SOSB Trestles Subunit 2 will be significantly impacted by short term construction noise impacts and short term air quality impacts.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment

shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) Measure AQ-1. During construction, contractor specifications shall incorporate directions to contractors to control fugitive dust. Fugitive dust shall be controlled by regular watering, paving construction roads, or other dust preventive measures, as defined in SCAQMD Rule 403.

After clearing, grading, earth moving or excavation the following activities will be performed by the construction contractor:

a. Seeding and watering will be performed until viable vegetation cover is in place in inactive areas.

b. Soil binders will be spread.

c. Areas will be wet down sufficiently to form a crust on the surface. Repeated soakings will be performed as necessary to maintain this crust.

d. Reduce speeds to 10 to 15 mph in construction zones on unpaved areas.

(5) Measure AQ-2. During construction, measures contained in Tables 1 and 2 of SCAQMD Rule 403 will be implemented by the construction contractor. Control of particulate emissions from construction activities is best controlled through the requirements contained in SCAQMD's Rule 403, Tables 1 and 2. Tables 1 and 2 are reproduced here as Figures 4.7-5, 4.7-6 and 4.7-7. The measures contained in these tables are presented as an option to air quality monitoring in Rule 403. Figure 4.7-5 contains measures such as maintaining an adequate moisture content in the soil, watering grading areas, establishing ground cover in inactive areas and watering unpaved roads. Figures 4.7-6 and 4.7-7 identify additional measures that are applied during high wind conditions. The mitigation measure, therefore, is to require that the measures contained in Tables 1 and 2 of Rule 403 be utilized. This potentially results in a much higher reduction of particulate emissions than if the air monitoring option contained in Rule 403 was employed. The air monitoring option requires monitoring around the project site, and as long as pollutant levels do not exceed threshold limits, no pollutant emission reduction measures are employed. The measure would be triggered prior to the initiation of grading.

(6) Measure AQ-3. During construction, the contractor shall be responsible for sweeping all public streets adjacent to the project site once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). This condition would apply to those areas where construction traffic leaves the project site and travels onto public roadways.

(7) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(8) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.8 Significant Effect. Construction of the corridor would result significant impacts on MCB Camp Pendleton San Onofre Recreation Beach related to short term construction noise

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the

TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.9 Significant Effect. Construction of the corridor would result significant impacts on SOSB Surfer Beach subunit 3 related to short term construction noise.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses,

and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(4) It is infeasible to further reduce the effect because short-term construction noise is inherent in the construction of the project.

(5) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

2.12.10 Significant Effect. Long-term impacts may contribute to cumulative impacts related to recreation resources, especially those impacts that cannot be mitigated and that result in either a net loss in recreation resources or substantial permanent degradation of resources or amenities at those resource sites. The Preferred Alternative would contribute to

cumulative impacts related to recreation resources in the study area as a result of direct impacts and/or indirect impacts such as noise, air quality and visual impacts.

The SOCTIIP build Alternatives will directly affect a number of recreation resources in the SOCTIIP study area.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure R-1. Avoidance of the Temporary Occupancy and/or Permanent Acquisition of Recreation Resources Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary occupancy during construction and the permanent acquisition of land currently occupied by or proposed for use by recreation resources. In the event that the temporary occupancy or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of recreation resources property will apply to the build Alternatives consistent with Uniform Relocation Assistance.

(2) Measure R-2. Consultation with Owners/Operators of Recreation Resources. In conjunction with measures R-3 and R-4 (compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, refer to Section 4.6), the TCA will consult with the affected property owner/operator of recreation resources temporarily used or permanently acquired by a build Alternative. The purposes of this consultation will be to:

- Identify and implement opportunities to protect recreation resources in place.
- Identify and implement opportunities to replace lost recreation facilities within the existing recreation property.
- Combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and minimize adverse impacts on recreation resources.

(3) Measure R-3. Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

(4) Measure R-4. Direct Temporary Impacts (Occupancy of Property During Construction) on Recreation Resources. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be temporarily occupied during construction to determine appropriate action and or compensation to mitigate for the temporary occupancy.

(5) Measure R-5. Impacts on Trails. During final design, the TCA will provide for crossings of planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local agency with responsibility for the trail, as appropriate. Construction plans will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.

In addition, refer to mitigation measures for other CEQA topic sections as applicable to Recreation Resources.

(6) Alternatives were evaluated that avoid this impact. Those alternatives were determined to be impracticable and/or determined to be infeasible because they would also result in significant impacts that could not be completely mitigated or would interfere with the training mission of Camp Pendleton. The details of the alternatives and reason for selecting the Preferred Alternative are provided in Section 4.0 of these Findings.

(7) It is infeasible to completely avoid this significant effect, due to the economic, social and other considerations described in Section 5.0, the Statement of Overriding Considerations, incorporated by reference herein.

3.0 POTENTIAL ENVIRONMENTAL EFFECTS WHICH ARE NOT SIGNIFICANT OR WHICH CAN BE MITIGATED BELOW A LEVEL OF SIGNIFICANCE.

The following sets forth all the environmental effects of the Project, and with respect to each effect, makes one or more of the findings set forth in the Introduction above, states facts in support of such findings, and, as appropriate, refers to the Statement of Overriding Considerations which is attached hereto.

3.1 Traffic.

The SOCTIIP Alternatives were evaluated to assess their potential to reduce congestion and improve traffic operating conditions in south Orange County. In addition, the SOCTIIP Alternatives were also evaluated to determine whether any adverse impacts to existing and/or projected traffic operating conditions would occur. See Section 3.0 (Traffic and Circulation) in the EIS/SEIR for a detailed discussion. The potential beneficial effects and adverse impacts of the SOCTIIP Alternatives are summarized in EIS/SEIR Table ES.6-1 and the findings associated therewith are discussed herein.

3.1.1 Potential Effect. The Preferred Alternative will have beneficial traffic effects at 32 road segments, arterial intersections, freeway/tollway segments and freeway/tollway ramps.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) To assess the beneficial effects of the SOCTIIP build Alternatives related to traffic operations, a comparison of the traffic conditions under the No Action Alternative and build Alternatives was performed. The comparative analysis was performed using 2025 traffic forecasts, with and without the SOCTIIP build Alternatives. The forecasted 2025 weekday peak hour traffic conditions, for the SOCTIIP No Action and build Alternatives are based on build out of the MPAH and the assumption of 14,000 dus under the proposed development plan for RMV.

(2) As shown in Figures ES.6-1 to ES.6-8, the SOCTIIP build Alternatives result in varying degrees of improvement compared to the No Action Alternative traffic conditions. In these Figures, future traffic conditions on the freeway/tollway system are expressed in terms of hours of congestion, and future traffic conditions at freeway/tollway interchanges and arterial intersections are expressed as the percentage of available capacity that is used.

(3) The SOCTIIP build Alternatives that include the extension of SR-241 from Oso Parkway to I-5, including the Preferred Alternative, generally result in the most substantial improvements to the congestion levels on I-5 and to the LOSs at I-5 interchanges and arterial intersections.

(4) The specific locations on the circulation system where beneficial effects occur under the Preferred Alternative compared to the No Action Alternative are summarized in Table ES.6-2.

(5) The Preferred Alternative shows beneficial effects on 32 locations, as listed in Table ES.6-2. The number of beneficial effects listed is a summation of the beneficial effects that occur in each circulation and land use scenario that was analyzed.

(6) The purpose of the SOCTIIP is to provide improvements to the transportation infrastructure system that would help alleviate future traffic congestion and accommodate the need for mobility, access, goods movement, and future traffic demands on I-5 and the arterial network in the action area. The Preferred Alternative meets this purpose because it provides the number of traffic lanes necessary to meet forecasted traffic demand through 2025, which is the design forecast year for the SOCTIIP and the planning horizon year for regional plans and socioeconomic forecasts. The Preferred Alternative also meets the purpose because it accommodates the need for mobility, access, and goods movement by providing increased traffic capacity and because it provides an alternative route to I-5.

(7) One of the project purposes is to improve the projected future level of service (LOS) and reduce the amount of congestion and delay on the freeway system and, as a secondary objective, the arterial network, in southern Orange County. The overall goal is to improve projected levels of congestion and delay as much as is feasible and cost-effective. This may include strategies that lead to a reduction in the length of time LOS F will occur, even if the facility will still operate at LOS F for a short period of time, if the strategy will result in benefits to the traveling public and more efficient movement of goods by reducing total delay. The Preferred Alternative furthers this objective by increasing overall regional capacity and reducing congestion on I-5 and local arterials.

3.1.2 Potential Effect. The Preferred Alternative will have beneficial traffic effects related to systemwide travel time savings as a general measure of the improvement in the mobility of traffic in south Orange County.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Improving traffic flow and relieving congestion are objectives of the Preferred Alternative.

(2) As a means to evaluate the systemwide travel time savings, the changes in the 2025 regionwide vehicle miles traveled (VMT) and vehicle hours traveled (VHT) under the Preferred Alternative, compared to the No Action Alternative, were estimated. The changes in systemwide VMT for each SOCTIIP build Alternative

were found to be relatively low, meaning that the average length of vehicle trips in south Orange County does not change substantially, in terms of distance. However, VHT indicates the travel time savings produced by the traffic congestion relief provided by the Preferred Alternative. VHT, which is expressed as total hours of reduced vehicle travel time per day, is summarized in Table ES.6-3 and is shown graphically in Figure ES.6-9. The time savings are based on 2025 traffic conditions that assume the build out circulation system and the proposed 14,000 dus RMV development plan. The Preferred Alternative results in 21,000 hours of travel time savings per day.

3.1.3 **Potential Effect**. The Preferred Alternative will have beneficial traffic effects related to I-5 congestion relief.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The peak hour LOSs forecast along I-5 in each of the SOCTIIP Alternatives were used to estimate the duration of congestion (i.e., the number of hours of congestion before and after the peak hours) that would actually occur and the proportion of daily traffic on I-5 that is anticipated to experience congested conditions. This statistic, which is expressed as the percentage of daily VMT on I-5 in the study area under congested conditions, is summarized in Table 3.4-8 and is comparatively shown in Figure 3.4-14. Section 4.3.2 (I-5 Congestion in the Study Area) in the SOCTIIP Traffic and Circulation Technical Report provides a detailed discussion on the methodology applied to estimate this statistic.

(2) Congestion relief on I-5 is a key parameter identified in the Purpose and Need Statement for the SOCTIIP. To evaluate congestion relief, the peak hour LOSs forecast on I-5 in each of the SOCTIIP Alternatives were used to estimate the proportion of daily traffic on I-5 that is anticipated to experience congested conditions. This statistic, which is expressed as the percentage of daily VMT on I-5 in the study area under congested conditions, is summarized in Table ES.6-4 and is shown graphically in Figure ES.6-10. The Preferred Alternative results in a low percentage of congestion with only 3.2 percent of daily I-5 traffic experiencing congestion, in comparison to up to 15.9 percent of daily I-5 traffic experiencing congestion under the No Action Alternative.

3.1.4 **Potential Effect**. The Preferred Alternative will have beneficial effects related to arterial congestion in the study area.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The level of traffic congestion on the arterial roadway system in the study area was compared for the SOCTIIP Alternatives based on the total hours of vehicle delay forecast to occur at arterial intersections in the study area during the peak hours. This statistic was produced based on forecasted peak hour LOSs for a set of key intersections which are common to each of the analysis scenarios. The amount of vehicle delay generally increases as the LOS at intersections on the arterial system worsens. Therefore, the greater the amount of intersection delay under an alternative, the more congested the arterial roadway system will be under that Alternative. The Preferred Alternative provides the most arterial congestion relief based on these statistics.

(2) The total hours of vehicle delay forecast to occur during the peak hours under 2025 conditions based on the No Action Alternative and each of the build Alternatives are summarized in Table 3.4-9 and are comparatively shown in Figure 3.4-15. Section 4.3.3 (Arterial Congestion in the Study Area) in the SOCTIIP Traffic and Circulation Technical Report provides a detailed discussion on the methodology applied to estimate this statistic.

(3) The following Preferred Alternative results in the lowest amount of congestion (i.e., vehicle delay) on the arterial system based on 2025 traffic conditions that assume the build out circulation system and the proposed RMV development plan. The Preferred Alternative, relieves arterial congestion, with 7,700 hours of vehicle delay on the arterial system, in comparison to 9,900 hours of vehicle delay on the arterial system under the No Action Alternative.

3.1.5 **Potential Effect**. The Preferred Alternative would have beneficial effects related to point to point travel time savings.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Comparisons among the SOCTIIP build Alternatives were made based on point to point travel times between I-5 at the Orange/San Diego County border and areas to the north under 2025 conditions that assume the build out circulation system and the proposed 14,000 dus RMV development plan. Travel time reductions are shown in Table ES.6-6 for travel between I-5 at the Orange/San Diego County border and three geographic areas to the north: south Orange County, north Orange County and the region beyond Orange County (defined as Los Angeles, Riverside, San Bernardino and Ventura Counties). The resulting estimates of travel time savings in the peak directions in southern Orange County (that is, northbound on I-5 in the AM and southbound on I-5 in the PM) are summarized in Table ES.6-6 in terms of minutes and percentages.

(2) The travel time reductions are listed in ranges because the travel times vary between the AM and PM periods and also between smaller geographic areas

within the three major geographic areas. The amount of point to point travel time savings for the Preferred Alternative with travel times to and from south Orange County reduced by 5 to 10 minutes or 18 to 27 percent, travel times to and from north Orange County reduced by 8 to 12 minutes or 10 to 16 percent, and travel times to and from areas beyond Orange County reduced by 11 to 17 minutes or 5 to 13 percent.

(3) These travel time reductions are conservative because they do not account for the beneficial effects of reducing queuing. The queuing effect occurs when an individual freeway segment becomes congested. Under such circumstances, an upstream queue forms and may cause back-up for several miles, depending on the volume of traffic approaching the bottleneck segment. The travel time reduction would be even greater if the reduction in queuing, due to decreased congestion, were added.

3.1.6 Potential Effect. The Preferred Alternative could have indirect adverse impacts on traffic as a result of a change in travel patterns due to a new facility that is constructed under the Preferred Alternative. While the impacts are generally small in magnitude, they are nevertheless adverse impacts under the defined performance criteria. Table ES.6-7 summarizes the locations where direct and indirect adverse impacts occur under the Preferred Alternative compared to the No Action Alternative, and the circulation and land use scenario(s) under which the adverse impacts occur. The circulation and land use assumptions in each scenario are described in detail in Section 3.0 of the EIS/SEIR. The Preferred Alternative has no direct adverse impacts to mainline segments of the I-5, arterial intersections or freeway/tollway ramps, and indirect adverse impacts of the Preferred Alternative are considered less than significant based on the facts stated below.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The indirect adverse impacts are caused by re-directed traffic that would otherwise be using another part of the circulation system under the No Action Alternative. For example, traffic using I-5 under a given SOCTIIP build Alternative that, under the No Action Alternative, would impact local arterial intersections because of congestion on I-5 results in an indirect impact on I-5. In such cases, the build Alternative increases traffic at I-5 ramps and ramp intersections while reducing traffic at arterial intersections. This shift in traffic results in beneficial effects at arterial intersections and indirect adverse impacts at I-5 ramps and ramp intersections.

(2) The I-5 ramps and ramp intersections that are indirectly impacted by the Preferred Alternative will experience increases in traffic as a result of future land use development in the study area and regional traffic growth. However, such increases in traffic are addressed as part of the planning processes carried out in

Orange County with respect to land use development and transportation improvements, for example, the Orange County CMP and GMP.

(3) Caltrans is responsible for the design, construction, maintenance and operation of the California State Highway System, which includes I-5. In the case of I-5 interchanges (i.e., ramps and ramp intersections) that are indirectly impacted by the Preferred Alternative, state highway improvements, including improvements to ramps, can only be implemented through Caltrans because Caltrans is the owner of the state highways. Improvements related to increases in traffic demand over time are typically either implemented solely by Caltrans or, in some circumstances, by a collaboration between Caltrans and a local jurisdiction, with a nexus being established between future land uses and the I-5 improvements that are needed.

(4) Proposals for implementing improvements at each of the I-5 interchanges (Avenida Pico, Camino Capistrano, Ortega Highway and Stonehill Drive) where indirect adverse impacts occur are currently under study by Caltrans. It is expected that Caltrans will implement future improvements to the ramps and ramp intersections at these interchanges because those ramps and ramp intersections will need improvements in the future with or without the Preferred Alternative. The expected improvements to the four interchanges identified above implemented by Caltrans will mitigate the indirect adverse impacts of the build Alternatives. No additional mitigation is proposed.

(5) Because none of this added traffic has origins or destinations in the vicinity of the circulation facilities that are constructed under the Preferred Alternative, the impacts of this added traffic are considered to be indirect. There is no nexus between this increased traffic and the facility being built, but simply a shift in travel routing due to I-5 having additional capacity compared to the No Action Alternative.

(6) The Preferred Alternative was evaluated for consistency with existing federal, state and regional transportation planning programs as required under NEPA and CEQA. These federal, state and regional transportation planning programs are used by the applicable agencies for consideration of planning, funding and implementation of transportation improvements throughout southern California.

(7) The Federal State Transportation Improvement Program (FSTIP) and the Federal Transportation Improvement Program (FTIP) carry out the California Transportation Plan (CTP). The FSTIP is compiled by the California Transportation Commission (CTC) from the Regional Transportation Improvement Programs (RTIPs) prepared by the regional Metropolitan Planning Organizations (MPOs). An alignment similar to the alignment of the Preferred Alternative is included in the FSTIP.

(8) The FTIP is compiled by FHWA from the State Transportation Improvements Programs (STIPs). An alignment of the Preferred Alternative alignment is

included in the FTIP. It is anticipated that any SOCTIIP Alternative which proposes an extension of SR-241 from Oso Parkway to I-5 would be consistent with the FTC-S as defined in the FTIP.

(9) The District System Management Plan (DSMP) provides multi-modal, multi-jurisdictional systems strategies for evaluating and recommending improvements to the transportation system. The DSMP was adopted in 1989. It includes an alignment for the FTC-S consistent with the alignment of the Preferred Alternative. It is anticipated that any SOCTIIP Alternative which proposes an extension of SR-241 from Oso Parkway to I-5 would be consistent with the FTC-S as defined in the DSMP.

(10) SCAG is the federally designated MPO for the six county region which includes Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. As the MPO, SCAG is required to adopt and periodically update a RTP. SCAG also prepares and implements the RTIP and the regional Growth Management Projections. The FTC-S is shown in the 2001 RTP as an extension of the existing FTC-N from the San Diego County line to Oso Parkway, with two mixed flow lanes in each direction by 2010 and two additional mixed flow lanes in each direction by 2015. An alignment similar to the alignment of the Preferred Alternative is mapped in the RTP as a programmed part of the transportation network baseline and is assumed in the modeling for the RTP.

(11) The South Coast Air Quality Management District (AQMD) is the air pollution control agency for the four-county region including Los Angeles and Orange Counties and parts of Riverside and San Bernardino Counties. An alignment similar to the alignment of the Preferred Alternative is included in the Air Quality Management Plan (AQMP) and in the modeling for the AQMP. As defined in the AQMP and the AQMP modeling, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, it is anticipated that any SOCTIIP Alternative which proposes an extension of SR-241 from Oso Parkway to I-5 would be consistent with the AQMP and the AQMP modeling.

(12) SANDAG is the state and federally designated MPO responsible for regional transportation planning for San Diego County. SANDAG prepares and implements two regional plans: the RTP and RTIP for San Diego County. An alignment similar to the Preferred alignment is included in the SANDAG RTP. As defined in the SANDAG RTP, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, it is anticipated that any SOCTIIP Alternative which proposes an extension of SR-241 from Oso Parkway to I-5 would be consistent with the FTC-S as defined in the SANDAG RTP.

(13) The Orange County Transportation Authority (OCTA) develops and implements unified transportation programs and services for Orange County. OCTA administers the County's MPAH. Projects must be on the MPAH to be implemented. The FTC-S is shown on the MPAH on an alignment similar to the Preferred Alternative alignment. As shown conceptually on the MPAH, the FTC-

S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, it is anticipated that any SOCTIIP Alternative which proposes an extension of SR-241 from Oso Parkway to I-5 would be consistent with the FTC-S as shown on the MPAH.

3.2 Land Use.

3.2.1 Potential Effect. The Preferred Alternative will conflict with certain aspects of adopted and other land use plans. In particular, the project has potential effects regarding County of Orange oak tree and scenic highway policies, County of San Diego scenic highways policies and Donna O'Neill Land Conservancy preservation of scenic views policies. For specific Findings regarding aesthetic impacts, refer to Section 2.9 and 3.17 herein. These potential aesthetic and oak tree impacts are considered less than significant impacts to land use based on the measures and facts stated below.

Findings. The Board hereby makes Findings (1) and (3).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure LU-1. Impacts on Existing Land Uses. Design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or permanent acquisition of property, will be incorporated in the final design, where prudent and feasible.

(2) Measures WV-11, WV-13 and WV-39, previously listed, also mitigate this impact.

(3) The Preferred Alternative is compatible with regional planning. The TCA evaluated the Preferred Alternative for its compatibility with the Natural Communities Conservation Plan (NCCP) and the proposed Rancho Mission Viejo Ranch Plan. The Preferred Alternative is compatible with the Ranch Plan as reflected in the Settlement Agreement because the Preferred Alternative is located adjacent to existing development or within the areas shown for development in the Ranch Plan and Settlement Agreement wherever feasible. As a result, the Preferred Alternative retains the large blocks of open space contemplated for the RMV property in the Ranch Plan and the Settlement Agreement. The NCCP is anticipated to be similar to the Ranch Plan as reflected in the Settlement Agreement. Also refer to Response to Comments Attachment 10 "SOCTIIP Analysis of the NCCP/HCP Planning Guidelines and SAMP/MSAA Watershed Planning Principles" for a complete analysis of the Preferred Alternative compatibility/consistency with NCCP/HCP reserve design guidelines and the SAMP/MSAA Watershed Planning Principles.

(4) An alignment similar to the Preferred Alternative has been on the MPAH since 1981 demonstrating consistency with overall County of Orange policy.

(5) The Preferred Alternative was evaluated for consistency with adopted land use plans in each potentially impacted jurisdiction. The discussion in EIS/SEIR Section 4.2.3.1 in hereby incorporated by reference.

(6) General Plans of the cities and the unincorporated Orange County areas in which the Alternatives are located were reviewed to determine whether or not a given SOCTIIP Alternative was included in the General Plan LUEs of the affected jurisdictions. LUEs are required to be consistent with the Circulation Element of General Plans which identify all facilities shown on the MPAH including the conceptual alignment of the FTC-South. In Orange County, the Preferred Alternative is consistent with General Plan, which include alignments in Orange County similar to the alignments shown on the MPAH for the FTC-South.

(7) There are no cities in San Diego County which would have land uses affected by the Preferred Alternative. The County of San Diego defers to Camp Pendleton related to land uses and planning on the Base. Therefore, no General Plans for the County or any city were used for the consistency evaluation in San Diego County. The Integrated Natural Resources Management Plan (INRMP) for Camp Pendleton and the SOSB General Plan were reviewed. Both these planning documents acknowledge the FTC-South planning efforts.

The INRMP discusses the SOCTIIP Alternatives in Section 2.5.1 (Public Interstate Freeway, Railroad Right-of-Ways, and Future Transportation Corridors), as follows:

> "In 1988 the Marine Corps Commandant agreed that the TCA could evaluate an on-Base alignment of the proposed SOCTIIP toll road project, subject to the following stipulations: (1) that other off-Base alignment alternatives must also be considered and evaluated in an equal manner; (2) that any planned Camp Pendleton alignment must closely adhere to the Base's northern boundary; (3) that any adverse environmental impacts created as a result of siting this route on the Base must be fully and properly mitigated; and most importantly, (4) that any on-Base alignment must not impact the Marine Corps' mission nor interfere with the Base's operational flexibility. This Marine Corps position has remained steadfast throughout the years of TCA planning for this proposed toll road; and the Marine Corps continues to monitor and sometimes participate in TCA's further planning efforts for this proposed transportation improvement project. If constructed on Camp Pendleton, only one alignment alternative, meeting the above stipulations, is considered acceptable to the Marine Corps." (pp. 2-55, Final INRMP for Marine Corps Base and Marine Corps Air Station Camp Pendleton, October 2001).

The Preferred Alternative alignment on the Base in the SOSB lease area is consistent with this description. The Department of the Navy (DON) has stressed

this position in official communications (refer to the Military Impacts Technical Report (P&D Consultants, 2003). Although this alignment would still have an impact on the military training mission at Camp Pendleton, the DON has agreed that this alignment can be evaluated in this EIS/SEIR. It is assumed that alignments of the build alternatives that generally follow this alignment would be acceptable to the DON because they are similar to the alignment referenced by MCB Camp Pendleton in that they closely adhere to the Base's northern boundary compared to the other alternatives that are aligned further south. These are the FEC-W, FEC-M, and A7C-FEC-M/Preferred Alternative.

(8) Because SOSB is a lease on MCB Camp Pendleton, the ultimate land use control for this area lies with the DON. The California Department of Parks and Recreation adopted a General Plan for SOSB in 1984. The General Plan acknowledges the FTC-S alignment through the Park and east of San Mateo Creek, which had already been on the County of Orange General Plan for several years. The Planning and Zoning discussion of the Environmental Impact Element of the SOSB General Plan states:

> "The FTC and La Pata Avenue are shown in the Master Plan of Arterial Highways component of the Orange County General Plan, adopted in 1983. The Foothill Transportation Corridor would have six or eight lanes, claiming a right-of-way of 300-400 feet wide. The final route for the FTC has not been selected, but the maps show it running along the east side of San Mateo Creek the full length of Subunit 1, intersecting with the San Diego Freeway at the location of Basilone Road interchange." (pp. 57, 1984 San Onofre State Beach Revised General Plan.)

The Department of Parks and Recreation was notified of a variety of conceptual alignments that passed through or near SOSB in a 1983 letter from Supervisor Thomas F. Riley responding to the public circulation of the Draft SOSB General Plan and EIR. That letter clarified the intention of the County to build a corridor in the area. This 1983 correspondence predates the TCA and occurred when Orange County was the lead agency/proponent for the transportation corridors, including the FTC-S.

The SOSB General Plan does not discuss consistency or compatibility of the FTC. However, because the SOSB General Plan anticipated plans for the FTC through the Cristianitos Subunit (Subunit 1) which would actually be on the west and not the east side of the Creek, and because the entire Subunit lies west of San Mateo Creek, there is no inconsistency with the SOSB General Plan for the Preferred Alternative.

(9) Measure WV-11. To partially mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 ha (1,182 ac) created by the TCA to mitigate biological

impacts resulting from construction of the FTC-N. Of these 478.7 ha (1,182 ac), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, nonwetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives.

a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost).

b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG.

c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1 (0.40 ha [one ac] for every 0.40 ha [one ac] lost), or other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program.

(10) Measure WV-13.

a. TCA will mitigate impacts to coast live oak and elderberry woodland communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal

regulatory program. Preservation and restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist.

b. The restoration program shall be detailed with the BRMP. Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality.

The following performance standards shall apply for the restoration of elderberry woodland areas. Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For coast live oak woodland, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

c. Monitoring shall be conducted for five years (or less if success criteria are met earlier) to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional seed and/or container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

(11) Measure WV-39. TCA will mitigate impacts to riparian scrub, woodland, and forest communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project, or other ratio that compensates for functions and values, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP.

Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community.

The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent in forest scrub communities and 5 percent in woodland communities.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For southern coast live oak riparian forest, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for a minimum of five years to ensure successful establishment of the restored areas. If success standards are not met, remedial

measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

3.2.2 Potential Effect. The Preferred Alternative would have less than significant impacts to undeveloped land, committed or planned development on Rancho Mission Viejo.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Mitigation Measure LU-1 is hereby incorporated by reference.

(2) The proposed RMV development plan is conceptual, preliminary, and has not received federal, state or county construction level approvals, and is subject to future environment review and refinement before it is built.

(3) The RMV proposal does not specify the location of any land uses except residential and open space. Therefore, exact acreage figures by the proposed land use category that could be affected by Preferred Alternative cannot be determined.

(4) The Preferred Alternative is consistent with approved land use plans. The Rancho Mission Viejo Company (RMV) expressed opposition to the FEC-W alternative because of its proximity to the RMV heritage sites (cow camp and the family cemetery).

(5) The Preferred Alternative generally transects the center portion of the Ranch Plan, including Planning Areas 2 and 5 designated for development as well as areas designated as open space (Planning Area 10) in the approved Settlement Agreement Plan. The Preferred Alternative avoids impacts to large areas dedicated to resource open space in the eastern portion of the Ranch Plan referred to as the "Eastern block." Overall, the alignment would impact approximately 257 acres designated open space and infrastructure in the Ranch Plan reflected in the Settlement Agreement. This represents 1.42 percent of the 16,945 acre open space in the Ranch Plan. This occurs where the Preferred Alternative traverses the northern portion of Planning Area 2 within the area from Planning Area 2 over San Juan Creek into Planning Area 5. A portion of this impact from the Preferred Alternative represents the alignment on bridge structure. Figure 2.2-1 illustrates the compatibility of the Preferred Alternative with the proposed Ranch Plan and future NCCP design, and demonstrates that the SOCTIIP Preferred Alternative is compatible with both these regional planning processes.

(6) The County of Orange approved the RMV Planned Community (The Ranch Plan) in November, 2004, after the publication of the SOCTIIP Draft EIS/SEIR, as described above. The Ranch Plan depicted an alignment of the FTC South as shown on the Master Plan of Arterial Highways; however, the EIR for the Ranch Plan acknowledged that if another alignment is selected, the development plan

will accommodate the selected alignment. Subsequent to County approval of the Ranch Plan, the County of Orange and RMV entered into a Settlement Agreement that did not change the total number of approved dwelling units for the Ranch Plan, but did alter the location of development and increase the area devoted to open space.

(7) The Ranch Plan was a General Plan or conceptual-level plan, with development areas shown as "bubbles" with no grading plan or placement of residential units or buildings. Development on the Ranch will not occur without additional, more detailed planning through an Area Plan process with the County of Orange. The future area plans can site development outside the Preferred Alternative, but within the development areas.

(8) The availability of the approved Ranch Plan and Ranch Plan Settlement Agreement provides an opportunity for coordinated planning and plan refinements between the two projects. For example, once the Foothill/Eastern TCA Board selects a Preferred Alternative, RMV will be able to accommodate the alignment as specific development site plans, Area Plans, and subdivision maps are prepared for the Ranch Plan. Likewise, with the availability of the Ranch Plan EIR and subsequent Ranch Plan Settlement Agreement, the TCA has been able to make refinements to the Preferred Alternative to adjust the location of the alignment through Planning Area 2 in order to allow for the consolidation of the development area and modify the Cow Camp Road interchange design from a full diamond to folded diamond design to be consistent with the Arterial Plan in the approved Ranch Plan.

3.3 Socioeconomics and Environmental Justice.

3.3.1 Potential Effect. The Preferred Alternative will impact local property tax revenues and school district property tax revenues. In general, the impact is minor, at less than 1.0 percent of the total tax revenues, and should not significantly affect the local jurisdictions' revenue bases. This impact socioeconomic impact is considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The Preferred Alternative would not result in the displacement of any residences or residents, and would not result in adverse impacts related to community cohesion.

(2) The Preferred Alternative would not result in the displacement of commercial, industrial, lodging and/or public/institutional uses.

(3) Adequate and affordable replacement resources such as residential, non-residential and agricultural lands would be available for resources impacted under

the SOCTIIP build Alternatives, the Preferred Alternative would not result in adverse impacts related to replacement resources.

(4) The Preferred Alternative would not result in any impacts related to sales tax revenues.

(5) The Preferred Alternative would not result in any impacts related to Transit Occupancy Tax revenues.

(6) The Preferred Alternative would not result in any impacts related to lost employment opportunities.

(7) The Preferred Alternative does not cross Prima Deshecha Landfill and would not result in impacts to the Landfill.

(8) Construction of the Preferred Alternative would have a short-term effect on employment and business in the area. Employment experience related to highway construction compiled by Caltrans indicates each $10 million in design and construction costs generates about 323 direct and off-site jobs. Not all jobs related to the corridor would be located in the study area. The actual timing and geographic distribution of these jobs will depend on the construction phasing of the Alternative, as well as the location of the individual firms retained to complete the work. However, it is expected that the local economy would capture a substantial share of this employment. This would be a beneficial effect of the Preferred Alternative.

(9) The Preferred Alternative would not result in adverse impacts related to any business districts.

(10) The Preferred Alternative will result in approximately 18,000 to 21,000 hours of travel time savings per day. These travel time savings translate into economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. The valuation of time savings and level of economic benefits from improved mobility depend on a number of assumptions that are beyond the scope of this EIS/SEIR. However, based on U.S. Department of Transportation data, the value of time savings could range between $20 and $30 per vehicle hour (USDOT, Departmental Guidance for the Valuation of Travel Time in Economic Analysis, April 9, 1997, revised February 11, 2003). The type and level of economic benefits from improved mobility would also be influenced by other factors, such as local, regional and national market and economic conditions, local land use policies and regulations, availability of necessary infrastructure and services, community amenities and quality of life, and decisions by local developers and landowners. Thus, while there is support for a conclusion that there are positive economic impacts from time savings, the value of these benefits has not been quantified because of the variety of factors and the assumptions required for such quantification.

(11) No SOCTIIP build Alternative would generate "...disproportionately high and adverse effects..." on low-income or minority populations because:

- The adverse displacement and relocation impacts are not borne predominately by low income or minority persons. Under all the SOCTIIP build Alternatives, more than 90 percent of the displaced populations are not poverty income persons and more than 70 percent of the displaced persons are not minority.
- The adverse impacts of displacement and relocation are the same for low income and non-low income and minority and non-minority populations. All eligible displaced households would obtain relocation assistance.
- Therefore, no SOCTIIP build Alternative would result in adverse environmental justice impacts related to displacement and relocation.
- Other impacts, such as noise, air quality, etc, will generally affect populations in the corridors as a whole, rather than in the localized fashion caused by right-of-way requirements. For these cases, the potential for disproportionate representation by environmental justice populations was evaluated for the corridors as a whole. This analysis is based on minority and poverty income data from Census Tracts through which the corridor alignments pass from the 2000 United States Census. The representation of minority and below poverty level income populations in the corridors is similar to the study area as a whole. Therefore, low income and minority populations would not disproportionately bear any adverse impacts from air quality, noise, traffic, or other issues that would affect corridor populations as a whole.

(12) The relocation of SDG&E and SCE utility infrastructure as a result of implementation of the Preferred Alternative would not result in residential, business, or agricultural displacements, nor would the relocations create changes to local tax revenues. The cost of the relocations will be borne by the TCA and therefore will not result in increases to SDG&E and SCE rate payers.

(13) The post-construction configuration of utility poles and towers will be a more efficient design, and there will be fewer utility poles and towers for the service providers to maintain. Also, the relocated utilities will include new infrastructure that meets correct standards, and the proposed corridor will provide improved access to the area. Therefore, it is anticipated that the utility relocations will have a neutral or beneficial effect on long-term utility maintenance costs in this area.

(14) Measure SE-1. Avoidance of the Temporary Use and/or Permanent Acquisition of Residential and Non-Residential Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the permanent acquisition of land currently occupied by residential and non-residential users. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of

temporary and permanent use of residential and non-residential property will apply to the build Alternatives.

(15) Measure SE-2. Property Acquisition and Relocation Assistance. Prior to acquisition of right of way, the TCA will comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 in the acquisition of all property within the right-of-way necessary for the proposed project. All displaced households and businesses will be contacted to ensure that each eligible displacee receives their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources will be available to all eligible displaced persons or businesses without discrimination. TCA will also comply with the Public Park Preservation Act as applicable.

3.4 Pedestrian and Bicycle Facilities.

3.4.1 Potential Effect. Temporary trail, bikeway and sidewalk closures as a result of construction of the Preferred Alternative are listed in Table ES.6-1. Trail, bikeway and sidewalk closures are necessary when access cannot be accommodated during construction without jeopardizing public safety. These impacts are considered less than significant because these facilities occur along roads that would provide either underpasses or overpasses during operation of the Preferred Alternative.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Bicycle facilities will be rerouted during construction to an open alternate road.

(2) During temporary closures, detours for would be provided in consultation with the jurisdiction in which they are located, to the extent feasible to ensure public safety during construction.

(3) Measure R-1. Design refinement to avoid the temporary occupancy and/or permanent acquisition of recreation resources property.

(4) Measure R-2. Consult with the property owner/operator of recreation resources temporarily occupied or permanently acquired by a build Alternative; identify and implement opportunities to protect recreation resources in place; identify and implement opportunities to replace lost recreation facilities within the existing recreation property; and combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and Real Property Acquisition Act.

(5) Measure R-3. Negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

(6) Measure R-4. Negotiate with the owner/operator whose recreation facilities will be temporarily removed during construction to determine appropriate action and or compensation to mitigate for the temporary use.

(7) Measure R-5. During final design, accommodate planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments.

3.4.2 Potential Effect. Implementation of the Preferred Alternative would result in temporary closure of the proposed San Juan Creek Trail Extension and the Proposed Cristianitos Trail because the alignment of the Preferred Alternative crosses the alignments of these facilities. Construction of the corridor will require temporary use of the property if the proposed facilities are operational during construction. These impacts are considered less than significant.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure R-5. Impacts on Trails. During final design, the TCA will accommodate planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local jurisdictions. Final design will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.

(2) During these temporary closures, detours for these facilities would be provided in consultation with the jurisdiction in which they are located, to the extent feasible to ensure public safety during construction.

(3) The temporary impacts and closures would occur only during construction and only at the locations where the corridor crosses the alignments of these facilities.

3.4.3 Potential Effect. Implementation of the Preferred Alternative would result in permanent acquisition of a portion of Proposed San Juan Creek Trail Extension and Proposed Cristianitos Trail. These impacts are considered less than significant.

Findings. The Board hereby makes finding (1), (2) and (3).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure R-5. Impacts on Trails. During final design, the TCA will accommodate planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local jurisdictions. Final design will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.

(2) Measure R-3. Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

3.5 Noise.

The thresholds used for assessing the significance of short-and long-term noise impacts associated with the SOCTIIP Alternatives, consistent with the requirements of CEQA, are described as follows.

Short-term noise levels from construction activities are measured against the applicable local municipality's Noise Ordinance to assess whether there are any short-term noise impacts. Construction activities complying with the applicable local Noise Ordinance are considered under CEQA to result in no significant adverse short-term noise impacts. Construction activities which result in short-term adverse noise levels which exceed the applicable local Noise Ordinance are considered significant. The Orange County Noise Ordinance was used to assess noise impacts from construction of the SOCTIIP build Alternatives on uses in unincorporated areas and the incorporated cities with the same Noise Ordinance as well as the Cities of Laguna Hills and San Juan Capistrano, which do not have relevant Noise Ordinances. The City of San Clemente Noise Ordinance was used to assess construction noise impacts of the SOCTIIP build Alternatives for land uses in the City of San Clemente.

To cause a significant adverse impact, a project alternative must first cause a substantial increase in future CNEL levels at a sensitive receptor.

An Alternative that causes a noise level increase of 3 dB or more is considered to result in a substantial noise increase. The increase in noise level caused by the Alternative is the difference in the future noise level with the project alternative and the future noise level without the project alternative. The increase in future noise levels with an Alternative, compared to existing conditions, will be a result of both the Alternative and overall growth in the region. If the noise level increase over existing conditions is greater than 3 dB and the Alternative causes more than 1 dB of this increase, that project alternative is considered to result in a substantial combined noise increase. If either increase is realized, a second condition must occur for a significant adverse noise impact to result from the Alternative.

The second condition that must occur for an impact to be considered significant and adverse in terms of the local municipalities' CNEL standards is that the increase results in a

future noise level which exceeds the local municipalities' CNEL standard. All the municipalities in south Orange County have established an exterior residential CNEL standard of 65 CNEL. The County does not have an applicable noise standard relating to parks. However, all the Cities in the study area have established a 65 CNEL noise standard for parks. For all municipalities in the SOCTIIP study area, noise levels were evaluated at potentially impacted park picnic areas, playgrounds and areas of frequent human activity.

Analysis of impacts in terms of local municipalities' CNEL standards is applicable to areas along new roads constructed by the SOCTIIP Alternatives and along existing roads that will be modified by the SOCTIIP Alternatives (i.e., addition of lanes). It is also applicable to roads that will not be physically modified by the SOCTIIP Alternatives but on which traffic volumes will change as a result of the SOCTIIP Alternatives.

3.5.1 **Potential Effect**. Construction noise represents a short-term impact on ambient noise levels due to construction equipment and construction activities that can generate high noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators may potentially reach high levels. For a summary of construction noise impacts, refer to EIS/SEIR Table 7.7-1. Potential construction noise impacts associated with the Preferred Alternative may result from pile driving, heavy grading, general construction activities, demolition and haul routes. Implementation of the mitigation measures provided herein and discussed in EIS/SEIR Section 4.6 will reduce the construction related noise impacts for the Preferred Alternative to below a level of significance.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the

TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-3. Schools Adjacent to Construction Zone. Prior to construction activities in the vicinity of any school, the construction contractor shall be responsible for developing an agreement with Fallbrook Union Elementary School District, Camp Pendleton and private school operators as appropriate, that would mitigate construction noise levels in classrooms and playfields at the affected schools to an agreed to construction noise performance standard. Each agreement shall be completed prior to the initiation of any grading on construction within 600 m (2,000 ft) of the school grounds. Examples of noise mitigation options include construction of temporary soundwalls, and limitation of some of the noisiest construction activities to periods when the schools are closed (e.g., the summer for the two public schools).

(4) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(5) Measure N-6. Noise Complaint Officer. Prior to construction activities, the construction contractor shall identify a Noise Complaint Officer and establish a Noise Complaint hotline. The Noise Complaint Hotline shall be able to receive calls on a 24-hour basis. Any complaints regarding construction shall be forwarded to the Noise Complaint Officer. The Noise Complaint Officer shall record the general description of the complaint, the time the offending noise occurred and the location of the complaint. The Officer shall attempt to measure the noise that generated the complaint within the following 24 hours. If the noise levels exceed those allowed during nighttime construction activities under the

local Noise Ordinance, or activities are occurring that are inconsistent with the noise mitigation measures, then the construction contractor shall be responsible for correcting those problems within the following 48 hours. The noise levels measured and any corrective actions shall be recorded with the original complaint form.

3.5.2 **Potential Effect**. In relation to long-term operational noise impacts, the Preferred Alternative is projected to impact seven of the eighteen receptors analyzed in the Final EIS/SEIR. These seven receptors represent approximately 50 residences, a high school, a preschool and two campgrounds. In addition, the Preferred Alternative would impact five of the 55 receptors analyzed in the newly developed areas of the Talega Community. These five impacted receptors would be in addition to the seven receptors impacted along the other portions of the corridor. After implementation of the required noise mitigation measures, long-term noise impacts will be reduced to a level considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Short term noise mitigation measures N1-, N-2, N-3, N-4, and N-6 are hereby incorporated by reference.

(2) EIS/SEIR, Table 4.6-19 shows that one residence will be impacted under the Preferred Alternative with respect to the FHWA criteria, even with noise abatement. This is a single residence (Receptor 021) that is projected to experience a substantial noise increase. The analysis shows that, per FHWA/Caltrans criteria, it would not be reasonable to provide a sound wall for this single residence. There are several other receptors in the area of this receptor that are not subject to a substantial noise increase. However, the existing noise level measured at this receptor was much lower than the other receptors resulting in the substantial noise increase. Because this only occurs at one residence and the ultimate noise level is still well below the NAC, these Alternatives would not result in an adverse noise impact.

(3) Based on the preliminary design, all the build Alternatives are projected to either import or export soil. The amount of soil transported varies substantially depending on the Alternative. During final design, refinements of the grading (cut and fill) is expected to substantially limit or even eliminate the potential for import/export of soil associated with cut/fill.

(4) Noise levels were modeled for the SOCTIIP Alternatives to determine long-term impacts on sensitive receptors. These are the noise impacts from the noise generated on the highways that will be constructed or physically altered by the specific Alternative. The analysis in Section 4.6.2 indicates that all of the build Alternatives result in an adverse noise impact and the only practical way to mitigate outdoor traffic noise levels is through the construction of noise barriers

(Measure N-8). The barrier will reduce the noise levels such that the build Alternatives will not cause a substantial noise increase (i.e., cause an increase of more than 3 dB) or contribute considerably to a substantial increase over existing conditions (i.e., cause an increase of more than 1 dB where the noise level is projected to increase over existing conditions by more than 3 dB). The barriers will mitigate this impact of the build Alternatives to below a level of significance.

(5) Measure N-7. Final Noise Analysis. During final design, the TCA will prepare a final noise analysis based on the detailed and finalized design developed during final design. Feasibility considerations for each sound barrier must meet FHWA/Caltrans criteria including a minimum of 5 dB of noise reduction at the impacted receiver. Additional feasibility considerations are (1) topography, (2) access requirements for driveways, ramps, etc; (3) the presence of cross streets, (4) other noise sources in the area and (5) safety considerations. The TCA will finalize noise mitigation requirements for the selected Alternative and coordinate design with the local agency. As appropriate, the Final Noise Assessment Technical Report and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report will provide specific recommendations that will then be incorporated into the Construction documentation (i.e., final design) for building purposes.

(6) Measure N-8. Long-Term Noise Impacts. During construction, the TCA shall implement permanent sound barriers, including walls, berms or combinations of walls and berms. The sound barrier and/or supplemental berm must provide a minimum of 5 dB of noise reduction at the impacted receiver as refined during final design. The locations of these proposed sound barrier/berms are shown on Figures by Alternative in Appendix K. The construction contractor will be responsible for constructing the sound barrier/berm for the selected Alternative and as refined during final design. As appropriate, the Final Noise Assessment Technical Report will be reviewed and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report provides specific recommendations that ate then translated into the construction documentation (i.e., final design) for build purposes. The design and specifications of the sound walls, shown on Figures 5.2-79 through 5.2-82 (Appendix K of the Draft EIS/SEIR), on MCB Camp Pendleton shall be approved by the Commanding General of Camp Pendleton.

(7) In addition to mitigation measures, which identify specific actions to avoid, minimize or compensate for potential long-term adverse noise impacts, the following commitments are included in the project alternatives:

- Commitment NC-1. Determination of Reasonableness. During final design, the TCA shall determine the reasonableness of soundwall/berm placement and consider the life cycle of the sound barrier, the potential environmental impact of the mitigation, opinions of impacted residents, input from the public and local agencies, and social, economic and environmental factors consistent with the FHWA/Caltrans feasibility criteria.

- Commitment NC-2. Soundwall/Floodplain. During final design, if the TCA locates a soundwall/berm in a floodplain, the TCA shall prepare an evaluation of the effects of the soundwall on the floodplain in accordance with appropriate guidelines and design manuals. The design and location will be determined to ensure there is no exceedance of the one-foot elevation of the base floodplain. Early recognition and analysis of potential problem areas will be made to determine if wall openings or staggered wall openings are viable for those barriers.

(8) PDF 6-1. Sound Walls for the Corridor Alternatives. Sound walls to reduce noise impacts on adjacent sensitive land uses under the corridor Alternatives will be provided consistent with FHWA, Caltrans, and local noise standards. The locations of the noise walls included in the corridor Alternatives are shown on detailed maps in Appendix K. Some of these noise walls will be outside the disturbance limits and rights-of-way for the corridor Alternatives. Those noise walls would be adjacent to existing sensitive land uses to maximize the noise reduction benefits of these walls for the adjacent sensitive uses. Those walls would be constructed on the affected property, with the permission of the property owner, and would become the property of that property owner. The disturbance limits for these walls would be limited to the area directly adjacent to the walls. The construction access to these wall locations would be from the property owner's access (driveway) from the nearest public road and not from the disturbance limits for the build Alternatives. The noise walls for the SOCTIIP build Alternatives, including walls outside the disturbance limits, are shown on the detailed maps in Appendix K.

3.6 Air Quality.

The following findings are based on "worst-case" meteorology and conservative traffic projections and represent impact assessments considerably more conservative than what is required under CEQA and NEPA. See EIS/SEIR Section 4.7 for further details.

3.6.1 Potential Effect. Operation of the Corridor could result in local air quality impacts related to CO because the SOCTIIP Alternatives will change the traffic pattern of the road system in south Orange County. The Preferred Alternative has the potential to alter traffic patterns on arterial roads as well as adding a new source of air pollutants. Potential impacts associated with local air quality and CO were determined to be less than significant based on a detailed analysis of CO concentrations at sensitive areas in the project vicinity, such as key arterial intersections and concentrations points along the corridor.

Finding. The Board hereby concludes that CO impacts are less than significant.

Facts in Support of Finding. The following facts indicate that this potential impact is not significant.

(1) CO concentrations for the Preferred Alternative would be the same as CO concentrations for the A7C-FEC-M-Initial Alternative. The results of the CO modeling are summarized in Table 4.7-49 for 1-hour and 8-hour concentrations for CO. For the CO concentration levels, the pollutant levels are projected to comply with the state and federal CO AAQS for both 1-hour and 8-hour time frames at all receptor locations.

(2) The 2025 No Action Alternative CO concentration levels are slightly higher than the 2025 Preferred Alternative CO concentration levels. This is a result of the higher amount of traffic and slightly worse congestion level associated with the 2025 No Action Alternative. The 2025 Preferred Alternative shows overall improvement in CO concentration levels when compared to the 2025 No Action Alternative. That is, lower CO levels will result at most of these intersections. This is due to lower peak hour traffic and reduced congestion level associated with the Preferred Alternative.

(3) Tolls will remain in place until bonds are paid off, and most likely tolls would be in place beyond 2025. To assess this future toll free condition, the EIR also includes the CO concentration levels for the 2025 Preferred Alternative toll-free with and without the project. The results are presented in Table 4.7-51. The CO concentration levels for 2025 Preferred Alternative toll-free are the lowest while the 2025 No Action Alternative levels are the highest. The 2025 Preferred Alternative toll-free shows an overall improvement when compared to 2025 No Action Alternative. This is indicative of the better local traffic conditions associated with the 2025 Preferred Alternative toll-free, and in contrast to the 2025 No Action Alternative CO concentration levels, which are the highest and represents the worst case Alternative.

3.6.2 Potential Effect. Operation of the Corridor could have an impact on air quality relative the PM_{10} emissions because projects that increase the Vehicle Miles Traveled (VMT) result in increased tailpipe emissions; tire wear emissions, and paved road dust, also referred to as re-entrained particulate matter. These impact are considered less than significant based on the facts stated below.

Finding. The Board hereby makes findings (1).

Facts in Support of Finding. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures AQ-1, AQ-2, AQ-3, AQ-4, AQ-5, AQ-6 and AQ-7 are hereby incorporated by reference.

(2) VMT-related emissions of PM_{10} are generally spread out along the entire roadway network and not concentrated in any one area. Hot spots or high levels of local pollutant concentrations generally occur at congested intersections, where a large number of vehicles may sit and idle or move slowly, resulting in a larger amount of emissions being released within a small area. Therefore, to reduce the severity of hot spot conditions it is important to reduce the level of congestion, particularly on the arterial roadway network, which the Preferred Alternative will do.

(3) The Preferred Alternative would result in a very small increase in regional VMT (i.e., 14,981 vehicle miles per day in comparison to the 421,712,541 miles projected for the region). The arterial roadway traffic will decrease substantially more (i.e., 386,398 miles per day). The effect of reducing traffic on the arterial roadway network will be more than 25 times as great as the overall regional traffic increase. More importantly, traffic will be removed from the arterial roadway intersections where congestion leads to PM_{10} hot spots. Therefore, the qualitative analysis for PM_{10} indicates that the Preferred Alternative would provide a reduction in the number and severity of PM_{10} hot spots.

(4) The PM_{10} levels for the Preferred Alternative will comply with the federal PM_{10} Ambient Air Quality Standards (AAQS) of 150 ug/m^3. *See Air Quality Technical Report* Table 5-22. Although future PM_{10} concentrations will exceed the state AAQS, this is due to the high background concentrations that already exceed the state AAQS. As a result, the PM_{10} concentration levels are projected to consistently exceed the state AAQS in future years, with or without the project.

3.6.3 <u>Potential Effect</u>. The operation of the Corridor could have air quality impacts relative to toxic air contaminants because in 1998 the California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines (Diesel Particulate Matter or DPM) as a Toxic Air Contaminant (TAC). As a part of the identification process, the ARB's Office of Environmental Health Hazard Assessment (OEHHA) evaluated the potential for DPM to affect human health. The OEHHA found that exposures to DPM resulted in an increased risk of cancer and an increase in chronic non-cancer health effects. DPM is one of several airborne TACs that could be increased with implementation of the Corridor. DPM impacts are considered less than significant based on the fact stated below.

<u>Finding</u>. The Board hereby makes findings (1).

<u>Facts in Support of Finding</u>. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The Preferred Alternative will not result in a significant adverse impact related to increased cancer risks as a result of increased DPM exposure along the northern portion of the Preferred Alternative. Table 7.8-2F shows that cancer risks are projected to exceed the cancer risk significance threshold of 10 per million directly along the corridor to the west at a distance of 6.1m (20') from the edge of the corridor. The typical right-of-way for the corridor build Alternatives includes at least 20 feet from the edge of the travel way; in most cases there is an even

greater distance of 28 to 34 feet. At 15.2m (50') and beyond, increases are below the threshold of significance. In most cases, any receptors would be located outside the area with a significant cancer risk. The nearest existing residential receptors at the northern extent of the corridor are located 762m (2500') feet from the corridor where the cancer risk is well below the threshold.

(2) Several corridor Alternatives pass directly adjacent to residential developments near the southern extent (north of the connection with I-5). However, traffic volumes at the southern extents of the corridors are lower than at the northern extent, which was the area that was modeled for this analysis. To estimate the DPM concentrations at the southern end of the corridor they can be scaled by the ratio of traffic volumes at the northern and southern end. Note that this analysis does not take into account the different alignments of the corridor Alternatives at the southern end but provides a reasonable estimate of the concentrations. This analysis shows that the traffic volumes are lowered such that DPM concentrations would be reduced as to not result in a cancer risk greater than 10 per million. Therefore, it is expected that the Preffered Alternative would not result in a significant adverse impact related to increased cancer risks as a result of increased DPM exposure along the southern portion of the Preferred Alternative.

(3) EIS/SEIR Table 7.8-2G presents the non-cancer risk calculated from the concentrations presented in Table 7.8-2E and the equation discussed earlier. Table 7.8-2G shows that Hazard Indices along the northern extent of corridor build Alternatives are well below the significance threshold of 1. Traffic volumes along the Preferred Alternative are projected to be lower as the corridor extends south. This results in lower DPM concentrations along the Preferred Alternative to the south and correspondingly lower Hazard Indices on the southern segments of the corridor. Therefore, there are no significant adverse non-cancer health impacts related to DPM along the entire Preferred Alternatives.

(4) There will be no significant impact and no mitigation is required. Congestion and slow speeds result in greater DPM emissions, concentrations and cancer risks compared to congestion free facilities. Reducing traffic congestion is a primary purpose of the project. No other project specific mitigation for DPM is available for a transportation facility where vehicles are moving at a steady pace on the facility. The reduction of DPM is planned on a statewide basis by CARB and EPA through emission standards and fuels as noted in Section 1.1, Background on Diesel Particulates. Other potential mitigation for DPM has focused on facilities with concentrations of trucks such as truck stops and warehouse distribution centers where operations can be controlled; this type of mitigation is not applicable to a public roadway.

3.6.4 **Potential Effect**. The Preferred Alternative will have a beneficial impact related to regional emissions for HC and CO.

Finding. The Board hereby makes findings (1).

Facts in Support of Finding. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The Preferred Alternative results in a decrease of regional emissions for HC and CO. The primary reason for the reduction in HC and CO emissions is that, with the Preferred Alternative, a large number of vehicles would be attracted from arterial roads where the travel speeds are in the low 33 kilometers per hour (kph, 20 miles per hour (mph) range, and instead would drive on a corridor where the travel speed would be substantially higher. Emission rates for HC and CO are near their lowest at around 60 mph (100 kph). Therefore, redistributing vehicles from arterial roads to the corridor results in reductions in HC and CO emissions, and thereby creates a beneficial air quality impact associated with operation of the Preferred Alternative.

3.7 Floodplains, Waterways and Hydrologic Systems.

3.7.1 Potential Effect. The Preferred Alternative could potentially effect the increase in 100-Year Expected Value Discharge. As shown in Tables 4.8-19 and 4.8-20, the hydrologic analysis indicates that increased impervious area due to the pavement and increases in localized watershed areas due to roadway grading will increase the peak flow rate and runoff volume for local drainage areas impacted. As shown in Table 4.8-21, the hydrologic analysis on a regional level shows that increased impervious area will increase peak flow and runoff volume in the San Juan Creek watershed although these impacts are very minor. These impacts are considered less than significant due to PDFs.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Potential impacts related to floodplains, waterways and hydrologic systems are addressed through PDFs incorporated in the design of each of the SOCTIIP build Alternatives. These PDFs include Extended Detention Basins ("EDBs), which are sized to include a contingency volume to attenuate excess flows, from the on-site (roadway) and, therefore, protect downstream natural channels from scour. Structures would be placed within 100-year flood hazard areas; however, flows would be diverted to containment BMPs or rip rapped areas to reduce flow velocity and flooding of waterways. EDBs, BMPs and other water quality measures are described in detail in Section 4.9 in the EIS/SEIR.

(2) PDFs are incorporated to prevent and mitigate construction impacts to floodplains, waterways and hydrologic systems. Many of the PDFs also specifically address water quality issues. Construction engineering and design would address construction impacts to floodplains and hydrology which would be incorporated into design and construction plans.

(3) The Preferred Alternative does not result in impacts to floodplain encroachment, residential, non-residential and cropland, risk associated with implementation,

natural and beneficial floodplain values, support of probable incompatible floodplain development or to groundwater and Preferred Alternative does not result in scour impacts.

(4) The PDFs include mitigation strategies to address scour, 100-year flood protection, sediment loading/scour, erosion and water quality/erosion. These PDFs are listed below. No further mitigation is proposed for adverse impacts of the SOCTIIP build Alternatives related to floodplains, waterways and hydrologic systems.

(5) PDF 9-1. Reduction of Downstream Effects Caused by Changes in Flow. If changes in velocity or volume of runoff, sediment load or other hydraulic changes due to encroachment, crossings or realignment result in an increased potential for downstream effects in channels, the TCA, or other implementing agency, will implement design features to prevent adverse effects. The features will include one or more of the following (or similar features):

- Modifications to channel lining materials (both natural and man-made), including vegetation, geotextile mats, rock and riprap.
- Energy dissipation devices at culvert outlets.
- Smoothing the transition between culvert outlets/headwalls/wingwalls and channels to reduce turbulence and scour.
- Incorporating retention or detention facilities into designs to reduce peak discharges, volumes and erosive flow.
- Conduct detailed hydrologic engineering design to establish size, capacity, alignment of flood control facilities to protect the site from the 100-year flood level.

(6) PDF 9-2. Concentrated Flow Conveyance Systems. The TCA will implement concentrated flow conveyance systems to intercept and divert surface flows, and convey and discharge concentrated flows with a minimum of soil erosion, both on-site and off-site where applicable. Ditches, berms, dikes and swales will be used to intercept and direct surface runoff to an overside drain or stabilized watercourse.

(7) PDF 9-3. Slope and Surface Protection Systems. The TCA will use surface protection to minimize erosion from completed, disturbed surfaces. Surface protection includes but is not limited to vegetative cover or hard surfacing such as concrete, rock, or rock and mortar.

(8) PDF 9-4. Detention Basins. The TCA will implement EDBs on the SOCTIIP build Alternative to temporarily detain water on the site and allow sediment and particulates to settle out. EDBs will be maintained, monitored and documented

per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP. The siting of EDBs requires that sufficient head is available such that water stored in the basin does not cause a backwater condition in the storm drain system, which would limit its capacity. Additionally, high groundwater must be no higher than the bottom elevation of the basin; otherwise, the basin would not drain completely. The siting process also required consideration of sensitive environmental constraints. The EDBs were sited to avoid those areas as well.

(9) PDF 9-5. Biofiltration Swales and Strips (Vegetated Treatment Strips). The TCA will use biofiltration swales and strips, as shown in the RMP, where applicable and in association with EDBs to convey low flow. One of the primary limitations of using bioswales is that they must be used on slopes less than two percent. Due to the terrain and the design of the Alternatives there were very few locations where they could be applied. Bioswales will be maintained, monitored and documented per RWQCB and Caltrans requirements and will conform to guidelines set forth in the SWMP.

(10) PDF 9-6. Infiltration Basins. To the extent feasible or necessary, infiltration basins will be implemented to detain runoff and infiltrate it into the soil to prevent contaminants from impairing the beneficial uses of receiving waters. Infiltration basins will be maintained, monitored and documented per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP.

(11) PDF 9-7. Runoff Management PDFs for the Corridor Alternatives. The build Alternatives include BMPs to control the flow of roadway runoff and treat to the maximum extent practicable (MEP), roadway runoff before it leaves the project site and enters existing water courses or storm drain facilities. PDFs for the SOCTIIP build Alternatives include BMPs such as EDBs and grassy swales. The disturbance and right-of-way limits for the build Alternatives, shown on the detailed maps in Appendix A, include areas for EDBs and other BMPs.

The PDFs consist of both pollution prevention BMPs and treatment BMPs. Pollution prevention BMPs are used to address design phase elements, construction and spill mitigation. Treatment BMPs are used in the design to meet regulatory water quality requirements at specific locations. Both pollution prevention and treatment BMPs are included in the build Alternatives to the MEP. Most of the treatment BMPs, such as EDBs, are designed with a safety factor such that they will function in conditions beyond those prescribed by Caltrans' National Pollutant Discharge Elimination System (NPDES) permit.

(12) PDF 9-8. Prior to completion of final design, TCA shall obtain approval of the hydrologic methodology and parameters to be analyzed in the Final Hydrologic Technical Report and incorporated into the Final Location Hydraulic Study from affected jurisdictional agencies.

(13) PDF 9-9. Final design will include refinements to ensure that the bridges will be constructed to span the 100-year floodplain without raising the 100-year base

floodplain water surface elevation more than 0.3 meter (1.0 foot), or otherwise causing adverse changes in the extent of the floodplain or the potential for erosion.

3.7.2 Potential Effect. The Preferred Alternative could potentially effect floodplain encroachments in San Juan Creek, San Mateo Creek and San Onofre Creek. However, potential floodplain encroachments are considered less than significant based on the PDF and facts stated below.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) San Juan Creek. Hydraulic results for the 100-year Expected Value discharge at San Juan Creek indicate that the Preferred Alternative would not present an adverse impact to the 100-year floodplain. The maximum increase in water surface elevation is approximately 0.01 m (0.03 ft).

(2) San Mateo Creek. Based on the hydraulic results for the 100-year Expected Value discharge, the Preferred Alternative would not present an adverse impact to the 100-year floodplain. The maximum increase in water surface elevation is approximately 0.02 m (0.08 ft) and occurs at cross sections 633 (2075) and 581 (1907).

(3) San Onofre Creek. Based on the hydraulic results for the 100-year Expected Value discharge, the Preferred Alternative would not present an adverse impact to the 100-year floodplain. The maximum increase in water surface elevation is approximately 0.13 m (0.43 ft) and occurs just upstream of the old Pacific Coast Highway (PCH) bridge at cross section 206 (675). The existing 100-year floodplain includes the existing access road under the I-5 on the south side of San Onofre Creek and the Beach Club Road low flow crossing at San Onofre Creek, both of which are on MCB Camp Pendleton. Both roads would be flooded under existing conditions. The Preferred Alternative results in greater flood depths over the existing access road under the I-5; however, the Preferred Alternative would not adversely affect Beach Club Road. The percolation basins adjacent to the crossing, east of the I-5, are within the existing 100-year floodplain but would not be adversely affected by the Preferred Alternative.

(4) PDFs 9-1 through 9-9 are hereby incorporated by reference.

3.7.3 Potential Effect. The Preferred Alternative could result in residential, non-residential and cropland encroachment impacts in San Juan Creek, San Mateo Creek and San Onofre Creek However, these impacts are considered less than significant based on the facts below and implementation of PDFs.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) San Juan Creek. The Preferred Alternative does not include any residential structures, non-residential structures or crop lands in the San Juan Creek 100-year floodplain. Therefore, no impacts related to increases in these land uses are anticipated in the 100-year floodplain.

(2) San Mateo Creek. There are no residential structures in the 100-year floodplain in the Preferred Alternative study area at San Mateo Creek. Several agricultural buildings are in the San Mateo Creek 100-year floodplain, approximately 800 m (2,600 ft) upstream of the Preferred Alternative bridge crossing. Potable water wells used by MCB Camp Pendleton and the tenant who leases the agricultural land upstream of I-5 are also located in the 100-year floodplain. The nearest production well (Well 9S/07W-11K1) is approximately 3,100 m (10,300 ft) upstream of the Preferred Alternative. These facilities are upstream of the area that would be affected by increased 100-year flood elevations due to the Alternative. There is a test well, to monitor groundwater levels, within 100 m (300 ft) of the Preferred Alternative. In addition, MCB Camp Pendleton has planned percolation basins in the San Mateo Creek floodplain in the agricultural area, with the nearest proposed basin approximately 450 m (1,500 ft) upstream of the Preferred Alternative. The Preferred Alternative crossing would increase the estimated 100-year flood in the vicinity of the bridge by a maximum of approximately 0.02 m (0.08 ft), a minor increase. The estimated increase in the 100-year flood would therefore only present a minor increase to the flood elevations at the test well and the proposed percolation ponds. There are extensive crop lands in the San Mateo Creek 100-year floodplain upstream of the project area. The area is generally used for row crops and is in production through the winter. The existing channel provides an approximate level of protection for the 50-year Expected Value flood. The area appears to be part of the historic San Mateo Creek floodplain, which has been graded and leveled for farming. The area also includes greenhouses and water wells, which serve both the agricultural area and MCB Camp Pendleton. Impacts to the 100-year flood elevations are limited to approximately 1,200 m (3,900 ft) upstream of the proposed Preferred Alternative crossing. The area predominantly consists of crop lands. The greenhouse areas and production wells would not be affected.

(3) San Onofre Creek. There are no residential structures, crops or non-residential buildings in the San Onofre Creek 100-year floodplain in the Preferred Alternative study area. The MCB Camp Pendleton percolation basins and Beach Club Road crossing are in the existing 100-year floodplain but would not be adversely affected by the Preferred Alternative. This Alternative would present a minor adverse effect on the existing access road under the I-5 on the south side of San Onofre Creek, which is in the existing floodplain, by resulting in increased flood depths; however, as this road is not currently accessible during existing flood conditions, the impact due to the Alternative would be minor.

(4) PDFs 9-1 through 9-9 are hereby incorporated by reference.

3.7.4 Potential Effect. The Preferred Alternative could result in scouring impacts in San Juan Creek, San Mateo Creek and San Onofre Creek. However, these impacts are considered less than significant based on the facts below and implementation of PDFs.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) San Juan Creek. The bridge piers of the Preferred Alternative encroach into the 100-year floodplain of San Juan Creek. The average channel velocity within the vicinity of the San Juan bridge remains at 2.5 m/sec (8.2 ft/sec) for both existing and project conditions. This will not create an adverse impact due to scour at this location under this Alternative.

(2) San Mateo Creek. The bridge piers of the Preferred Alternative encroach into the 100-year floodplain of San Mateo Creek. For the 100-year Expected Value event, the average channel velocity at the bridge remains the same as that during existing conditions at approximately 2.5 m/sec (8.1 ft/sec). Because the average channel velocity will not change with the introduction of additional bridge piers in San Mateo Creek, there will not be an adverse impact due to scour.

(3) San Onofre Creek. The bridge piers of the FEC-M Alternative encroach into the 100-year floodplain of San Onofre Creek. For the 100-year Expected Value event, the average channel velocity in the vicinity of the bridge remains the same as that during existing conditions at approximately 2.2 m/sec (7.1 ft/sec). Because the average channel velocity will not change with the introduction of additional bridge piers in San Onofre Creek, there will not be an adverse impact due to scour.

(4) PDFs 9-1 through 9-9 are hereby incorporated by reference.

3.7.5 Potential Effect. The Preferred Alternative could result in impacts to traffic during flood events. However, these impacts are considered less than significant based on the facts below and implementation of PDFs.

Findings. The Board hereby makes finding (1).

(1) A 100-year flood event would cause no expected interruption of traffic on the FEC-M Alternative crossings at San Juan Creek or San Mateo Creek. A 100-year flood event would cause no expected interruption of traffic on the Preferred Alternative crossing at San Onofre Creek. The crossing results in a minor impact to the existing access road under the I-5 on the south side of San Onofre Creek; however, as this is already located within the existing floodplain, impacts to traffic would be minor.

(2) PDFs 9-1 through 9-9 are hereby incorporated by reference.

3.7.6 Potential Effect. The Preferred Alternative could result in impacts natural and beneficial floodplain values. However, these impacts are considered less than significant based on the facts below and implementation of PDFs.

Findings. The Board hereby makes finding (1).

(1) San Juan Creek. The floodplain of the Preferred Alternative crossing at San Juan Creek is generally undeveloped and consists of open brush, grass and woodlands (NES, P&D, 2002). Vegetation near the crossing is composed primarily of riparian communities. Sensitive vegetative habitats identified near the crossing include southern sycamore riparian forest, southern arroyo willow riparian forest, California sage/California buckwheat scrub, mulefat scrub, coastal live oak woodland, mixed sage scrub and southern coastal needlegrass grasslands. A variety of avian and herptile species are found throughout the drainage including species commonly associated with riparian, sage scrub and woodland habitats. In addition, beneficial floodplain values include, but are not limited to open space, natural beauty, scientific study, natural moderation of floods, water quality maintenance, and groundwater recharge. If velocities substantially increase, existing sedimentation/scour patterns would be adversely affected, which would in turn result in adverse impacts to natural and beneficial floodplain values. PDFs address erosive velocities, however, and minimize scour potential and maintain beneficial floodplain values.

The proposed Preferred Alternative crossing structures would span the existing low flow channel and associated wetlands or riparian habitat areas. The area under the structures would be partially shaded by the structure, which may reduce the existing vegetation, and some existing trees would be removed to construct the crossing. The existing channel flow is generally intermittent and seasonally can be used by fish. The overbank areas that would be filled for the approach embankment are agricultural with limited habitat values. No adverse impacts on natural and beneficial floodplain values are expected.

(2) San Mateo Creek. The floodplain of the Preferred Alternative crossing at San Mateo Creek generally consists of undeveloped land under federal (military) ownership, and agricultural fields. Vegetation near the crossing is composed primarily of scrub and riparian communities (NES, P&D, 2002). Sensitive vegetative habitats identified near the crossing include California sage/California buckwheat scrub, sagebrush/coyote brush scrub, floodplain scrub, mulefat scrub, southern arroyo willow riparian forest, Mexican elderberry woodland and coastal freshwater marshes. A variety of avian and herptile species are found throughout the drainage including species commonly associated with riparian, sage scrub and woodland habitats. A number of cultural resources have also been identified near the crossing. In addition, beneficial floodplain values include, but are not limited to open space, natural beauty, scientific study, outdoor recreation, natural moderation of floods, water quality maintenance, and groundwater recharge. If

velocities substantially increase, existing sedimentation/scour patterns would be adversely affected, which would in turn result in adverse impacts to natural and beneficial floodplain values. PDFs address erosive velocities, however, and minimize scour potential and maintain beneficial floodplain values.

The highway structure would span the existing low flow channel and associated wetlands or riparian areas and would partially shade the area under the structure. Shading would reduce the existing vegetation and existing trees would be removed to construct the crossing. No adverse impacts on natural and beneficial floodplain values are expected. There would be localized adverse impacts to vegetation and fish to this specific crossing location, but these impacts would not be considered substantial or adverse.

(3) San Onofre Creek. The floodplain of the Preferred Alternative crossing at San Onofre Creek generally consists of undeveloped land under federal (military) ownership. Vegetation near the crossing is composed primarily of scrub, chaparral and riparian communities (NES, P&D, 2002). Sensitive vegetative habitats identified near the crossing include California sage/California buckwheat scrub, sagebrush/coyote brush scrub, southern mixed chaparral, southern sycamore riparian forest, southern coastal bluff scrub and Mexican elderberry woodland. A variety of avian and herptile species are found throughout the drainage including species commonly associated with riparian, sage scrub and woodland habitats. Cultural resources have also been identified near the crossing. In addition, beneficial floodplain values include, but are not limited to open space, natural beauty, scientific study, natural moderation of floods, water quality maintenance, and groundwater recharge. If velocities substantially increase, existing sedimentation/scour patterns would be adversely affected, which would in turn result in adverse impacts to natural and beneficial floodplain values. PDFs address erosive velocities, however, and minimize scour potential and maintain beneficial floodplain values.

The Preferred Alternative widening of the existing crossing at San Onofre Creek would span the existing low flow channel and associated wetlands or riparian habitat areas. The area under the structures would be partially shaded by the structure, which may reduce the existing vegetation, and some existing trees would be removed to construct the crossing. There would be localized adverse impacts to vegetation and fish to this specific crossing location, but these impacts would not be considered substantial or adverse in relation to total floodplain value.

(4) PDFs 9-1 through 9-9 are hereby incorporated by reference.

3.7.7 Potential Effect. The Preferred Alternative could result in groundwater recharge impacts. However, these impacts are considered less than significant based on the facts below and implementation of PDFs.

Findings. The Board hereby makes finding (1).

(1) Segments of the Preferred Alternative will cross groundwater recharge areas in the San Juan Basin. The Preferred Alternative are not expected to result in the destruction of any groundwater wells or the permanent lowering of groundwater levels. Placement of impervious road surfaces in recharge areas will not reduce the amount of runoff that infiltrates into the aquifer. Substantial reduction in recharge is not anticipated to affect groundwater levels in the aquifers, potentially affecting the yield of water supply wells.

(2) PDFs 9-1 through 9-9 are hereby incorporated by reference.

3.8 Water Quality.

3.8.1 Potential Effect. Construction impacts caused by the Preferred Alternative include potential increases in sediment loads due to removal of existing ground cover and disturbance of soil during grading. These impacts have the potential to effect water quality standards, discharge requirements and create additional sources of polluted runoff. With implementation of the Project Design Features ("PDFs") and water quality mitigation measures, these potential short-term construction impacts to water quality would be reduced to a level considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) During construction all of the regulatory requirements will be implemented prior to soil disturbance. Additionally, a Storm Water Pollution Prevention Plan ("SWPPP") will be prepared and implemented which will address stormwater management, spill prevention and response, and non-stormwater discharges. All the construction related Best Management Practices ("BMPs") will be deployed to the Maximum Extent Practicable ("MEP"). Use of the described BMPs during construction is expected to minimize any impacts to water quality during construction.

(2) Measure WQ-1. Preservation of Adjacent Existing Vegetation. The TCA will preserve to the extent feasible existing vegetation at areas on the construction site where either no construction activity is planned or where it will occur at a later date. The vegetation will be preserved according to the California Storm Water BMPs Municipal Handbook (1993) as listed in the RMP.

(3) Measure WQ-2. Construction Site BMPs. The TCA will implement construction site BMPs as appropriate, during construction of the SOCTIIP alternatives. These BMPs are described in the California Best Management Practice Handbooks for Construction (1993, revision pending), Caltrans, SWMP and Storm Water Quality Handbooks. BMPs categories include measures for temporary sediment control, temporary soil stabilization, scheduling, preservation of existing vegetation, conveyance controls, wind control, temporary stream crossings and waste management as well as many other measures which may be implemented during

construction of a highway project. These measures are consistent with requirements set forth under the California State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 (General Construction Permit), which governs storm water and non-storm water discharges during construction activities, as well as with those requirements set forth in the Caltrans Permit Order No. 99 - 06 - DWQ (CAS 000003). These BMPs are directed at reducing storm runoff pollutants and eliminating non-storm water discharges.

(4) Measure WQ-3. Storm Water Pollution Prevention Plan (SWPPP). Prior to start of soil-disturbing activity at the project site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) will be prepared in accordance with and to partially fulfill the General Construction Permit. The SWPPP will be prepared per the SWPPP and Water Pollution Control Program (WPCP) Preparation Manual, (Storm Water Quality Handbooks, November 2000.) The SWPPP will meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology (BAT) which is economically achievable and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP will be implemented concurrently with commencement of the soil-disturbing activity. The SWPPP will need to be certified in accordance with the signatory requirements of the General Construction Permit.

(5) Measure WQ-4. Spill Contingency. Emergency planning for highway spills will be addressed by both operational and structural BMPs. The TCA will take primary responsibility for spill clean up and contingencies during construction and operation of the project, though coordination with other agencies will be necessary.

Operational BMPs include immediate emergency notification through 911 during a spill event. After emergency notification, the following notifications will occur:

- The local fire department and the Orange County Fire Authority will then be notified, and emergency actions (road closures, medical evacuation, cleanup of hazardous materials, etc.) will be taken; if the spill occurs on or affects MCB Camp Pendleton, these authorities will be notified.
- If the spill is above the Reportable Quantity (RQ), the State Office of Emergency Services (800.852.7550) will be contacted and a control number provided. The National Response Center (800.424.8802) will be contacted to comply with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requirements. The California Hazardous Material Incident Reporting System (CHMIRS) (916.427.4287) will be notified (assuming the spill volume is more than four liters (two gallons)) and appropriate forms filled out.

Structural BMPs consist of mechanisms within water quality BMPs to prevent large spills from reaching watercourses. These BMPs could consist primarily of

operation valves at outlet works (e.g., from basins) that could be closed in an emergency. In this event, cleanup of hazardous materials and pollutants will be required within the basins to remove contaminated materials.

(6) Measure WQ-5. Operations, Maintenance and Monitoring Plan. When an alternative is selected for implementation an Operations, Maintenance and Monitoring Plan will be developed in consultation with the appropriate agencies, i.e., Caltrans. Maintenance objectives for project BMPs will be addressed and formalized in the Operation, Maintenance and Monitoring Plan. Caltrans will monitor the BMPs to ensure maintenance objectives are being met. Details of the monitoring will comply with Caltrans Storm Water Policy and requirements of the 401 Certification with Caltrans as the holder of the statewide permit for state highways.

(7) Measure WQ-6. Monitoring of BMPs. For the corridor Alternatives, the TCA will monitor Caltrans' maintenance of the BMPs for five years to assure compliance with maintenance criteria and schedules. The TCA will provide annual reports to the Regional Water Quality Control Boards documenting the maintenance of the BMPs.

(8) Multi-objective mitigation measures were identified and developed to address potential construction and operation impacts of the SOCTIIP build Alternatives related to water quality. For water quality, the mitigation measures are comprised of both pollution prevention BMPs and treatment BMPs. Pollution prevention BMPs are used to address design phase elements, construction and spill mitigation. Treatment BMPs are used to mitigate identified impacts on a site-specific basis.

(9) Water quality runoff is managed by Project Design Features (PDFs) to address potential construction and operation impacts of the SOCTIIP build Alternatives in response to federal permit practices and statewide guidelines. To further protect receiving waters, water quality mitigation measures have also been defined to further supplement surface and groundwater protection strategies.

(10) A general stormwater NPDES permit proscribes the stormwater discharge requirements needed for highway runoff. Caltrans' "Statewide Storm Water Quality Practice Guidelines, CTSW-RT-02-009, 2002" describes the BMPs needed to comply with the permit. Consequently, multi-objective PDFs were identified and developed to address potential construction and operation impacts Preferred Alternative related to water quality. For water quality, the PDFs are comprised of both pollution prevention BMPs and treatment BMPs. Pollution prevention BMPs are used to address design phase elements, construction and spill mitigation. Treatment BMPs are used in the design to meet regulatory water quality requirements at specific locations. Both pollution prevention and treatment BMPs are included in the build Alternatives to the maximum extent practicable (MEP). Most of the treatment BMPs are designed with a safety factor

such that they will function in conditions beyond that prescribed by the Caltrans NPDES permit.

(11) PDFs, for hydrology and erosion and sedimentation, were developed to provide multiple benefits; primarily increasing storage and reducing project discharges to pre-project levels. Providing these design features reduces potential impacts of the Preferred Alternative to water quality, habitat and hydrologic integrity per the SAMP and NPDES criteria.

(12) Descriptions of the selection and placement procedures as well as site-specific design characteristics for the treatment BMPs and typical maintenance and monitoring requirements for the recommended BMPs are provided below. BMPs will be maintained, monitored and documented per Caltrans requirements and conform to the guidelines set forth in the Caltrans existing Storm Water Management Plan (SWMP). Maintenance, monitoring and documentation requirements, for treatment BMPs, include but are not limited to the following:

- Vegetation management to maintain adequate hydraulic functioning and to limit habitat for disease-carrying animals.
- Animal and vector control.
- Periodic sediment removal to optimize performance.
- Trash, debris, grass trimmings, tree prunings and leaf collection and removal to prevent obstruction of the BMPs and monitoring equipment.
- Removal of standing water or limiting extended ponding of water, which may contribute to the development of aquatic plant communities or mosquito breeding areas.
- Removal of graffiti, litter, vegetative and other debris.
- Preventive maintenance on sampling, flow measurement and associated BMPs equipment and structures.
- Erosion and structural maintenance to prevent the loss of soil and maintain the performance of the BMPs.
- Periodic sediment removal to ensure 0.5 meter (1.5 feet) depth threshold or 10% of the storage volume in basin BMPs, whichever is less.
- Monitoring of the BMPs to ensure it is completely and properly drained.
- Outlet riser cleaning.
- Preventative maintenance on monitoring equipment.
- Maintenance of healthy grass communities to enhance infiltration of stormwater runoff in infiltration basin BMPs.
- Maintenance of grass height at approximately 15 cm (6 in).

- TCA will monitor Caltrans to verify maintenance procedures are being followed.

(12) The Preferred Alternative, at a minimum, will incorporate the PDFs with respect to storm water control and water quality management to the maximum extent practicable (MEP) as required by the NPDES Statewide Stormwater Permit to Caltrans (Caltrans Permit) Order No. 99-06-DWQ (CAS 000003).

(13) PDF 9-3. Slope and Surface Protection Systems. The TCA, or other implementing agency, will use surface protection to minimize erosion from completed, disturbed surfaces. Surface protection includes but is not limited to vegetative cover or hard surfacing such as concrete, rock, or rock and mortar.

(14) The Preferred Alternative will result in improved water quality on I-5. I-5 currently has no water runoff treatment system in the vicinity of Trestles beach. With each storm event, untreated water from the I-5 freeway runs directly into the creeks and ocean, potentially polluting Trestles Beach. TCA will install treatment systems meeting Regional Water Quality Control Board standards on the new roadway and an approximately two-mile portion of I-5 north and south of the connection to SR-241. SOCTIIP would construct extended detention facilities to treat the runoff from this existing portion of I-5 as well as the new connector roadways from the project. Based on engineers' calculations, nearly one million gallons of runoff per design water quality storm event (those storms with about 0.6-inch of rain) would receive treatment with the project. Over the past two years of record, about five design water quality events have occurred annually. Using this estimate, the project would treat five million gallons of water each year that currently flows untreated into San Onofre and San Mateo Creeks.

3.8.2 Potential Effect. Increases in impervious areas in the local drainage areas, as a result of the new road under the Preferred Alternative could impact downstream channel erosion processes leading to increased channel scouring and sediment deposition through changes in peak discharges and runoff volumes. These potential impacts could contribute to runoff water that could exceed the capacity of drainage systems, provide a additional sources of polluted runoff or alter the course of a stream or river. With the PDFs, the runoff from the roadway will be attenuated and the pre-project flow characteristics will be maintained, thereby potential impacts are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The potential impacts of the Preferred Alternative on water quality are evaluated in detail in the Runoff Management Plan (RMP, Psomas, 2003). The general approach undertaken during preparation of the Runoff Management Plan (RMP, Psomas 2002 and 2003), included reviewing relevant project documents and addressing the United States Army Corp of Engineers (ACOE) Special Area Management Plan (SAMP) compliance criteria. The RMP comprehensively

addresses, *inter alia*, water quality, drainage concepts, hydrologic analysis and erosion and sedimentation analysis. Adherence to the RMP ensures potential impacts remain less than significant.

(2) The Water Quality Volume (WQV), as specified in the relevant storm water permits, is routed away from local drainage courses and into the appropriate PDFs. Therefore, at the onset of a given storm event or during smaller (average) storm events, it is anticipated there will not be observable increases in the surface water quality constituent loadings at each small local drainage area.

(3) With the PDFs, the runoff from the roadway will be attenuated and the pre-project flow characteristics will be maintained. PDFs that distribute the roadway slope runoff (flow splitter structures), which is separated from the roadway runoff, will be distributed into each water course to help mimic pre-project runoff conditions.

(4) PDF 9-1. Reduction of Downstream Effects Caused by Changes in Flow. If changes in velocity or volume of runoff, sediment load or other hydraulic changes due to encroachment, crossings or realignment result in an increased potential for downstream effects in channels, the TCA, or other implementing agency, will implement design features to prevent adverse effects. The features will include one or more of the following (or similar features):

- Modifications to channel lining materials (both natural and man-made), including vegetation, geotextile mats, rock and riprap.
- Energy dissipation devices at culvert outlets.
- Smoothing the transition between culvert outlets/headwalls/wingwalls and channels to reduce turbulence and scour.
- Incorporating retention or detention facilities into designs to reduce peak discharges, volumes and erosive flow.
- Conduct detailed hydrologic engineering design to establish size, capacity, and alignment of flood control facilities to protect the site from the 100-year flood level.

(5) PDF 9-2. Concentrated Flow Conveyance Systems. The TCA, or other implementing agency, will implement concentrated flow conveyance systems to intercept and divert surface flows, and convey and discharge concentrated flows with a minimum of soil erosion, both on-site and off-site where applicable. Ditches, berms, dikes and swales will be used to intercept and direct surface runoff to an overside drain or stabilized watercourse.

(6) PDF 9-3. Slope and Surface Protection Systems. The TCA, or other implementing agency, will use surface protection to minimize erosion from completed, disturbed surfaces. Surface protection includes but is not limited to vegetative cover or hard surfacing such as concrete, rock, or rock and mortar.

(7) PDF 9-4. Detention Basins. The TCA, or other implementing agency, will implement extended detention basins (EDBs) on the SOCTIIP build Alternative to temporarily detain WQV and allow sediment and particulates to settle out. Detention basin characteristics are summarized in Table 4.9-3. Figure 4.9-1 provides a conceptual schematic of an EDBs and Figure 4.9-3 provides a conceptual schematic of a detention basin outlet. EDBs will be maintained, monitored and documented per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP.

The siting of EDBs requires that sufficient head is available such that water stored in the basin does not cause a backwater condition in the storm drain system, which would limit its capacity. Additionally, high groundwater must be no higher than the bottom elevation of the basin; otherwise, the basin would not drain completely. The siting process also required consideration of sensitive environmental constraints. The EDBs were sited to avoid those areas as well.

(8) PDF 9-5. Biofiltration Swales and Strips (Vegetated Treatment Strips). The TCA, or other implementing agency, will use biofiltration swales and strips, as shown in the RMP, where applicable and in association with EDBs to convey low flow. Table 4.9-4 summarizes preliminary design factors for biofiltration. Figure 4.9-3 provides a conceptual schematic of a bioswale. One of the primary limitations of using Bioswales is that they must be used on slopes less than 2 percent. Due to the terrain and the design of the Alternatives there were very few locations where they could be applied. Bioswales will be maintained, monitored and documented per RWQCB and Caltrans requirements and will conform to guidelines set forth in the SWMP.

(9) PDF 9-6. Infiltration Basins. To the extent feasible or necessary, infiltration basins will be implemented to the extent feasible to detain runoff and infiltrate it into the soil to prevent contaminants from impairing the beneficial uses of receiving waters. Infiltration basins will be maintained, monitored and documented per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP.

(10) PDF 9-7. Runoff Management PDFs for the Corridor Alternatives.

The build Alternatives include BMPs to control the flow of roadway runoff and treat to the maximum extent practicable (MEP) roadway runoff before it leaves the project site and enters existing water courses or storm drain facilities. PDFs for the SOCTIIP build Alternatives include BMPs such as EDBs and grassy swales. The disturbance and right-of-way limits for the build Alternatives, shown on the detailed maps in Appendix A of the RMP, include areas for EDBs and other BMPs

The PDFs consist of both pollution prevention BMPs and treatment BMPs. Pollution prevention BMPs are used to address design phase elements, construction and spill mitigation. Treatment BMPs are used in the design to meet

regulatory water quality requirements at specific locations. Both pollution prevention and treatment BMPs are included in the build Alternatives to the MEP. The EDBs are sized for additional detention to ensure full offsets for hydrologic, erosion and sedimentation impacts in the local drainage areas.

(11) PDF 9-8. Prior to completion of final design of the selected alternative, TCA shall obtain approval of the hydrologic methodology and parameters to be analyzed in the Final Hydrologic Technical Report and incorporated into the Final Location Hydraulic Study from affected jurisdictional agencies.

(12) PDF 9-9. Final design will include refinements to ensure that the bridges will be constructed to span the 100-year floodplain without raising the 100-year base floodplain water surface elevation more than 0.3 meter (1.0 foot), or otherwise causing adverse changes in the extent of the floodplain or the potential for erosion.

3.8.3 Potential Effect. The Preferred Alternative could have adverse effects regarding erosion and sedimentation for San Juan Creek, San Mateo Creek and San Onofre Creek. However, with PDFs implemented these potential impact are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) San Juan Creek - For the 100-year Expected Value event, the average channel velocity within the vicinity of the San Juan bridge remains at 2.5 m/sec (8.2 ft/sec) for both existing and project conditions. Therefore, the long-term erosion and deposition as a result of this Alternative are considered less than significant;

(2) San Mateo Creek - For the 100-year Expected Value event, the average channel velocity at the bridge remains the same as that during existing conditions at approximately 2.5 m/sec (8.1 ft/sec). Because the average channel velocity will not change with the introduction of additional bridge piers in San Mateo Creek, long-term erosion and deposition are not expected to be adverse. The reach of San Mateo Creek in the vicinity of the I-5 is generally a deposition area of the Creek.

(3) San Onofre Creek - For the 100-year Expected Value event, the average channel velocity in the vicinity of the bridge would be the same as existing conditions: approximately 2.2 m/sec (7.1 ft/sec). Long-term erosion and deposition are not expected to be adverse at the project site, as these Alternatives result in only slight changes to existing velocities. The reach of San Onofre Creek at the I-5 crossing is generally a deposition area of the Creek.

(4) Construction of the Preferred Alternative does not affect the quantity of sediment transported by the watershed because most sediment loading occurs in the higher

elevations of the watershed where velocities are higher. Sediment for beach sustainment is expected to be unaffected by the Preferred Alternative.

(5) Measures WQ-1 through WQ-6 are hereby incorporated by reference.

(6) PDFs 9-1 through 9-9 are hereby incorporated by reference.

3.8.4 Potential Effect. The Preferred Alternative has the potential to effect surface and ground water quality. Without the PDFs, untreated runoff from the Preferred Alternative would be a direct source of concentrations of pollutants and contaminants, and thereby could have an potential effect on surface water quality. This could impact the water quality of San Juan Creek and San Mateo Creek and eventually the beaches at the San Mateo Creek mouth at the southern part of the San Onofre Creek watershed.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures WQ-1 through WQ-6 are hereby incorporated by reference.

(2) PDFs 9-1 through 9-9 are hereby incorporated by reference.

(3) With the PDFs, it is anticipated there will not be observable increases in the surface water quality constituent loadings at each small local drainage area.

(4) The Preferred Alternative will improve water quality on approximately 2.0 miles of the I-5 by providing new water quality BMPs (currently planned as Extended Detention Basins).

(5) Stormwater runoff from the Preferred Alternative is unlikely to recharge alluvial aquifers and it is anticipated there will not be observable increases in the ground water quality constituent loadings. The storm water recharge will provide treatment in excess of the MEP threshold.

(6) Groundwater recharge will not be substantially impacted by the Preferred Alternative due to the very small percentage of impervious surface in a given watershed as well as the way runoff is treated. All off site runoff is returned to the environment and all on site runoff is detained and treated in the extended detention basin, and then is returned to the environment, generally within the same location.

3.9 Wetlands and Waters of the United States.

3.9.1 Potential Effect. Adverse effect on state or federally protected wetlands.

Construction Impacts. The Preferred Alternative will impact 0.82 acres of wetlands and Waters of the United States as defined by the U.S. Army Corps of Engineers. This will include filling wetlands, as well as short-term disturbance from construction generated erosion and water quality disturbance. However, Federal, State, and local requirements ensure that there is no net loss of wetlands values and that water quality is protected from degradation as a result of construction.

Long Term Impacts. Long-term impacts to waters and wetlands without mitigation could include degradation of water quality associated with increased velocity of runoff or contaminants being transported into waterways. These impacts will be prevented, controlled and/or mitigated to below a level of significance, based on implementation of Best Management Practices (BMPs) incorporated in the Resource Management Plan (RMP).

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following mitigation measures and other facts described below support the finding that potential impacts have been reduced to a level of insignificance.

(1) Measure WW-1. Prior to construction, the TCA shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.

(2) Measure WW-2. During final design of the project, the Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. The TCA Environmental and Engineering Staff shall determine the implementation of those recommendations.

(3) Measure WW-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues during construction and operation to be addressed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA, the California Coastal Commission, and Caltrans for review to the extent required by permit by such agencies.

The primary goals of the BRMP are to ensure that (1) the long-term perpetuation of the existing diversity of habitats through restoration in the project area and

adjacent urban interface zones and to minimize offsite or indirect effects; (2) the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum the following:

a. Identification of all Environmental Sensitive Areas (ESA). ESAs are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS.

b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas.

c. Locations of trees to be protected as wildlife habitat (roosting sites).

d. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include:

- Sources of plant materials and methods of propagation.
- Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the right-of-way.
- Remedial measures to be taken if performance standards are not met.
- Methods and requirements for monitoring of the restoration efforts.
- Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas.

e. Specific measures for the protection of sensitive habitats to be preserved in and adjacent to the right-of-way to ensure that construction does not increase beyond the impacts identified in the EIS/SEIR. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. Details of the erosion, siltation, and dust control mitigation measures will be provided in the Storm Water Pollution Prevention Plan (SWPPP).

f. A summary of the type and quantification of habitats to be removed.

g. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include:

- Sources of plant materials and methods of propagation.

- Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way.

- Remedial measures to be taken if performance standards are not met.

- Methods and requirements for monitoring of the restoration efforts.

- Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas.

h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake and San Diego cactus wren.

i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits and biological monitoring requirements. Details of the erosion, siltation and dust control mitigation measures will be outlined in the Storm Water Pollution Prevention Plan (SWPPP).

j. Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements.

k. Or equivalent measures, e.g., environmental permits.

(4) Measure WW-4. In conjunction with the development of final plans and specifications for construction, or other activities involving vegetation/habitat removal, the Project Biologist shall review and approve the contractor's map of all sensitive habitats (Environmentally Sensitive Areas) within 152.4 meters (500 feet) of the grading limits on the grading plans. The ESA maps shall be prepared by the construction contractor's qualified biologist and approved by the TCA. All ESAs to be avoided and performance standards established by the resource agencies shall be clearly noted on the grading, construction, and landscape plans. Additionally, the landscape plans shall indicate that plant materials be local southern Orange County natives.

(5) Measure WW-5. During grading activities and construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including monitoring of the installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, falsework installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist. Biological monitoring shall be conducted to document adherence to habitat avoidance and minimization measures addressed in the project mitigation measures and as listed in the USFWS, CDFG, and USACOE permits/agreements.

(6) Measure WW-6. Final design and construction shall restore the perennial river and stream channels and ephemeral drainages and washes to their original contours upon completion of construction where feasible, with the exclusion of areas of permanent impact.

(7) Measure WW-7. During all construction activities, the Contractor shall ensure that construction equipment or vehicles shall not be stored in areas defined as ESAs, including areas within the jurisdiction of the USACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or USACOE jurisdictional areas. Construction equipment staging/storage shall be located in previously disturbed or non-native areas to the maximum extent possible.

(8) Measure WW-8. During all construction activities, the Contractor shall ensure that no waste material shall be discharged to any CDFG or USACOE jurisdictional areas. Spoil sites shall not be located within any CDFG or USACOE jurisdictional areas, or in areas where it could be washed into any surface water body.

(9) Measure WW-9. Prior to final design, the Contractor shall prepare the final construction Runoff Management Plan (RMP). The plan shall address the final location of facilities to route and detain corridor runoff for the purpose of maintaining peak flows and flow velocities downstream of the Alignment at existing rates and preventing project pollutants from reaching improved and unimproved downstream drainages. County of Orange Best Management

Practices (BMPs) will be included in these runoff facilities of the Alternatives as determined appropriate by the Design Engineer. The final RMP will contain provisions for changes to the plan (e.g., alternative mechanisms plant materials) if necessary during project design and/or construction phases to achieve the stated goals and performance standards at an equal or greater level. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality. The plan shall be submitted to the Regional Water Quality Control Board (RWQCB), Caltrans, and the Orange County Environmental Management Agency (OCEMA) Environmental Planning Division for review and comment. (RMP, Psomas 2003.)

(10) Measure WW 10. The Contractor shall locate staging areas for construction equipment outside of areas in the jurisdiction of the USACOE or CDFG to minimize impacts to sandy creek benches.

(11) Measure WW-11. Prior to final design, the TCA shall prepare a jurisdictional delineation documenting the Waters of the U.S. and wetlands, CDFG, and CCC jurisdictional impacts for the selected alternative.

Prior to final design, the TCA shall prepare a functional assessment of the wetland mitigation plan according to the tenets of the USACOE Regulatory Guidance Letter 02-2 to assure that the functions and values have been replaced and that no net loss of waters and wetland values occur. Habitat replacement guidelines shall be developed to identify and quantify habitats that will be removed along with the locations where habitats will be restored or relocated to ensure no net loss.

(12) The Preferred Alternative is consistent with the Special Area Management Plan ("SAMP") Planning Principles or tenets. These are 8 principles which address no net loss of acreage and function of water of the United States and other protection/restoration of riparian habitats. Attachment 10 to the Response to Comments provides a discussion of the manner in which the Preferred Alternative is consistent with these principles. Attachment 10 to the Response to Comments is incorporated by reference.

3.9.2 Potential Effect. Cumulative Impacts to state or federally protected wetlands. The cumulative impact analysis examines the impacts of past, present and reasonably foreseeable future actions within the study area. The study area includes all undeveloped lands and planned communities within the Southern Orange County Subregion, as designated by the ongoing South Orange County Coordinated Planning Process (SOCCPP) under the NCCP Act, the General Plans and OCP-2000.

RMV is the largest landholding in the study area, encompassing approximately 9,308 ha (23,000 ac). The Settlement Agreement plan allows for the development of 5,873 acres of the 22,815-acre RMV. The Ranch Plan as approved in the Settlement Agreement will conserve open space directly connected to adjacent open space in Caspers Wilderness Park, Cleveland National Forest and MCB Camp Pendleton. Ranching activities would also be retained within a portion of the proposed open space area. The future development of this

property will ultimately determine the size and design of the reserve system proposed for the Southern Orange County Subregion under the SOCNCCP.

Direct impacts on wetlands could occur from the development of the projects included in the cumulative impact assessment, including the development outlined in the Ranch Plan approved by the County of Orange, as modified by the Settlement Agreement.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following mitigation measures and other facts support the finding that this potential impact is reduced to a level of insignificance.

(1) Impacts to state or federally protected wetlands will be reduced to a less than significant level with implementation of mitigation measures WW-1 through WW-11, previously listed.

(2) Existing regulatory requirements ensure that implementation of the projects will not result in cumulative effects on wetlands. These regulatory requirements include avoidance and minimization of impacts and "...no net loss..." policies imposed by the ACOE and CDFG, as well as the stringent regulations affecting issuance of permits that would adversely affect wetlands under the California Coastal Act.

(3) Indirect impacts of the cumulative projects, including increases in velocity of runoff, wetland inundation, and water quality degradation, can also affect wetlands. Discharges from projects are regulated, and the velocity of discharge is regulated to below erosive levels through conditions placed on individual projects. Inundation levels are also regulated and conditioned on an individual project basis. The Regional Water Quality Control Board (RWQCB) regulates water quality. In accordance with the findings presented in the water quality analysis of the EIS/SEIR, there will be no adverse indirect cumulative impacts.

(4) Attachment 10 of the Responses to Comments is incorporated by reference.

3.10 Fisheries and Vegetation.

3.10.1 Potential Effect. Conflicts with a local policy or ordinance protecting biological resources such as a tree preservation policy or ordinance. The Resources Element of the County of Orange General Plan identifies native oak trees as a natural resource in Orange County and states that a "...significant commitment has been made towards preserving valuable oak woodland area through regional park and open space acquisitions." Furthermore, oak woodlands in the SOCTIIP survey area are an important habitat for many species of birds. Although design modifications reduced impacts to oak woodland communities, the Preferred Alternative will result in the removal of a substantial number of oak trees which the County recognizes as a resource. Therefore, the Preferred Alternative would conflict with County policies related to the preservation of oak trees and the proposed project would result in a significant impact related to this policy.

Findings. The Board hereby makes finding (1)

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, this potential impact is reduced to a level of insignificance. Implementation of Mitigation Measures WV-1 through WV-3, WV-5, WV-11, WV-13, and WV-39 will minimize impacts to oak trees and oak woodland communities.

(1) Measures WV-1 through WV-3, WV-5, WV-11, WV-13, previously listed, also mitigate significant effect 2.6.4.

(2) Measure WV-39, previously listed, provides for mitigation of impacts to woodland, and forest communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project, or other ratio that compensates for functions and values, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist.

3.11 Threatened and Endangered Species.

3.11.1 Potential Effect. Conflicts with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan. The County of Orange, in cooperation with CDFG and USFWS, is in the process of preparing a habitat conservation plan (HCP)/Natural Community Conservation Plan (NCCP) pursuant to Section 10 of the FESA and the State NCCP Act. As the NCCP relates to the SOCTIIP study area, it is called the Orange County Southern Subregion NCCP/HCP. The purpose of the NCCP/HCP program is to provide regional or areawide protection and perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth pursuant to the preservation of listed species under the FESA and the CESA.

These plans are intended to ensure the long-term survival of the coastal California gnatcatcher, other special status coastal sage scrub dependent plant and wildlife species, and other rare, threatened and endangered species dependent on other native habitat types in the subregion in accordance with state-sanctioned NCCP program guidelines.

Although this Subregion encompasses a large area, much of it is already developed or already held in public lands such as the Cleveland National Forest. The primary undeveloped area in the South NCCP subregion is the RMV property, which is why originally the NCCP was being developed and concurrently processed with the RMV development proposal.

In addition, San Diego Gas and Electric (SDG&E) has an approved Subregional Natural Community Conservation Plan (NCCP, or Plan) that implements a long-term agreement between SDG&E, USFWS and CDFG for the preservation and conservation of covered species and their habitat, while allowing SDG&E to develop, install, maintain, operate and repair its facilities to serve its customers. The Plan covers biological impacts within its boundaries

associated with new electric transmission lines. The SDG&E actions that are covered by the Plan are articulated in more detail in the NCCP document.

The Plan includes Operational Protocols that are mitigation measures intended to reduce the impacts of SDG&E's activities by addressing the activities and behavior for all field personnel while in an affected plan area, during pre-activity studies and survey work, maintenance, repair and construction of facilities and access roads. While the TCA is not bound by SDG&E's Plan, TCA is committed to conducting the utility relocations in a manner that is consistent with the Operational Protocols established in the Plan in order to minimize adverse impacts to the natural environment.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following project design feature and other facts support the finding that potential impacts are reduced to a level of insignificance.

(1) Project Design Feature:

PDF 11-2:. SDG&E NCCP Operational Protocols

Utility relocation will be conducted in a manner that is consistent with the operational protocols established in SDG&E's Subregional NCCP, including measures that address general behavior for all field personnel, preactivity studies and survey work, maintenance, repair and construction of facilities, and construction and maintenance of access roads.

(2) The open space areas within the Ranch Plan as approved in the Settlement Agreement will conserve over 16,000 acres of open space directly connected to adjacent open space in Caspers Wilderness Park, Cleveland National Forest and MCB Camp Pendleton. Therefore, the open space reserved as part of the Ranch Plan is consistent with and furthers the intent of the NCCP, particularly the reserve design tenets that support the creation of larger reserves and contiguous habitat.

(3) All project mitigation for the Preferred Alternative is consistent with the conservation, restoration and protection recommendations of the Special Area Management Plan ("SAMP") and NCCP/HCP. Since the NCCP/HCP has not been adopted at this time, the mitigation measures for the SOCTIIP have been prepared as stand alone measures to offset the SOCTIIP impacts. When the NCCP/HCP is implemented, the SOCTIIP will provide some of the regional preservation, connectivity, and restoration of habitat. The FHWA and the TCA have coordinated the SOCTIIP planning with the NCCP/HCP process, to the extent that NCCP/HCP information has been available during the planning and environmental analysis for the SOCTIIP. As such, project mitigation includes provisions for the ongoing NCCP/HCP process and SAMP prepared by the Corps of Engineers.

(4) Attachment 10 to the Response to Comments demonstrates the consistency of the Preferred Alternative with the NCCP planning principles, and is incorporated by reference.

3.11.2 Potential Effect. Short Term Impacts to the Thread-Leaved Brodiaea. Direct impacts to thread-leaved brodiaea may occur. Mitigation for impacts to this species is provided through seed collection, the translocation of plants to suitable protected restoration sites and the monitoring of such translocated populations. Although it is acknowledged that the successful performance of these translocated plants is not guaranteed and very little is currently known about the ability to successfully transplant such species the mitigation includes monitoring and a requirement for percentage emergence, which ensures that impacts will be completely mitigated.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following mitigation measures and other facts described below support the finding that the potential impact has been reduced to below a level of significance.

(1) Measure TE-1. Prior to construction, the TCA shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.

(2) Measure TE-2. During final design of the project, the Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. TCA Environmental and Engineering Staff shall determine the implementation of those recommendations.

(3) Measure TE-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, NMFS, CDFG, USACOE, RWQCB, FHWA, and Caltrans for review to the extent required by permit by such agencies.

The primary goals of the BRMP are to ensure (1) the long-term perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones and minimize offsite or indirect effects; (2) that the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum specific construction monitoring programs for

thread-leaved brodiaea, arroyo toad, coastal California gnatcatcher, least Bell's vireo, and Pacific pocket mouse.

(4) Measure TE-4. During grading activities and construction operations, the Project Biologist shall prepare a monthly biological monitoring letter report summarizing site visits, documenting adherence or violations of required habitat avoidance measures, and listing any necessary remedial measures. The report shall be submitted to the TCA.

(5) Measure TE-6. Prior to construction of the selected alternative, focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance, and seed collection and salvage measures for thread-leaved brodiaea can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted from March through June which is the blooming period for this species. Locations of thread-leaved brodiaea species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or minimize impacts to sensitive plant populations.

(6) Measure TE-7.

a. Prior to construction (e.g., clearing, grubbing or grading), focused surveys for the thread-leaved brodiaea shall be conducted during the flowering period for this species (approximately March through June). The locations of plants identified within the disturbance limits shall be recorded with a Global Positioning System (GPS) unit with sub-meter accuracy. Within the impact area, the soils containing thread-leaved brodiaea shall be tested to determine soil texture, and organic matter, and transported to a native plant nursery for germination and propagation.

b. Prior to construction, soil containing thread-leaved brodiaea corms within the impact area shall be collected by personnel experienced in the salvage of corms. Areas of soil 0.6 m by one m by 0.6 m (two ft by three ft by two ft) deep or one m by 1.3 m by 0.6 m (three ft by four ft by two ft) deep shall be collected and transported for placement in an appropriate translocation site selected by the Project Biologist. The translocation site shall be located in a conservation area within an open space dedication area within the region and shall have similar soils, aspect, slope, and hydrology to the donor site (i.e., the site from which thread-leaved brodiaea corns were collected).

c. Relocation success will be monitored for five years. The number of relocated plants that will emerge in any one year is variable and will depend on seasonal rainfall. Relocation will be considered successful when 10 percent of the relocated population emerges and sets viable seed in any monitoring year. The success criteria may vary as determined by the Project Biologist in

consultation with botanists and USFWS staff with recent experience in brodiaea transplantation methodologies in the region.

(7) Measure TE-25. To mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 ha (1,182 ac) created by the TCA to mitigate biological impacts resulting from construction of the FTC-N. Of these 478.7 ha (1,182 ac), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, non-wetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives.

a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost).

b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG.

c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1.

(8) The Preferred Alternative would directly impact 26.87 ha (66.39 ac) of proposed critical habitat fro the thread-leaved brodiaea. This constitutes 0.7% of the 3,805 ha (9,403 ac) proposed for designation, an extremely small area. The limited

acreage of critical habitat and low number of locations affected by the Preferred Alternative indicate that there will be only minimal effects on the primary constituent elements of the critical habitat.

(9) The Preferred Alternative is expected to result in no net loss of habitat value for the thread-leaved brodiaea. The net habitat value equation takes into consideration habitat gains (through preservation/relocation) and loss (project impacts).

(10) With regard to overall species distribution and status, on December 13, 2005, the U.S. Fish and Wildlife Service "Service") published the Final Rule on Designation of Critical Habitat for thread-leaved brodiaea ("Final Rule") (70 Fed. Reg. 73820-73863). In the Final Rule, the Service determined that the Ranch Plan Settlement Agreement and the pending Southern Subregion NCCP/HCP significantly conserve the species. As explained in the Final Rule, the Settlement Agreement and status of the HCP/EIS provide reasonable assurance that the NCCP/HCP will be completed. For these reasons, the Final Rule excluded critical habitat for the thread-leaved brodiaea in the Southern Subregion NCCP/HCP area. The Service also determined that Camp Pendleton was exempt from the critical habitat designation because of its Integrated Natural Resource Management Plan (INRMP) and the benefits that plan provides to the species.

The Final Rule concluded that the Settlement Agreement and the pending Orange County Southern Subregion NCCP/HCP "provide special management and protection for the physical and biological features essential for the conservation of" the species. (70 Fed. Reg. 73845). Conservation in the Settlement Agreement assures preservation of significant occurrences of the plant, and there will also be long-term funding for management and oversight of open space areas. (70 Fed. Reg. 73847). This conservation, combined with protection of areas within Casper's Wilderness Park protects major occurrences of the plant that were previously identified in the proposed rule. Thus, the Service has reviewed the species distribution and number of plants and determined that existing and pending plans provide substantial preservation of the species.

(11) The number of plants potentially impacted by the project has been reduced from the impacts described in the Draft EIR. Subsequent to circulation of the Draft EIS/SEIR, refinements were made to the Preferred Alternative. The population, or, group of plants, that will be impacted has been reduced to 3, and the count of individual plants impacted has been reduced to 16.

(12) Relative to mitigation for these impacts, which involves translocation, and the success of the mitigation, TCA evaluated this issue again with a relocation specialist. In addition, the mitigation measure was expanded as part of the Response to Comments, and the measure now ties the success criteria to a determination by the Project Biologist in consultation with botanists and USFWS (Service) staff with recent experience in brodiaea transplantation methodologies in the region. TCA has determined that because of the reduction in the number of

plants impacted, the change in relocation success criteria to reflect USFWS input and the commitment to completely mitigating all impacts to this species, the impacts to the thread-leaved brodiaea will be reduced to below a level of significance and will be fully mitigated.

3.11.3 Potential Effect. Short-Term Impacts to Other Listed Species.

San Diego Fairy Shrimp. The San Diego fairy shrimp will not be directly impacted. None of the vernal pools that support fairy shrimp would be directly affected. Site design considerations have been implemented to avoid any indirect impacts to this species. Therefore, there will be no significant impacts to the San Diego fairy shrimp.

Riverside Fairy Shrimp. The Riverside fairy shrimp will not be directed impacted by implementation of any of the SOCTIIP Alternatives. None of the vernal pools that support fairy shrimp would be directly affected by any of the alternatives. Site design considerations have been implemented to avoid any indirect impacts to this species. Therefore, there will be no significant impacts to the Riverside fairy shrimp.

Tidewater Goby. Due to the complexity and dynamic nature of their aquatic ecosystems and its susceptibility to perturbation by a number of direct effects, any impacts to drainages that would result in changes to water quality/chemistry, flow patterns/velocity/water temperature, turbidity, etc. occupied by the tidewater goby (San Mateo and San Onofre Creeks and San Mateo Lagoon) by the FEC and A7C (including the Preferred) corridors would represent a significant adverse impact to this species. However, because these creeks would be spanned with bridges and, assuming that other mitigation/minimization measures concerning erosion and water quality are adhered to, it is anticipated that impacts to the tidewater goby would be less than significant following mitigation.

Southern Steelhead Trout. Due to the complexity and dynamic nature of their aquatic ecosystems and its susceptibility to perturbation by a number of direct effects, any direct impacts to drainages that would result in changes to water quality/chemistry, flow pattersn/velocity/water temperature, turbidity, etc. occupied by the southern steelhead trout (San Mateo and San Onofre Creeks and San Mateo Lagoon) by the FEC and A7C (including the Preferred) corridors would represent a significant adverse impact to this species. However, because these creeks would be spanned with bridges and, assuming that other mitigation/minimization measures concerning erosion and water quality are adhered to, it is anticipated that impacts to the southern steelhead trout would be less than significant following mitigation.

Least Bell;s Vireo. A no-net loss policy for mitigating wetlands will provide compensation for the loss of habitat that supports the least Bell's vireo. This would effectively mitigate all impacts to the least Bell's vireo. Other species specific mitigation measures are incorporated to provide protection during construction. Thus, no significant short-term impacts would occur.

Peregrine Falcon. The peregrine falcon was observed in the disturbance limits of the CC and CC-ALPV Alternatives. Construction impacts to the peregrine falcon would result

from noise, lighting, and other edge effects, including disruption of the prey base. However, because this species is highly mobile and is not known to nest in the area, the project would not result in mortality or substantial displacement. Therefore, impacts would be less than significant.

Pacific Pocket Mouse (PPM). The Pacific pocket mouse is extremely restricted in its current distribution and is perhaps the rarest species that is addressed in the survey area. The Preferred Alternative has been designated to avoid any impacts to the PPM. Therefore, there are no significant short-term impacts to the PPM.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The facts above, in combination with the mitigation measures and other facts below support the finding that this potential impact is not significant or will be mitigated to below a level of significance.

(1) Measure TE-8. To avoid impacting vernal marsh FEVM 16 and Riverside fairy shrimp from construction activities, this area shall be flagged and mapped. All construction roads and other construction related activities shall be redirected around this feature. The watershed which supplies this marsh shall also be flagged for avoidance and enclosed with silt fencing per the direction of the Project Biologist to ensure that erosion/ground disturbance does not compromise water quality within the pool. Silt fencing shall remain intact for the duration of construction and until all disturbed soils have been stabilized. Following removal of the silt fencing, fiber rolls, or similar erosion control devices shall be placed around the pool to filter incoming runoff and reduce the potential for siltation or water turbidity until all earth moving activities have ceased and landscaping installed. See also RMP for all mitigation measures.

(2) Measure TE-9. During final design, the TCA, as described in the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where endangered or threatened fish do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.

(3) Measure TE-23. During final project design, an undercrossing shall be provided in the vicinity of the San Mateo North population of the Pacific pocket mouse for any alternative selected that occurs within this area. The undercrossing shall allow for potential movement of Pacific pocket mice under the alignment. The exact placement and design of the undercrossing shall be determined by the Project Biologist, in coordination with MCB Camp Pendleton and with USFWS during the Section 7 consultation.

(4) Measure TE-24. Prior to the initiation of construction in areas within or proximal to known sites occupied by the Pacific pocket mouse, a Pacific Pocket Mouse Resource Management Plan (PPMRMP) shall be prepared and submitted to the

USFWS for review to determine compliance with the biological opinion and incorporated into the BRMP. This plan shall identify the strategies available for minimizing impacts to comply with the no jeopardy standard of Section 7(a)2 of the Federal Endangered Species Act.

The PPMRMP shall identify conservation measures. These conservation measures will be consistent with the Biological opinion issued by the USFWS. Potential conservation measures may include:

a. Temporary construction measures—including temporary fencing:

- Invasive species control
- Habitat management and enhancement
- Predator control
- Control of public access
- PPM population monitoring

Implementation of these conservation measures will be completed in conjunction with USFWS and the landowner, Marine Corp, Camp Pendleton.

b. Project Design Features—PPM

- Barriers along the boundary
- Minimization of roadway lighting
- Minimization of fire risk

(5) Mitigation Measures TE-1 through TE-7 previously listed, also mitigate this impact.

3.11.4 Potential Effect. Thread-Leaved Brodiaea. The thread-leaved brodiaea's historical range extends from Los Angeles and San Bernardino Counties through eastern Orange and western Riverside Counties to Carlsbad in northwestern San Diego County. Its range has been diminished and fragmented and at least nine populations have been extirpated, primarily in San Diego County. In 2002, it was estimated that there were between 11,650 and 14,650 individual plants throughout Orange County. Thirty-four populations, with over 4,400 individuals, were identified in the SOCTIIP study area in 2001.

The USFWS is in the process of preparing a recovery plan for this species, along with eight other species in southern California, and the SOCTIIP study area could potentially be located in a recovery area. Critical habitat has not been designated for the species because there was no imminent benefit that would result from critical habitat designation.

The Preferred Alternative will result in direct and indirect impacts on individuals and populations from. Direct and indirect impacts will also result from the cumulative projects. Although mitigation measures will reduce these effects, including seed collection and the translocation of plants, little is currently known about the ability to successfully translocate these plants. Because the species is not widespread in California, the plants in the project area represent a substantial portion of the regional population, and the success of mitigation measures for direct impacts is not assured, there would be adverse cumulative impacts on the thread-leaved brodiaea.

The NCCP/HCP is expected to provide for the conservation of this species through the Habitat Reserve design and Adaptive Management Program. Actions are expected to include the protection of *key locations* of the brodiaea, control of non-native invasive species, fire management and translocation of smaller populations to areas with clay topsoils and without competing plants. The Ranch Plan protects the key locations of the thread-leaved brodiaea.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts below support the finding that, this potential impact is mitigated to below a level of insignificance.

(1) Implementation of Mitigation Measures TE-1 through TE-12, TE-14 through TE-19, and TE- 23 through TE-29, all previously listed, will minimize this impact.

3.11.5 Potential Effect. Long Term Impacts to Listed Species. Potential long-term impacts are the effects resulting from noise, night lighting, introduction of invasive species, erosion and water quality, and edge effects.

San Diego Fairy Shrimp. Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the San Diego fairy shrimp.

Riverside Fairy Shrimp. Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the Riverside fairy shrimp.

Tidewater Goby. Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the tidewater goby.

Southern Steelhead Trout. Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the southern steelhead trout.

Least Bell's Vireo. Long-term impacts to least Bell's vireo would result from lighting and noise. However, by implementing the mitigation measures, all impacts can be reduced to below a level of significance.

Peregrine Falcon. Long-term impacts to the peregrine falcon would be limited to disruption of prey species. However, because the peregrine falcon is not tied to any particular prey species, and can utilize a variety of habitats, long-term impacts would be less than significant.

Pacific Pocket Mouse. The Pacific pocket mouse, is extremely restricted in its current distribution and is perhaps the rarest species that is addressed in the survey area. The Preferred Alternative has been designed to avoid any impacts to the PPM. Therefore, there are no significant long-term impacts to PPM.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The facts above, in combination with the mitigation measures and other facts below support the finding that this potential impact is not significant or will be mitigated to below a level of significance.

(1) Measure TE-8. To avoid impacting vernal marsh FEVM 16 and Riverside fairy shrimp from construction activities, this area shall be flagged and mapped. All construction roads and other construction related activities shall be redirected around this feature. The watershed which supplies this marsh shall also be flagged for avoidance and enclosed with silt fencing per the direction of the Project Biologist to ensure that erosion/ground disturbance does not compromise water quality within the pool. Silt fencing shall remain intact for the duration of construction and until all disturbed soils have been stabilized. Following removal of the silt fencing, fiber rolls, or similar erosion control devices shall be placed around the pool to filter incoming runoff and reduce the potential for siltation or water turbidity until all earth moving activities have ceased and landscaping installed. See also RMP for all mitigation measures.

(2) Measure TE-9. During final design, the TCA, as described in the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where endangered or threatened fish do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.

(3) Measure TE-23. During final project design, an undercrossing shall be provided in the vicinity of the San Mateo North population of the Pacific pocket mouse for any alternative selected that occurs within this area. The undercrossing shall allow for potential movement of Pacific pocket mice under the alignment. The exact placement and design of the undercrossing shall be determined by the

Project Biologist, in coordination with MCB Camp Pendleton and with USFWS during the Section 7 consultation.

(4) Measure TE-24. Prior to the initiation of construction in areas within or proximal to known sites occupied by the Pacific pocket mouse, a Pacific Pocket Mouse Resource Management Plan (PPMRMP) shall be prepared and submitted to the USFWS for review to determine compliance with the biological opinion and incorporated into the BRMP. This plan shall identify the strategies available for minimizing impacts to comply with the no jeopardy standard of Section 7(a)2 of the Federal Endangered Species Act.

The PPMRMP shall identify conservation measures. These conservation measures will be consistent with the Biological opinion issued by the USFWS. Potential conservation measures may include:

a. Temporary construction measures—including temporary fencing:

- Invasive species control
- Habitat management and enhancement
- Predator control
- Control of public access
- PPM population monitoring

Implementation of these conservation measures will be completed in conjunction with USFWS and the landowner, Marine Corp, Camp Pendleton.

b. Project Design Features—PPM

- Barriers along the boundary
- Minimization of roadway lighting
- Minimization of fire risk

(5) Mitigation Measures TE-1 through TE-7 previously listed, also mitigate this impact.

3.12 Wild and Scenic Rivers.

The Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.) requires that certain selected rivers of the Nation, with their immediate environments which possess remarkable scenic, recreational, geological, fish and wildlife, historic, cultural or other similar values, be preserved in free flowing condition and that they and their immediate environments be protected.

3.12.1 Potential Effect. The SOCTIIP study area does not contain wild, scenic or recreational rivers as addressed in the Wild and Scenic Rivers Act or listed in the National Inventory of Wild and Scenic Rivers. Therefore, the construction and operation of Preferred Alternative will not result in adverse impacts on wild and scenic rivers.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The Wild and Scenic Rivers Act and the National Inventory of Wild and Scenic Rivers (see designated WSR, California, at http://www.nps.gov/rivers/; accessed 2002) were reviewed to determine whether any designated Wild and Scenic Rivers are located in the SOCTIIP study area, and the potential impacts of the SOCTIIP Alternatives on wild and scenic rivers are evaluated in detail in the "Land Use Technical Report" (P&D Consultants, 2003).

(2) No mitigation measures related to wild and scenic rivers are needed because there are no wild or scenic rivers in the SOCTIIP study area.

3.13 Coastal Barriers.

The Coastal Barrier Resource Act (CBRA) was enacted by Congress on October 15, 1982 (P.L. 97-348, 96 Stat 1653). The Act was passed in an effort "...to minimize the loss of human life, the wasteful expenditure of Federal revenues, and damage to fish, wildlife and other natural and other resources associated with the coastal barriers along the Atlantic and Gulf coasts."(16 U.S.C. Section 3501 (b)). The Coastal Barrier Improvement Act of 1990 (CBIA, P.L. 101-591; 104 Stat. 2931) added areas along the Great Lakes, Puerto Rico, the Florida Keys, the Virgin Islands, and secondary barriers within large embayments to the System protected by the CBRA. The CBRA and CBIA do not list any Pacific coastal barrier systems under their protection.

3.13.1 Potential Effect. The SOCTIIP study area does not contain coastal barriers as addressed in the CBRA or CBIA. Therefore, the construction and operation of the Preferred Alternative will have no impact on coastal barriers.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) There are no coastal barriers in the SOCTIIP study area.

3.14 Coastal Zone.

The California Coastal Act of 1976 (CCA, Public Resources Code Section 30000 et seq.) was enacted in 1976 to provide for the long-term protection of California's coastline for the benefit of current and future generations. The Coastal Zone, as defined and depicted, is a 1,769 km (1,100 mi) long stretch from Oregon to the border of Mexico reaching 4.8 km (three mi) out

to sea to a varying boundary of a few blocks to eight km (five mi) inland (Public Resources Code Section 30103 (a)). The Coastal Zone establishes a jurisdictional boundary for the California Coastal Commission ("CCC"). The Coastal Zone boundary in the SOCTIIP study area is shown on EIS/SEIR Figure 4.15-1.

The CCC is the agency responsible for planning and regulation of land and water uses in the Coastal Zone, consistent with CCA policies. These powers apply to private and public activities or development such as all division of land, change in intensity of use of state waters and transportation projects. Such activities are authorized through the issuance of a Coastal Development Permit ("CDP").

Federal Coastal Zone management is implemented through the CCC's Federal Consistency Unit pursuant to Section 1456 (Section 307) of the Federal Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. Section 1451 et seq.). The CZMA created a federal and state partnership for coastal resource management through the federal consistency procedures of the CZMA implemented through coastal management programs. In 1978, the federal government certified the California Coastal Management Program (CCMP), which was developed pursuant to the CZMA. Federal development projects, permits, licenses and subsidies to states and local governments require consistency with the state-certified CCMP. The process established for compliance with federal coastal law for federal activities and development projects is called a Consistency Determination and for federal permits, licenses and federal support to state and local agencies is called a Consistency Certification.

3.14.1 Potential Effect. A small portion of the Preferred Alternative is within the Coastal Zone in MCB Camp Pendleton. The Preferred Alternative may require a CDP (California) and a consistency certification, pursuant to the CCMP (Federal).

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) A CDP application for construction of the Preferred Alternative, including utility relocations, will be submitted to the CCC, and all requirements of the Federal Coastal Zone Management Act consistency determination will be obtained.

(2) The CDP will address Coastal Zone concerns including biological, cultural and paleontological resources and visual impacts based on impacts and mitigation identified in this EIS/SEIR for the selected alternative. The CDP will also address concerns regarding the relocation of utility infrastructure within the coastal zone.

(3) The Preferred Alternative is consistent with the Coastal Act goal of improving public access to the shoreline by reducing traffic congestion.

(4) Mitigation measures concerning impacts to the Coastal Zone are provided in the following sections of the EIS/SEIR and all measures in such sections that are applicable to potential impacts in the Coastal Zone are hereby incorporated by reference.

Section 4.10 (Affected Environment, Impacts and Mitigation Measures Related to Wetlands and Waters of the United States). Measures WW-1 through WW-11 are hereby incorporated by reference.

Section 4.12 (Affected Environment, Impacts and Mitigation Measures Related to Threatened and Endangered Species). Measures TE-1 through TE-29 are hereby incorporated by reference.

Section 4.16 (Affected Environment, Impacts and Mitigation Measures Related to Historic and Archaeological Resources). Measures HR-1 through HR-5 and AR-1 through AR-4 are hereby incorporated by reference.

Section 4.23 (Affected Environment, Impacts and Mitigation Measures Related to Paleontological Resources). Measures P-1 through P-3 are hereby incorporated by reference.

Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources). Measures AS-1 through AS-4 are hereby incorporated by reference.

The above are the identified topical areas of concern for the CCC. Applicable mitigation measures will be consolidated into conditions of approval for the issuance of the CDP and consistency finding.

3.15 Historic and Archaeological Resources.

3.15.1 Potential Effect. Implementation of the Preferred Alternative will have less than significant effects on historic properties because there are no previously identified historical properties in the study area for the Preferred Alternative, with the exception of one Area of Sensitivity for Historical Resources (ASHR) recorded in the study area, ASHR 10, which is at the southern limits of the City of San Clemente. It extends approximately 2.8 km (1.8 mi) along the east side of El Camino Real, east of I-5, between Avenida Santa Margarita and Calle del Comercio. It continues along the southeast side of Avenida Santa Margarita, north of Cristianitos Road, for roughly 1.21 km (0.8 mi) to Avenida San Luis Rey. This area takes in a part of the "South San Clemente" subdivision, developed immediately after the departure of city founding father Ole Hanson and the end of the Spanish Village era, during the late 1930s and 1940s. This was the first city tract developed without the earlier limitations on architectural style, and residences there reflect a mixture of pre-war Traditional, post-war Ranch styles, Mediterranean/Spanish Colonial Revival, Modernistic and other styles. The neighborhood continued to develop through the 1950s and into the 1960s. There is commercial construction along El Camino Real which typically dates to the 1950s and 1960s, with some later infill construction represented. Potential impacts to ASHR 10 will be less than significant based on the facts and mitigation measures stated below.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The Preferred Alternative will not impact Measure HR-10.

(2) No previously unrecorded historical properties identified by the current Phase I survey effort were encountered during the archival research. During the fieldwork, however, 10 Areas of Sensitivity for Historical Resources (ASHR), were recorded, based upon concentration of development 45 years old or older. These areas are described below with the Alternatives in which they were identified. While these areas may not yield properties that are ultimately eligible for NRHP or CRHP listing, the presence of concentrations of older construction indicates an elevated likelihood for encountering such, and therefore, increased potential for impacts to historical resources by the Alternative on which they are identified. Therefore, the existence and number of ASHRs was used as one factor in ranking the Alternatives. The Preferred Alternative contains only one ASHR.

(3) Measure HR-1. If applicable, prior to the start of construction activity (project related demolition), the TCA shall retain a qualified architectural historian/historical architect to record National Register of Historic Places listed or eligible buildings, structures, and objects that will be removed by the Alternative, according to Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards. The documentation will be performed in consultation with the National Park Service (NPS), and the State Office of Historic Preservation (OHP). HABS/HAER documents utilize the Secretary of the Interior's Standards for Architectural and Engineering Documentation, which is linked to the Secretary's Guidelines for Architectural and Engineering Documentation and the HABS/HAER Procedures Manual which provide more specific guidance and technical information. The level of documentation for each individual resource or district will be determined in consultation with NPS, but may include:

a. Drawings: a full set of measured drawings depicting existing and historic conditions.

b. Photographs: photographs with large format negatives of exterior and interior views, photocopies with large format negatives of select existing drawings or historic views where available.

c. Written data: history and description. HABS/HAER recordation for each resource should update and augment any previously completed documentation of the resource. Documentation should be completed within 180 days of the FHWA approval of the SOCTIIP project. The product should be submitted to the NPS for review and addition to the HABS/HAER collection maintained by the Library of Congress. Copies of the document should also be provided to local institutions or agencies (planning/community development departments, public libraries, historical societies) and made available for public review.

(4) Measure HR-2. If applicable, the TCA, in consultation with local agencies and the SHPO, shall create a permanent display within a local facility readily accessible to the public, (such as public libraries, museums, or schools) that will interpret the history and construction of the resource and its historical context. The interpretive display may consist of durable panels and should include items such as: reproductions of historical photographs, original construction drawings, or other drawings, drawings and photographs that are part of HABS/HAER documentation completed as part of the mitigation measures, and explanatory text. Items such as reproductions or actual architectural elements, discarded hardware, or other items used in the original construction may also be incorporated, as may oral histories collected from individuals associated with the resource in text, audio, and/or video format. The interpretive display should be completed and in place prior to initiation of operations on any part of the selected corridor.

(5) Measure HR-3. If applicable, the TCA, in consultation with the local agencies and SHPO, shall create an internet website on the world wide web that will interpret the resource impacted by the proposed construction. The website should include written explanatory text discussing the history and context of the resource, historic and contemporary photographs of the resource, drawings and/or diagrams as appropriate. It may also include oral histories collected from individuals associated with the resource, in text, audio, and/or streaming video format. The website may be a stand alone site, or linked to existing websites maintained by local or county historical organizations. The interpretive website should be completed and accessible prior to initiation of operations on the selected corridor.

(6) Measure HR-4. In the event that design of the project requires the demolition of any Federal, State, or locally listed or eligible historical resource, the TCA shall, with the approval of the responsible municipal agency, salvage any historical elements or fittings of the structure(s) which may be useful for reuse or display prior to the commencement of any alteration, grading, or demolition of the site.

(7) Measure HR-5. If an historic resource is retained, the impacts from project construction which change the resources historic fabric, appearance or setting should be mitigated through a policy of adherence to The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995) and/or The Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (1995) whenever relocation, repair, or rehabilitation work is required.

3.15.2 Potential Effect. Eight sites are considered components of the San Mateo Archaeological District (SMAD). As such, these sites are eligible for inclusion on the California Register of Historical Resources (CRHR). The Criterion 4 (of the CRHR) and Criterion D (of the NRHP) eligibility of the SMAD addresses the data potential the site has to address important questions about prehistory. Excavation for evaluation, and characterization of the resource; or for data recovery are designed to capture the data potential of the site, and therefore reduce the

significance of the project impacts to this component (the Criterion 1/D eligibility) of the resource below a level of significance.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure AR-1. Prior to the start of construction activity, a qualified archaeologist shall be retained by the TCA to perform subsurface test level investigation and surface collection for all archaeological sites that have not had formal determinations of eligibility for listing on the NRHP. The test level report evaluating the site shall include discussion of significance (scientific data potential), integrity (location, physical characteristics, and condition), mitigation recommendations, and cost estimates. Final mitigation shall be carried out based on the report recommendations, input by FHWA and SHPO, and a determination as to the site's disposition by the TCA with concurrence of the FHWA. Possible recommendations made by a qualified archaeologist include, but are not limited to, preservation, data recovery, or no mitigation necessary. In addition, TCA shall retain a qualified Native American monitor to be present during the evaluation excavations for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(2) Measure AR-2. In conjunction with the final design, the TCA shall retain a qualified archaeologist to complete a suitable historic property treatment plan for all eligible cultural resources that will be impacted by the SOCTIIP. A final report of the data recovery operation shall be submitted to the TCA, Caltrans and FHWA prior to any grading in the archaeological site areas. In addition, TCA shall retain a qualified Native American monitor to be present during the treatment program for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(3) Measure AR-3. Prior to the start of construction activity, the TCA shall retain a qualified archaeologist. The archaeologist shall establish procedures (monitoring plan) for archaeological resource surveillance, and procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources as appropriate. The archaeologist shall also be present at the pregrading conference to explain the established procedures based on a preapproved monitoring plan. If additional or unexpected archaeological resources are discovered, a qualified archaeologist shall determine appropriate actions, in cooperation with the TCA, for testing and/or data recovery. The archaeologist shall submit a follow-up report to the TCA that shall include the period of inspection, an analysis of any artifacts found, the results of any testing or data recovery, and the present repository of the artifacts. In addition, TCA shall retain a qualified Native American monitor to be present during ground

disturbing construction activities within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

(4) Measure AR-4. In conjunction with the final design, the TCA will investigate various design features including options for reversibility of design, i.e., avoidance of core areas, minimization of cut, maximization of fill, bridge structure on columns, etc., in the vicinity of the Village of Panhe (within the San Mateo Archaeological National Register District) could assist in minimizing impacts to the District as a result of the selected Alternative. If it is determined that a design feature can feasibly assist in minimizing impacts to the District, the TCA will incorporate this feature in the final design for the selected alternative.

3.16 Hazardous Materials and Hazardous Waste Sites.

3.16.1 Potential Effect. The short- and long-term adverse impacts of the Preferred Alternative related to hazardous materials and hazardous waste sites are summarized in EIS/SEIR Table 4.17-12, and Tables 4.17-3 through 4.17-11. The following impacts related to hazardous waste or hazardous substance sites are common to all the build Alternatives: agricultural lands where historical usage of pesticides or other hazardous substances may have occurred; lead or chromium in existing striping; and construction-related hazards. In, particular, a number of construction-related activities have the potential to result in hazardous materials accidents or releases. These activities primarily are associated with construction equipment refueling and maintenance. Equipment maintenance operations during construction of the Preferred Alternative may include the limited use of reportable quantities of paints, mineral spirits, batteries, cleaning solvents and petroleum products. Small quantities of methyl ethyl ketone (MEK), toluene, diethylene and naphthalene could be stored and used on the construction site(s), as could coolant/antifreeze fluids containing ethylene glycol, or propylene glycol and isopropyl alcohol. In addition, there is the potential for spills of toxic and hazardous materials being transported on the SOCTIIP facility because the corridor would introduce a potential new hazard associated with highway transport of hazardous materials to areas not presently subject to this risk. These risks are considered less than significant based on applicable mitigation measures and the facts stated below.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure HM-1. Testing For Contaminated Groundwater. Groundwater testing for the presence of pesticides, nitrates, metals and petroleum hydrocarbons will be required by the Regional Water Quality Control Board (RWQCB) prior to construction in all areas where excavation may extend into groundwater based on final design criteria. All wastewater generated during construction will meet all applicable requirements of the RWQCB prior to disposal.

(2) Measure HM-2. Aerially Deposited Lead. In areas immediately adjacent to existing roads proposed for construction (I-5, arterials), soil samples will be

collected and analyzed for lead concentrations during final design, consistent with "Lead Testing Recommendations for Districts with Aerially Deposited Lead (ADL) Variance" (Caltrans 2001), "Invoking the Aerially Deposited Lead Variance" (Caltrans, no date), DTSC "Variance 00-H-VAR-07," and Standard Special Provision SSP 19-900, S5-740. If lead-affected soil is found, the results/conclusions will be included in the Site Investigation Report, the Standard Special Provisions (SSP) and the Material Information Handout (MIH). The SSP and MIH will be incorporated in design specifications and will include measures to safeguard public health before and during construction. Depending on the concentrations and volumes encountered, excavation and disposal of lead-impacted soil may be required. If such excavation is indicated, procedures for handling and disposal will be included in the design specifications. Soil contaminated with ADL will be removed and disposed of, in concurrence with the variance issued to the California Department of Transportation (Caltrans) by the California Department of Toxic Substances Control (DTSC). This material may be reused for embankment fill, retaining wall backfill and/or capped with an appropriate amount of clean fill material. Specifically, DTSC granted Caltrans a variance in 2000 to allow for the use of some lead contaminated soils for fill and backfill during construction of freeway improvements, provided that Caltrans' handling and use of those soils are consistent with the conditions, limitation and requirements described in that variance. A copy of the variance is available for review at the Caltrans District 12 office. This variance is valid through September 22, 2005. It is anticipated that all of the lead contaminated soil in the SOCTIIP study area affected by the Alternatives would be used during the construction of the proposed project. Although there is not expected to be the need to remove and dispose of any lead contaminated soil off site during construction, any excess contaminated soil would be disposed of consistent with all applicable federal, state and local regulations.

(3) Measure HM-3. Agricultural Lands. Prior to grading in agricultural areas, a soil sampling plan and a worker health and safety plan will be prepared and implemented to identify areas of chemically affected soils to minimize the risk of exposure to worker safety during construction. The soil sampling plan will include appropriate sampling criteria for screening excavated soils by profiling for reuse or disposal, as appropriate. Surface soil samples within the disturbance limits will be collected and analyzed for pesticide and herbicide residues. If elevated residue levels are detected, a Risk Management Plan (RMP) for the impacted soil will be developed and implemented during construction.

(4) Measure HM-4. Abandoned Oil Wells or Test Borings. The abandoned oil wells and test borings will be positively located and any remaining components (such as steel surface casings) will be removed before grading. In the event that an undocumented oil well or test boring is encountered during construction of any SOCTIIP Alternative, reabandonment of the well or boring will be implemented to comply with applicable California Department of Oil and Gas (CDOG) requirements.

(5) Measure HM-5. Containing Building Materials. Consistent with the requirements of the South Coast Air Quality Management District (SCAQMD), asbestos sampling and notification will be implemented prior to any demolition or renovation of existing bridges, road structures or buildings. All asbestos contain building waste materials will be properly handled and disposed of consistent with all applicable federal, state and local regulations. Formal notification to SCAQMD will be made at least 10 days before any demolition work, regardless of whether or not asbestos is known to be present.

(6) Measure HM-6. Hazardous Materials in Highway Infrastructure. If any existing thermoplastic or painted traffic stripes on existing roads are proposed for removal, testing of those stripes will be performed prior to construction to assess the level of lead and chromium. The testing will identify specific actions that will be implemented to safely remove and dispose of these stripes. It is also possible that some components of bridges or other highway infrastructure may include asbestos-containing materials (ACM). Building materials in all structures slated for demolition will be surveyed for asbestos content before demolition begins and any materials found to be ACMS will be removed (abated) before demolition, as described in measure HM-5.

(7) Measure HM-7. Construction Related Hazardous Materials. All construction activities will be required to comply with existing federal, state and local regulations regarding the handling, use, storage and disposal of hazardous materials, including specific regulations on response in the event of accidental release.

(8) Measure HM-8. Hazardous Materials Associated with Existing Utilities. If leakage or damage from existing utilities is identified during construction, appropriate containment and remedial measures will be implemented, as necessary, in consultation with the affected utility provider and in compliance with existing local, state and federal regulations.

(9) Measure HM-9. Alignment Specific Database Review. During final design, an updated regulatory database report will be obtained and regulatory records for identified sites of concern, such as leaking underground storage tank locations, will be reviewed. The intent of obtaining and reviewing this updated information will be to evaluate changes in, or the progress of, ongoing monitoring and remediation activities at those properties within or immediately adjacent to the disturbance limits for the selected Alternative. The results of this additional database and records review will be used in developing the final construction plans and schedules.

Depending on the location, nature, concentrations and potential risk of chemically affected soil identified prior to and/or grading activities, remedial measures, consistent with the measures provided here, may be necessary to minimize impacts to the environment and the public associated with changes in the updated status of identified sites of concern.

(10) Measure HM-10. Underground Storage Tanks. The removal of underground storage tanks affected by the SOCTIIP build Alternatives will be coordinated by the facility tenant or property owner (which could be the current owner, the TCA, other implementing agency, Caltrans or the applicable local jurisdiction), and regulatory closure would be directed and approved by the applicable local oversight regulatory agency. These local oversight regulatory agencies may include the Orange County Health Care Agency, San Diego Hazardous Materials Management District and/or the San Diego and/or Santa Ana Regional Water Quality Control Boards (RWQCB). Appropriate mitigation will include monitoring the progress of UST closure activities through periodically updating the regulatory database review. This measure will be conducted for the selected SOCTIIP build Alternative.

(11) Measure HM-12. Hazardous Materials Sites. During final design, existing businesses within the disturbance limits will be evaluated related to hazardous materials concerns to identify areas where soil sampling is warranted. Based on this reevaluation, subsurface sampling may be conducted to evaluate the presence of previous chemical releases associated with these types of land uses. Identified contamination will be remediated prior to or during construction of the selected Alternative. The right-of-way acquisition process will specifically address the need for hazardous materials remediation. Remediation, consistent with regulatory requirements and standards, will fully mitigate adverse impacts associated with existing hazardous materials or wastes sites on property acquired for the selected Alternative.

(12) Measure HM-13. Camp Pendleton. The Department of the Navy (DON) will be consulted and a review of current United States Environmental Protection Agency (EPA) files will be conducted during final design to evaluate whether National Priorities List (NPL) records indicate that hazardous materials releases have occurred beneath the northwestern part of the Base, which may impact the SOCTIIP build Alternative. Current regulatory records pertaining to the integrity of the USTs and associated piping at the Base gas station will be reviewed. In the event that the regulatory files lack records of monitoring or UST integrity test results, subsurface sampling activities will be conducted, including confirmation soil sampling conducted within the disturbance limits of the build Alternative. Evaluation of potentially impacted or environmentally impaired properties will be performed prior to acquisition in order to determine the degree of environmental risk and liability for both the buyer and seller.

(13) Measure HM-14. Camp Pendleton. The right-of-way easement granted by the DON to the TCA shall contain the following provisions: 1) procedures for control and manifesting of hazardous waste generated by construction or maintenance activities; 2) Assignment of responsibility for hazardous waste management, spill accountability, and hazardous waste disposal (including manifesting); 3) The EPA identification (ID) number to be used to manifest hazardous wastes; 4) Responsibility for acquisition of any required health permits; 5) Procedures for management of HW stored on Camp Pendleton

property; 6) Assignment of responsibility for any Notices of Violation or other regulatory enforcement actions occurring within the Alternative right-of-way during construction or operation of the SOCTIIP project.

(14) Measure HM-15. TRW Capistrano Test Site. If the selected Alternative traverses the Capistrano Test site, the groundwater well shall be sampled and abandoned in a cooperative effort with TRW in accordance with applicable regulatory guidelines.

(15) Measure HM-16. Petroleum Pipeline. If records of pipeline integrity testing are unavailable, a soil screening program, including the collection and analysis of soil samples beneath the pipeline, will be implemented in a cooperative effort with Kinder Morgan, the pipeline operator. The soil sampling will be conducted to evaluate the presence of chemically affected soil. If contaminated soil is documented associated with this pipeline, appropriate remediation in compliance with existing local, state and federal regulations will be implemented, in conjunction with Kinder Morgan.

(16) Measure HM-18. Previously Unknown Hazardous Materials Encountered During Construction. If previously unknown hazardous materials or objects that could contain hazardous materials (such as an undocumented underground storage tank) are discovered during construction, construction personnel will notify TCA immediately and implement measures to control and characterize the materials encountered, including notification of hazardous materials emergency response personnel as appropriate. Characterization of the possible hazardous materials will be similar to the provisions of HM-12. The construction contractor will provide for this contingency in the Health and Safety Plan for the project.

(17) NES Measure 12 for Construction Storage: During all construction activities, the contractor shall ensure that construction equipment or vehicles shall not be stored within areas defined as Environmentally Sensitive Areas (ESA), including areas within the jurisdiction of the ACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 m (150 ft) of CDFG or ACOE jurisdictional areas.

(18) NES Measure 13 for Construction Disposal: During all construction activities, the contractor shall ensure that no waste material shall be discharged to any CDFG or ACOE jurisdictional areas. Spoil sites shall not be located within any CDFG or ACOE jurisdictional areas, or in areas where it could be washed into any surface water body.

(19) In the event of an accidental release of hazardous materials or wastes associated with an accident on the transportation facilities under any of the SOCTIIP build Alternatives, including the corridors, arterials and I-5, the reporting and cleanup of the spill is strictly regulated by a wide variety of federal, state and local agencies. Because the transport of hazardous materials and wastes and the remediation of any accidental spills are already addressed by existing local, state

and federal regulations, no additional mitigation measures are required for the SOCTIIP Alternative.

3.16.2 Potential Effect. Underground utilities cross or are in the immediate vicinity of the Preferred Alternative and during construction, these facilities may be disturbed, removed or relocated, which could result in the potential for accidental release of hazardous materials. In addition, the relocation of existing utilities, including SDG&E and SCE transmission and distribution lines has the potential to produce hazardous emissions. These impact are considered less than significant based on the mitigation measures and facts provided below.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures HM-1 through HM-10, HM-12 through MH-16, HM-18 and NES-12 and NES-13 are hereby incorporated by reference.

(2) Measure HM-17. Electrical Substations. If the final design for a build Alternative calls for the relocation of oil cooled and/or lubricated electrical equipment at existing electrical substations, the TCA will coordinate with the owner of the substation during final design to determine whether an evaluation of soils beneath the relocated equipment is necessary and appropriate. The TCA would also coordinate with the owner of the substation regarding the remediation of any contaminated soil associated with the affected electrical equipment, consistent with applicable local, state and federal regulations.

(3) As a result of public concerns, researchers have conducted numerous national and international sponsored studies to further understand and quantify the risks of EMF and the resultant health risks. In an effort to determine whether health standards are necessary, agencies such as the California Public Utilities Commission (CPUC), California Department of Health Services (CDHS), the U.S. Environmental Protection Agency (U.S. EPA), and the National Institute of Environmental Health Sciences (NIEHS), have reviewed the research. The technical review of scientific data regarding EMF conducted by these State and federal agencies concluded that there is no basis for setting health standards for EMF (ATI Architects and Engineers, 2004). The CPUC does not consider EMF, in the context of CEQA, an environmental impact because there is no agreement among scientists that EMF creates a potential health risk and because CEQA does not define or adopt standards for defining any potential risk from EMF. The utility improvements included as part of the Preferred Alternative involve relocation of existing transmission and distribution lines in approximately the same location. The new infrastructure will be at the same voltage as the existing lines; therefore, no increase in EMF exposure is anticipated. The new infrastructure will meet current design standards, including all required insulation.

(4) The primary concern associated with underground and overhead utility facilities is facilities which may include components which contain hazardous materials such as asbestos in agricultural irrigation pipes or facilities which transport hazardous materials such as fuel pipelines. The risk associated with potential hazardous materials for the majority of these underground and aboveground utilities is very low or negligible because most of them do not contain or transport hazardous materials.

(5) Disturbance of underground utilities which contain or transport hazardous materials is also strictly regulated by existing local, state and federal regulations regarding hazardous materials. All applicable regulation will be complied with in the event of a disturbance.

(6) Measure HM-18. Previously Unknown Hazardous Materials Encountered During Construction. If previously unknown hazardous materials or objects that could contain hazardous materials (such as an undocumented underground storage tank) are discovered during construction, construction personnel will notify TCA immediately and implement measures to control and characterize the materials encountered, including notification of hazardous materials emergency response personnel as appropriate. Characterization of the possible hazardous materials will be similar to the provisions of HM-12. The construction contractor will provide for this contingency in the Health and Safety Plan for the project.

In addition to the mitigation measures described in this Section, two mitigation measures identified in the Natural Environment Study (P&D Consultants, 2003) are also relevant to hazardous materials and wastes mitigation. These measures are listed here for information purposes only; detailed discussion of potential impacts and the need for these measures, related to the protection of natural resources, is provided in Section 4.10 (Affected Environment, Impacts and Mitigation Measures Related to Wetlands and Waters of the United States).

(7) NES Measure 12 for Construction Storage. During all construction activities, the contractor shall ensure that construction equipment or vehicles shall not be stored within areas defined as Environmentally Sensitive Areas (ESA), including areas within the jurisdiction of the ACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 m (150 ft) of CDFG or ACOE jurisdictional areas.

(8) NES Measure 13 for Construction Disposal. During all construction activities, the contractor shall ensure that no waste material shall be discharged to any CDFG or ACOE jurisdictional areas. Spoil sites shall not be located within any CDFG or ACOE jurisdictional areas, or in areas where it could be washed into any surface water body.

In the event of an accidental release of hazardous materials or wastes associated with an accident on the transportation facilities under any of the SOCTIIP build Alternatives, including the corridors, arterials and I-5, the reporting and cleanup

of the spill is strictly regulated by a wide variety of federal, state and local agencies. Because the transport of hazardous materials and wastes and the remediation of any accidental spills are already addressed by existing local, state and federal regulations, no specific mitigation measures are required for the SOCTIIP Alternatives.

The storage, use and handling of hazardous materials and generation/disposal of hazardous wastes, are strictly regulated by applicable state and federal laws, regulations and local ordinances. Therefore, for all the build Alternatives, the contractor would be required, under existing state, federal and local regulations, to have and maintain storage and handling systems for all hazardous materials on the construction site.

3.17 Visual Resources.

3.17.1 Potential Effect. In AU1-5, the Preferred Alternative would result reduction in visual quality for motorist on Oso Parkway and viewers from Ladera Ranch. Based on the mitigation measures and facts stated below, these impacts are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure AS-1. Adjacent landforms affected shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces.

The TCA shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a preferred alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.

(2) Measure AS-2. The TCA prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.

(3) Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA along the corridor. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit.

(4) Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto areas outside of the corridor right-of-way . The vertical or horizontal illuminance from roadway lighting sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment through The Donna O'Neill Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative due to roadway lighting sources installed by the TCA.

(5) The following with-project visual quality rating is for the mitigated conditions five years following completion of project construction. The addition of the fill that will obscure the bottom part of the ridge in the left of the view will change the vividness of the view from moderately high (rated 5) to moderate (rated 4) because this change will be in the foreground view of drivers on Oso Parkway. The presence of the fill slopes, edge of the toll road, access ramp and cars in the foreground view of drivers along Oso Parkway would slightly reduce the intactness but the rating would remain moderate (rated 4) because of the presence of the other developed uses at Tesoro High School. The unity of the visual components would remain moderate (rated 4) because the straight plane of the fill slopes and straight line of the edge of the toll road and access ramp would echo the shape and line of the Tesoro High School access road on the right of the view. Implementation of the Preferred Alternative would slightly increase the straight line elements in the overall curvilinear scene. However, this addition would not

change the rating from moderate. The overall visual quality rating with the project conditions would be moderate (4 + 4 + 4 = 12, 12/3 = 4). This change of 0.33 point in the visual quality rating would be an adverse but less than significant impact of the project for AU1-5.

(6) From the Ladera Ranch Land Conservancy west of the alignment, viewers on the ridge at the east edge of the conservancy would have views of the alignment to the northeast. These views would also include Tesoro High School, Oso Parkway and the existing FTC north of Oso. The visual quality impact of the project on these views would be adverse but less than significant because of the other developed uses in the view.

3.17.2 Potential Effect. In AU36, the Preferred Alternative would result reduction in visual quality of regionally outstanding view E, south of Ortega Highway. Based on the mitigation measures and facts stated below, these impacts are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures AS-1 through AS-4 are hereby incorporate by reference.

(2) AU36 is within the viewshed of regionally outstanding view E, shown on Figure 4.18-9. The location of view point E, south of Ortega Highway, is shown on Figure 4.18-8. However, the project elements in this AU will be in the distance and will be a very small part of the view. Therefore, the impact of the project on this regionally outstanding view would be adverse but less than significant. Also there are no sensitive viewers from this view point.

3.17.3 Potential Effect. In AU37, the Preferred Alternative would result reduction of visual quality for the residents of RMV, and a reduction in view quality of regionally outstanding view B, from north of Ortega Highway and regionally outstanding view E from south of Ortega Highway. Based on the mitigation measures and facts stated below, these impacts are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures AS-1 through AS-4 are hereby incorporate by reference.

(2) Viewers from residences in RMV east of the bridge across San Juan Creek would have views of this bridge and areas of fill. However, these features would be much smaller elements in the view because the RMV residences are farther from these features than is view point 37A. From the RMV residences, the bridge and

fill areas would appear similar in size to the project features for AU30 shown on Figure 4.18-47. This is because the distance from the residences to the project is approximately the same in Figure 4.18-47 as in Figure 4.18-69 for AU37. As with AU30 shown in Figure 4.18-47, the visual impacts of AU37 on views from residences in RMV would be adverse but less than significant.

(3) AU37 is within the view scene of four regionally outstanding views. These are views B, C, D and E, shown on Figure 4.18-9. In View B, a small part of cut will be visible in the extreme left part of the view. This impact would be adverse but less than significant because of the small amount of the project that will be visible and because there are no sensitive viewers from this view point. The regionally outstanding view E is shown on Figure 4.18-9. The alignments in AU37 north of Ortega Highway will be seen from view point E shown on Figure 4.18-8. However, the project elements in these AU will be in the distance and will be a very small part of the view. Therefore, the impact of the project on this regionally outstanding view would be adverse but less than significant.

3.17.4 Potential Effect. In AU32, the Preferred Alternative would result reduction of visual quality for residents on the east part of Talega PC. Based on the mitigation measures and facts stated below, these impacts are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures AS-1 through AS-4 are hereby incorporate by reference.

(2) As seen in the visual simulation on Figure 4.18-52, the unmitigated and mitigated project will have approximately the same amount of contrast with the existing conditions. The with-project rating of visual quality is given for the mitigated condition. Project elements including fill, removal of riparian vegetation and the road surface and vehicles that will be visible along a narrow horizontal band at the base of the hills in the valley below the viewer. With implementation of the project alignment in AU32 the vividness would change from high (rated 6) to moderately high (rated 5) because the riparian vegetation on the valley floor that contributes to the vividness of the view will be largely screened from view by the fill slope that supports the road. A soundwall adjacent to residences in the Talega PC closest to the Avenida Pico access ramps, which are beyond the right edge of this view, will block views of these project elements and views to the east. The overall visual rating of the mitigated with-project conditions from this view point would be moderate (5 + 4 + 4 = 13, 13/3 = 4.33). This change in visual quality of 0.67, less than one point, would be an adverse but less than significant visual impact of the project in AU32 from this view point in Talega

3.17.5 Potential Effect. In AU 33, the Preferred Alternative would result reduction in visual quality for residents in San Onofre 1 Housing of Camp Pendleton and

reduction in visual quality from ocean and land view points for user of the San Onofre State Beach, Trestles and Cristianitos Subunits. Based on the mitigation measures and facts stated below, these impacts are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures AS-1 through AS-4 are hereby incorporate by reference.

(2) The unmitigated visual simulation of Figure 4.18-55 shows the area of the view that will be altered with implementation of the project. The project elements will be visible along a narrow horizontal band at the base of the hills in the background beyond the agricultural fields. These elements include cut and fill, a retaining wall left of center and elevated structure in the left of the view. The following with-project visual quality rating is provided for the mitigated project five years following completion of construction, as shown in the mitigated visual simulation. The vividness of the view will remain moderately high (5) because only a narrow band of the view will change at the base of the hills in the distance and the silhouette of the hills that frame the view scene will not change. The intactness rating would change from moderately high (rated 5) to moderate (rated 4) because the long retaining wall and elevated structure, although a small part of the view, will detract from the overall view. The unity of the visual components would remain high (rated 6) because the diagonal line of the edge of the toll road and elevated structure against the hills will not substantially interrupt the existing visual pattern of agricultural fields and the hills in the background. The overall visual rating of the mitigated with-project conditions from this view point is moderately high (5 + 4 + 6= 15, 15/3 = 5). This change of 0.30 in the visual quality rating would be an adverse but less than significant impact on residential viewers in the San Onofre Housing 1 area.

(3) Visual Quality Impacts on Views from San Onofre State Beach Trail Looking Northeast (View Point 33D). The unmitigated visual simulation of Figure 4.18-57 shows the area of the view that will be altered with implementation of the project. The elevated connector ramps over I-5 will introduce a second straight-edged feature into the view. This feature is visible above the existing I-5 structure in the distance but below the tops of the trees which screen parts of the structure in this view. Project mitigation will not be visible in this view, therefore, the unmitigated and mitigated visual simulations are the same. It should be noted that the existing vegetation will continue to mature and may provide some additional screening of the proposed connector ramp. Implementation of the project will change a small part of the view but none of the existing landscape elements will be removed or changed. Therefore, the vividness of the view will remain moderate (rated 4). The intactness would be reduced from moderate (rated 4) to moderately low (rated 3) because the elevated structure above I-5 would detract from the view. The unity of the visual components would remain moderately

high (rated 5) because the addition of the straight line of the elevated structure above the existing I-5 will not substantially interrupt the existing visual pattern. The overall visual rating of the with-project conditions from this view point is moderate (4 + 3 + 5 = 12, 12/3 = 4). Therefore, the change in visual quality rating of 0.30 point with the project from this view point would be an adverse but less than significant impact.

(4) Visual Quality Impacts on Views from Upper Trestles Surfing Area Looking Toward San Mateo Creek (View Point 33E). The unmitigated visual simulation of Figure 4.18-58 shows the area of the view that will be altered with implementation of the project. The elevated connector ramp is visible between the bluffs on the right and left of the view, below the top of the distant hills but above the line of trees in the central part of the view. The light color and engineered line of the concrete connector ramp will contrast with the other view components. Project mitigation will not be visible in this view, therefore, the unmitigated and mitigated visual simulations are the same. Implementation of the connector ramps will change a small part of the view but none of the existing landscape elements will be removed or changed. Also the ramp will not be visible above the horizon line. Therefore, the vividness of the view will remain moderately high (rated 5). The intactness would be reduced from high (rated 6) to moderately high (rated 5) with the introduction of the elevated connector ramp. The unity of the visual components would be reduced from high (rated 6) to moderately high (rated 5) because of the strong line of the connector ramp that somewhat interrupts the pattern between the trees and ridge in the distance. The overall visual rating of the with–project conditions from this view point is moderately high (5 + 5 + 5 = 15, 15/3 = 5). This change in visual quality rating of 0.67, would be an adverse but less than significant impact of the project from this view point.

(5) Visual Quality Impacts on Views from San Onofre State Beach Looking Northeast Toward Basilone Road (View Point 33F). The unmitigated visual simulation of Figure 4.18-59 shows the area of the view that will be altered with implementation of the project. The elevated connector ramp is visible below the housing pad on the left of the view. The light color and engineered line of the concrete connector will contrast with the other view components. Project mitigation will not be visible in this view, therefore, the unmitigated and mitigated visual simulations are the same. The connector ramps will change a small part of the view but none of the existing landscape elements will be removed or changed. Also, the ramp will not be visible above the horizon line. Therefore, the vividness of the view will remain moderately high (rated 5). The intactness would be reduced from moderately high (rated 5) to moderate (rated 4) with the introduction of the elevated connector ramp. The unity of the visual components would remain high (rated 6) because the straight line of the structure is a small part of the view, echoes the straight edge of the grassland area and will not substantially interrupt the existing visual pattern. The overall visual rating of the with-project conditions from this view point is moderately high (5 + 4 + 6 =

15, 15/3 = 5). This change in visual quality rating of 0.30 would be an adverse but less than significant impact of the project from this viewpoint.

(6) Visual Quality Impacts on Views from Upper Trestles Surfing Area Looking Northeast Toward Basilone Road (View Point 33G). Figure 4.18-60 shows the existing conditions photo and unmitigated and mitigated visual simulations of the project in AU33 from a view point in the Upper Trestles surfing area near the view point in Figure 4.18-58 but looking northeast toward Basilone Road. The view point location, view point 33G, is shown on Figure 4.18-60. Although the landform is slightly different than shown previously in Figure 4.18-58, the landscape components, visual character and visual quality rating are the same as described for the view toward San Mateo Creek in Figure 4.18-58. Project mitigation will not be visible in this view, so the mitigated and unmitigated visual simulations are the same. The visual simulation of the with-project conditions in Figure 4.18-60 shows that the I-5 connector ramp will be visible to the left of the bluff in the right side of the view. The ramp is visible at the base of the hills in the distance. The light color and engineered line of the concrete connector will contrast with the other view components. A shorter segment of the ramp is visible in this view than in Figure 4.18-58. As with the previous view in Figure 4.18-58, implementation of the connector ramps will change a small part of the view but none of the existing landscape elements will be removed or changed. Also, the ramp will not be visible above the horizon line and very little of the hills in the background will be concealed by the ramp. Therefore, the vividness of the view will remain moderately high (rated 5). The intactness would be reduced from high (rated 6) to moderately high (rated 5) with the introduction of the project structure. The unity of the visual components would change from high (rated 6) to moderately high (rated 5) because the straight horizontal band of the connector would detract from the curvilinear pattern of the ridge and tree line silhouette in front of the ridge. The overall visual rating of the with-project conditions from this view point is moderately high (5 + 5 + 5 = 15, 15/3 = 5.0). This change in visual quality rating of 0.67, would be an adverse but less than significant impact of the project from this viewpoint.

3.17.6 Potential Effect. In AU 37, Implementation of the Preferred Alternative would result in the removal of a substantial number of oak trees that the County or Orange recognizes as a resource, which thereby results in a significant effect because of the conflict with policies of the County of Orange related to oak trees.

Findings. The Board hereby makes findings (1) and (3).

Facts in Support of Findings. The mitigation measures and other facts described below support the finding that, although the impact of the project has been reduced, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure WV-11. To mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation

Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 ha (1,182 ac) created by the TCA to mitigate biological impacts resulting from construction of the FTC-N. Of these 478.7 ha (1,182 ac), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, nonwetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives.

a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost).

b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG.

c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1 (0.40 ha [one ac] for every 0.40 ha [one ac] lost), or other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program.

(2) Measure WV-13.

a. TCA will mitigate impacts to coast live oak and elderberry woodland communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable

resource impacted by the project, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Preservation and restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist.

b. The restoration program shall be detailed with the BRMP. Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality.

   The following performance standards shall apply for the restoration of elderberry woodland areas. Restoration shall be considered successful if:

   - The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
   - The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
   - Absolute percent cover of native upper and mid canopy species is 70 percent.
   - An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

   For coast live oak woodland, the following standards shall apply:

   - The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
   - The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
   - Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
   - An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

c. Monitoring shall be conducted for five years (or less if success criteria are met earlier) to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional seed and/or container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

(3) Measure WV-39. TCA will mitigate impacts to riparian scrub, woodland, and forest communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project, or other ratio that compensates for functions and values, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP.

Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community.

The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent in forest scrub communities and 5 percent in woodland communities.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For southern coast live oak riparian forest, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for a minimum of five years to ensure successful establishment of the restored areas. If success standards are not met, remedial

measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

3.18 Energy.

Direct energy consumption involves energy used by the operation of vehicles. In assessing the direct energy impact of the SOCTIIP Alternatives, the following factors were considered: vehicle mix, including passenger vehicles, heavy trucks and transit buses; annual VMT; and variation of fuel consumption rates by vehicle type.

The long-term energy analysis for each alternative was based on 2025 corridor traffic volumes and system-wide total VMT. The 2025 daily traffic volumes for the study corridor were obtained from the South Orange County Transportation Infrastructure Improvement Project Traffic and Circulation Technical Report (Austin-Foust Associates, Inc., 2003). The daily VMT was annualized using a factor of 335 days per year. The VMT Fuel Consumption Method used for this analysis is described in the Energy and Transportation Systems Manual (Caltrans, 1983).

This analysis describes the daily VMT differences for the build Alternative analysis scenarios compared to the 2025 No Action Alternative (Build out Toll Network with 14,000 RMV dus) and the 2025 No Action Alternative (Build out Toll Network with 21,000 RMV dus). The VMT statistics represent the system-wide traffic projection and generally indicate the overall volume of traffic on the circulation system. The findings herein are based on this method of energy consumption analysis.

3.18.1 Potential Effect. Construction energy effects are indirect effects that involve the one-time non-recoverable energy use energy associated with the construction of the road, structures and materials for the Preferred Alternative. Construction energy effects also include energy associated with implementation of the utility modifications proposed as part of the project. The use of energy for the construction the Preferred Alternative would be a short-term adverse impact on energy resources. Construction energy impacts are considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Construction energy represents only a minor percent of the total energy consumed in the region during the construction period. Thus, impacts on the overall supply of and demand for energy during the construction of Preferred Alternative is considered less than significant.

3.18.2 Potential Effect. Under the Preferred Alternative with the RMV Plan, the 2025 VMT for passenger vehicles, heavy trucks and buses are projected to be 141.281 billion miles, as shown in Table 4.19-6 of the EIS/SEIR. Vehicles operating in the circulation system study area are anticipated to expend approximately 1,204,113 billion BTUs or about 33.006 billion liters (207.606 million barrels) of oil. As a result, the Preferred Alternative with the RMV Plan would result in an increase of energy consumption compared to the No Action

Alternative with the RMV Plan. On an annual basis, this Alternative would consume approximately 60 billion BTUs or 11,000 barrels of crude oil (two million liters) more than the No Action Alternative-RMV Plan. This impact is considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Although the Preferred Alternative would result in an increase in energy consumption compared to the No Action Alternative, the change in consumption would amount to less than one percent (0.00498%). Therefore, this Alternative would not result in a substantial change in energy consumed on an annual basis.

(2) No mitigation measures related to energy are proposed because the change in energy consumption under the build Alternatives compared to the No Action Alternatives is substantially less than one percent on an annual basis and, therefore, construction and operation of the SOCTIIP build Alternatives would not result in adverse impacts on energy consumption.

3.18.3 Potential Effect. Under the Preferred Alternative assuming OCP-2000 development levels, the 2025 VMT for passenger vehicles, heavy trucks and buses are projected to be 141.463 billion miles, as shown in Table 4.19-6 of the EIS/SEIR. Vehicles operating in the circulation system study area are anticipated to expend approximately 1,205,639 billion BTUs or about 33.047 billion liters (207.869 million barrels) of oil. As a result, the A7C-FEC-M Alternative with OCP-2000 would result in an increase of energy consumption compared to the No Action Alternative with OCP-2000. On an annual basis, this Alternative would consume approximately 50 billion BTUs or 9,000 barrels of crude oil (one million liters) more than the No Action Alternative-OCP-2000. This impact is considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Although this Alternative would result in an increase in energy consumption compared to the No Action Alternative, the change in consumption would amount to less than one percent (0.00414%).

(2) No mitigation measures related to energy are proposed because the change in energy consumption under the build Alternatives compared to the No Action Alternatives is substantially less than one percent on an annual basis and, therefore, construction and operation of the SOCTIIP build Alternatives would not result in adverse impacts on energy consumption.

3.19 Earth Resources.

3.19.1 Potential Effect. The Preferred Alternative would not expose people or structures to the risk of loss injury or death involving surface rupture of a known earthquake fault, as delineated on the most recent Earthquake Fault Zones map issued by the State Geologist for the area, seismic shaking hazards that exceed those inherent to similar contemporary facilities, seismic-related ground failure, including liquefaction, landslides or seismically induced flooding. Therefore, impacts are considered less than significant.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) No active faults are known to cross any of the SOCTIIP build Alternatives and no Earthquake Fault Zones have been mapped along the bedrock faults in the study area. Therefore, the potential for a fault rupture hazard associated with the construction and/or operation of any of the SOCTIIP build Alternatives is considered remote.

(2) Measure G-1. Prior to final design, a design level geotechnical report will be prepared. This report will document potential soil-related constraints and hazards such as slope instability, settlement, liquefaction or related secondary seismic impacts that may be present. Acceptance of the report will be subject to approval by the TCA and other agencies that may have jurisdiction. A minimum factor of safety of 1.5 shall be used to determine the final slope configuration. The report shall also include:

- Evaluation of potentially expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effect of these soils on the development of the corridor.

- The design level geotechnical studies will identify potentially liquefiable areas and provide recommendations for mitigation. Any areas that require mitigation would be within the disturbed areas, and no additional impacts would result.

(3) Measure G-2. In conjunction with final design, it will be demonstrated that side slopes shall be designed and graded so that the potential for surface erosion of the engineered fill is not increased from natural conditions.

(4) Measure G-3. In conjunction with construction activity, native vegetation with good soil-binding characteristics and low water requirements will be planted on engineered slopes to reduce erosion and slope instability.

(5) Measure G-4. A quality assurance/quality control plan will be maintained during construction. This will include observing, monitoring and testing by a geotechnical engineer and/or geologist during construction to confirm that geotechnical/geologic recommendations are fulfilled, or if different site conditions are encountered, appropriate changes are made to accommodate such issues.

(6) Regional studies by the CGS (CDMG, 2001; CGS, 2002) have identified deposits that are potentially liquefiable in the study area. These deposits are located in the Cañada Chiquita, Cañada Gobernadora, San Juan Creek, Segunda Deshecha and Cristianitos Creek drainages. In addition, the site specific SOCTIIP preliminary studies (Leighton and Associates, 2002b) have identified subsurface conditions that indicate a potential for liquefaction along the FEC-M and FEC-W Alternatives at the I-5 connector and San Mateo Creek; Blind/Gabino Creeks; and the upper reaches of Cristianitos Creek, San Juan Creek, Cañada Gobernadora, Chiquita Woods and Cañada Chiquita at Oso Parkway. The SOCTIIP geotechnical reports provide estimated potential settlements associated with liquefiable deposits along the Alternatives, and typically recommend that focused detailed studies be completed during final design for the selected Alternative, to more specifically define the aerial extent of the liquefiable deposits along that alignment, and to develop remedial measures to avoid or remediate potential impacts related to liquefaction in these areas. Because the final design and construction of the selected Alternative will incorporate these recommendations as part of the defined project, the potential for liquefaction related damage along the Preferred Alternatives would be remote.

(7) Regional landslide hazard studies by CGS (CDMG, 2001; CGS, 2002) have identified landslide prone areas along the alignment of the FEC-M and FEC-W Alternatives. The detailed, site-specific SOCTIIP preliminary studies have identified many existing landslides and potentially unstable slopes along the alignments of the Preferred Alternative. Left untreated, these areas could be subject to movement triggered by changed groundwater conditions or strong seismic shaking and thus, an adverse condition could exist. However, final design will consider these areas in further detail, and will develop remedial grading options to stabilize these areas. Final design and construction of slopes and embankments under the Preferred Alternative will include the recommended remedial grading identified during the detailed final design studies. Therefore, the potential for earthquake-triggered movements of landslides under the Preferred Alternative would be remote.

(8) The SOCTIIP preliminary studies did not identify subsurface conditions that indicate a potential for ground rupture associated with lurching or lateral spreading. Detailed geotechnical studies conducted for final design and construction for the Preferred Alternative will either confirm that no such hazard exists or will provide specific recommendations to avoid or reduce effects associated with the potential for ground rupture. Therefore, at the completion of

construction of the Preferred Alternative, the potential for ground rupture due to lurching or lateral spreading would be remote.

(9) The potential for strong ground shaking in the study area cannot be reduced, but the damage potential can be substantially reduced through incorporation of appropriate design and construction techniques. Final design and construction of all the SOCTIIP build Alternatives will incorporate geotechnical recommendations and current codes and practices relative to the potential for ground motion. Therefore, although the potential for damage due to seismic shaking under all the SOCTIIP build Alternatives cannot be precluded, that potential will be reduced to normal levels for this type of project as a result of design and construction features.

(10) The tsunami hazard to the corridor is minimal, despite a potential hazard at the south end of the alignment at I-5. To evaluate the potential hazard, the elevation of the Alternative and the existing I-5 embankment were reviewed. The embankment would provide some protection from a tsunami, and a comparison of that information was made in relation to wave height estimates. According to the Office of Emergency Services, there is no published data that specifically addresses the area at San Mateo Creek relative to potential tsunami wave heights. However, information for other areas along the California coast suggests that wave heights from tsunami may range from about 3 to 12 m (10 to 40 ft). The existing I-5 embankment across much of San Mateo Creek is at an elevation of approximately 20 m (65 ft), and therefore, the embankment would provide effective protection to the south end of the Preferred Alternative. There is, however, a potential for wave run-up to travel under the existing bridge over San Mateo Creek, and up the Creek toward the corridor. Considering that wave height and energy would be reduced after crossing under the bridge and then spreading out across the valley floor, and that the road would be at an elevation of approximately 20 m (65 ft), the potential hazard due to tsunami is considered less than significant.

(11) Trampas Canyon Dam is located upstream from the Preferred Alternative. However, because it is under the review of the California Division of Safety of Dams (DSOD), the dam owner is required to demonstrate to the DSOD that the Dam meets the stability requirements for potential seismic failure. If it cannot be shown to the DSOD's satisfaction that the Dam meets the stability requirements, the DSOD would require that the Dam be upgraded or removed from service. Since the Trampas Canyon Dam has been reviewed by the DSOD and meets the seismic stability requirements, the potential for downstream flooding is considered to be remote and not a potential impact under the Preferred Alternative.

(12) The alignments of the SOCTIIP build Alternatives cross several bedrock faults. However, none of these faults is known to be active, which is defined as having experienced displacement within Holocene geologic time (defined as approximately the most recent 11,000 years). No active faults are known to cross

any of the SOCTIIP build Alternatives and no Earthquake Fault Zones have been mapped along the bedrock faults in the study area. Therefore, the potential for a fault rupture hazard associated with the construction and/or operation of any of the SOCTIIP build Alternatives is considered remote.

(13) Due to the proximity of seismically active regional faults, the potential for strong ground shaking and ground rupture in the study area cannot be reduced, but the damage potential can be substantially lessened through incorporation of appropriate design and construction techniques. Final design and construction of all Preferred Alternative would incorporate geotechnical recommendations and current codes and practices relative to the potential for ground motion. Therefore, although the potential for damage due to seismic shaking under all the Preferred Alternative cannot be precluded, that potential would be reduced to normal levels for this type of project as a result of design and construction features.

(14) The analysis of the Preferred Alternative related to earth resources also considered a wide range of other potential adverse impacts, including liquefaction, landslides, differential compaction/seismic settlement, tsunami, seiches, flooding, changes in groundwater levels, disposal of excavated material, percolation of waste material, mudflows, unstable cut and fill slopes, collapsible and expansive soils, trench wall stability, erosion of graded areas, extraction of groundwater, gas, oil and geothermal energy, hydrocompaction and peat oxidation, lava flow and ash flow. The Preferred Alternative would not result in adverse impacts in the majority of these categories because either these conditions do not exist in the study area or the detailed geotechnical studies for designing the build Alternatives avoid the potential for effects related to these geotechnical conditions.

3.19.2 Potential Effect. Locally, temporary construction dewatering may be required during construction of the SOCTIIP build Alternatives. Therefore, there is a potential for temporary impacts (lowering of water levels) at local groundwater wells, but no permanent impacts are anticipated related to dewatering. The known wells in the vicinity of these Alternatives are shown on EIS/SEIR Figures 4.20-2 and 4.20-3. Impacts to groundwater lowering are considered less than significant.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Measure G-5. Once a final project alignment has been selected, a detailed review will be made to locate all groundwater wells within the project footprint. Any groundwater wells that occur within the project footprint will be abandoned properly during project construction. As may be required, (i.e., for active wells), the water supply provided by the well will be replaced. Replacement water may

be provided by a variety of means, such as installing a new well or a connection to municipal supply.

(2) The presence of groundwater in bedrock units in the study area is generally at depths greater than would be encountered during construction of the SOCTIIP build Alternatives

(3) No long-term groundwater pumping is anticipated for any of the build Alternatives.

3.19.3 Potential Effect. The Preferred Alternative could result in adverse effect related to the disposal of excavated materials, sewage or wastewater. However these impacts are considered less than significant.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) The Preferred Alternative will require 17 million cubic meters (cm) of cut and 14.7 cm of fill. The 2.3 million cm imbalance can be accommodated within the disturbance limits. Therefore, the Preferred Alternative will not require off-site disposal of excess material.

(2) Based on the Hazardous Materials and Hazardous Waste Sites Technical Report (P&D Consultants, 2003) construction of the Preferred Alternative may involve contaminated soils but is not anticipated to involve contaminated groundwater. Any construction related disturbance or handling of contaminated soils would be conducted in compliance with existing federal, state and local regulations related to the handling, storage, removal and disposal of contaminated soils. Therefore, there would be no adverse impacts related to the percolation of contaminated water, nor water leaching undesirable constituents from fill soils and then percolating into the subsurface.

(3) Measures G-1 through G-4 are hereby incorporated by reference.

3.19.4 Potential Effect. The Preferred Alternative could result in adverse effects related to increased hazards of landslide or mudslide; damage from expansive or collapsible soil or result in an increase in the potential for soil erosion. These impacts are considered less than significant.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that although the identified impact has been reduced or avoided to the extent feasible, it cannot feasibly be

mitigated to a level of insignificance. The remaining unavoidable effect is acceptable when balanced against the facts set forth in the Statement of Overriding Consideration.

(1) Many landslides have been identified along the alignments of the SOCTIIP build Alternatives. Final project design will consider these areas in further detail, and will develop remedial grading to ensure that slopes are stable at the completion of construction. Therefore, at completion of construction of the Preferred Alternative, the potential for damage related to landslides and mudflows would be remote.

(2) Many potentially unstable cut slopes were identified along the Preferred Alternative alignment. Remedial grading is included the Preferred Alternative to provide stable slopes at the completion of construction. Therefore, at the completion of construction, the potential for damage related to slope stability would be remote. For all other cut and fill slopes, final design and construction will incorporate standard design practices to avoid unstable conditions.

(3) The SOCTIIP preliminary studies identified locations where existing soils have the potential for collapse or expansion that could damage structures of the Preferred Alternative and identified conceptual remedial measures for these areas. The remedial grading for expansive and liquefiable soils identified in the preliminary plans for all the SOCTIIP build Alternatives was developed based on the general criterion that these types of soils, would have the potential to cause distress to pavement or structures, would be remediated to a depth that mitigates the concern. Final design studies will further locate, evaluate and provide design requirements to address these soils so that, at the completion of construction, the potential for damage related to soil collapse or expansion under the Preferred Alternative would be remote.

(4) The Preferred Alternative will create new cut and fill slopes and other graded areas, which would be subject to erosion if not adequately controlled. Project design and construction will include features to protect slopes from erosion, so that at completion of construction, there would be no net increase in erosion over natural conditions.

(5) Mitigation Measure G-1 through G-4 are hereby incorporated by reference.

(6) PDF 2-1: Retaining Walls for the Corridor Alternatives. Retaining walls will be provided in some locations along the alignments. Retaining walls can be used to minimize or reduce the amount of grading in areas with substantial topography, or to minimize or reduce right-of-way takes in developed areas. The specific locations of retaining walls will be refined in final design.

3.20 Military Uses and Camp Pendleton.

3.20.1 Potential Effect. Construction of the Preferred Alternative could have a short-term impacts associated with cranes extended to a height of 40 feet or more during nighttime hours. These cranes could adversely impact Special Use Airspace ("SUA") and

aviation training activities. SUA in the SOCTIIP study area for the Base occurs from the ground surface to as high as 2,438.4 m (8,000 ft) above MSL. Although the cranes could pose a risk to low flying aircraft, the effects are considered less than significant based on daytime visibility and implementation of the mitigation measures below.

Finding. The Board hereby makes findings (1).

Facts in Support of Finding. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure M-1. Nighttime Lighting and Shielding. During construction of the SOCTIIP build Alternatives on or in the immediate vicinity of Camp Pendleton, to minimize conflicts with night training by Base personnel, the following will be implemented:

- Construction lighting requirements during evening and night activities will be adjusted with proper shielding to focus illumination downwards in designated work areas. To accomplish this, lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to reduce the impact on night vision goggle training activities.
- Fixed lighting will not exceed the minimum needed to meet Caltrans standards. Lighting will be shrouded to reduce backscatter and vertical light pollution and will be of a type to minimize effects on adaptation to darkness and changes in light levels.
- A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during construction are consistent with the requirements of this mitigation measure.
- Cranes which would remain extended to a height of 12.2 meters (40 feet) above ground level (AGL) or higher during night-time hours must include the use of a Federal Aviation Administration (FAA) approved aircraft obstruction light mounted at the highest point of the equipment's extension AGL. The aircraft obstruction light must be operational from 30 minutes before sunset until 30 minutes after sunrise each day the equipment is in place and extended above 12.2 meters (40 feet) AGL overnight.

3.20.2 Potential Effect. Operation of the Preferred Alternative would increase vehicular traffic in an area that is currently relatively undeveloped. This increase in traffic and associated lights and motion would impact the effectiveness of night vision goggle training in the area, and could potentially become a hazard to low flying helicopters in the immediate area. The additional night lighting associated with vehicles on the corridor and facility lights would contribute to adverse light impacts. This lighting added by operations could adversely affect future night vision goggle training operations along the northern perimeter of the Base. However, these impacts are considered less than significant with implementation of the mitigation measures below.

Finding. The Board hereby makes findings (1).

Facts in Support of Finding. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure M-4. Nighttime Lighting and Shielding. During operation of a SOCTIIP build Alternative on or immediately adjacent to Camp Pendleton, to minimize conflicts with night training by Base personnel, permanent night lighting will be adjusted with proper shielding to focus illumination downwards. Lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties including the Base. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to further minimize potential glare effects on the Base. This design will be implemented at all places on and adjacent to the Base requiring lighting along the road including interchanges and the mainline. To reduce the impact on night vision goggle training activities, fixed lighting on and immediately adjacent to the Base will not exceed the minimum needed to meet Caltrans standards. Lighting on and immediately adjacent to the Base will be shrouded to reduce backscatter and vertical light pollution and should be of a type to minimize effects on adaptation to darkness and changes in light levels.

(2) There are existing lighting distractions in the SOCTIIP study area, namely, the cantonment areas (Talega, Cristianitos, San Mateo, San Onofre) and vehicular traffic on existing on-Base roads and on I-5. Thus, additional lighting on the corridor would only be incremental and less than significant.

(3) PDF 18-1. Lighting for the Corridor Alternatives. The corridor Alternatives will include pole-mounted lighting at the toll plazas, ramps, and other locations as required by Caltrans standards. Lighting in areas away from the toll plazas, ramps, and other locations as required by Caltrans standards will be minimized to avoid unnecessary light effects in more rural areas adjacent to the corridor. In addition, all lighting along the corridors will be shielded and directed to focus the light on the corridor and its facilities to minimize light leakage outside the corridor limits.

3.20.3 Potential Effect. Short-term construction activities could interfere with potential future training routes due to the temporary loss of land available for training during construction. This temporary impact is considered less than significant.

Finding. The Board hereby makes findings (1).

Facts in Support of Finding. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure M-2. Access and Coordination. Construction activities and equipment ovement could adversely impact the movement of troops and use of ranges during construction. These impacts will be mitigated by coordination among the TCA, the Contractor and Camp Pendleton personnel. Specifically, the Contractor will

identify access routes, staging areas and all expected movement corridors during construction and will produce a design review memoranda/exhibit. These will be reviewed with the TCA and Camp Pendleton personnel to ensure construction activity impacts on Base training are minimized.

3.20.4 Potential Effect. The construction areas for the Preferred Alternative cross Base property and, therefore, would potentially provide an opportunity for unauthorized access to the Base from the construction areas. Because of the creation of the opportunity for unauthorized access to the Base, the construction of the Preferred Alternative will result in the potential for adverse impacts on Base security. This impact is considered less than significant with implementation of the mitigation measures below.

Finding. The Board hereby makes findings (1).

Facts in Support of Finding. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure M-2. Access and Coordination. Construction activities and equipment movement could adversely impact the movement of troops and use of ranges during construction. These impacts will be mitigated by coordination among the TCA, the Contractor and Camp Pendleton personnel. Specifically, the Contractor will identify access routes, staging areas and all expected movement corridors during construction and will produce a design review memoranda/exhibit. These will be reviewed with the TCA and Camp Pendleton personnel to ensure construction activity impacts on Base training are minimized.

(2) Measure M-6. Base Security. For any corridor alignment which traverses or is immediately adjacent to Camp Pendleton, prior to final design, security measures shall be incorporated into the project design to ensure that users of the corridor cannot access the Base. These measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented and fully operable prior to public access to the corridor.

3.21 Mineral Resources.

3.21.1 Potential Effect. The Preferred Alternative would not preclude access to known or currently operational mineral resources or extraction activities nor does it include zoning changes that would limit access or availability of known mineral resources. The Preferred Alternative crosses near the existing Olgebay Norton quarry operations in Trampas Canyon and it extends across San Juan Creek, where there are known, and previously mined, aggregate resources. Thus, where embankments and/or bridge footings would be constructed, direct access to these deposits would be precluded in the future . Impacts are considered less than significant because this is a minor impact related to the continued availability of mineral resources in San Juan Creek.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure SE-2. Property Acquisition and Relocation Assistance. Prior to acquisition of right of way, the TCA will comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 in the acquisition of all property within the right-of-way necessary for the proposed project. All displaced households and businesses will be contacted to ensure that each eligible displacee receives their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources will be available to all eligible displaced persons or businesses without discrimination. TCA will also comply with the Public Park Preservation Act as applicable.

(2) Based on discussions with Olgebay Norton staff, it is unlikely that the project would adversely impact their operations, which are permitted through the year 2013. Quarry operations could continue beyond 2013, if the existing lease from the property owners (RMV) is extended or a new lease is granted.

(3) The potential impacts of the various SOCTIIP Alternatives on mineral resources are evaluated in detail in the Geotechnical, Geology and Soils Technical Report (GeoPentech, Inc., 2003).

3.22 Paleontological Resources.

3.22.1 Potential Effect. EIS/SEIR Tables 4.23-2 through 4.23-9 provide a summary of the rock units that occur along each SOCTIIP build Alternative and the paleontologic sensitivity of the unit. Alternatives that include rock units of high, moderate or indeterminate sensitivity would be considered to have the potential for adverse impacts related to paleontological resources. The Preferred Alternative would impact a total of six geologic rock units primarily due to earthmoving operations that will result in the destruction of fossils and rock units within the construction disturbance limits. These impacts are mitigated to a level considered less than significant.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure P-1. Pre-Construction Salvage. Prior to the start of any earthmoving activity, an Orange County Certified (OCC) Paleontologist will be retained to conduct pregrading salvage of any significant exposed fossils identified by the OCC Paleontologist prior to any heavy equipment activity in a particular area. Paleontological monitoring of brush removal shall be performed by a qualified paleontologist, under the supervision of an OCC Paleontologist, to locate and salvage additional significant fossil remains not previously visible. The OCC

Paleontologist shall prepare a paleontological technical report that includes methodology, results, and an inventory list of significant fossils recovered.

(2) Measure P-2. Monitoring Procedures. Prior to the start of any earthmoving activity, an OCC Paleontologist shall be retained to establish procedures, following these mitigation guidelines set forth in this Paleontological Resources Technical Report, for paleontological resource monitoring by qualified paleontological monitors during grading, and procedures for temporarily halting or redirecting work to permit the sampling, identification and evaluation of the fossils as appropriate. The OCC Paleontologist shall also establish emergency procedures applicable to the discovery of unanticipated significant paleontological resources (e.g., large specimens or significant concentrations of specimens as determined by the OCC Paleontologist). The OCC Paleontologist shall be present at the pregrading conference to explain the established procedures to the construction contractors.

(3) Measure P-3. Construction Monitoring. During all construction activities which involve soil disturbance, the following activities will be conducted:

a. An Orange County Certified Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed project. Paleontological monitoring will include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present. The monitor will have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens.

b. If microfossils are present, the monitor will collect matrix for processing. In order to expedite removal of fossiliferous matrix, the monitor may request heavy machinery assistance to move large quantities of matrix out of the path of construction to designated stockpile areas. Testing of stockpiles will consist of screen washing small samples (approximately 90 kilograms, or 200 pounds) to determine if significant fossils are present. Productive tests will result in screen washing of additional matrix from the stockpiles to a maximum of 2,700 kg (6,000 lbs) per locality to ensure recovery of a scientifically significant sample.

c. Younger Quaternary Alluvium, San Onofre Breccia and Quaternary Landslide Deposits have a low or indeterminate paleontological sensitivity level, and will be spot-checked in a periodic basis to insure that older underlying sediments are not being penetrated and fossils are not being exposed. All earth-moving in the Williams Formation, Silverado Formation, Santiago Formation, Sespe Formation, Vaqueros Formation, Sespe/Vaqueros Undifferentiated, Topanga Formation, Monterey Formation, Capistrano Formation, Niguel Formation, Older Quaternary Alluvium and Quaternary Marine and Non-Marine Terrace Deposits will be monitored full-time. The moderate to high paleontological sensitivity of these formations requires a maximum effort to recover fossils.

d. The Orange County Certified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agencies.

e. Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to allow analysis, and deposited in a designated repository such as a County of Orange facility, which shall have the first right-of-refusal of the collection, or the Natural History Museum of Los Angeles County or San Diego Natural History Museum.

f. At each fossil locality, field data forms will record the locality, stratigraphic columns will be measured and appropriate scientific samples submitted for analysis.

g. The Orange County Certified Paleontologist will prepare a final mitigation report to be filed with the client, the lead agencies, and the repository.

(4) It is often not possible to completely eliminate impacts to fossil resources. It is understood that earthmoving activity will, unavoidably, destroy some fossils. Such impacts can be mitigated by collecting and preserving a representative sample of the entire potential assemblage and associated geologic information.

(5) The recovery of fossils as part of the construction of the SOCTIIP build Alternatives will make new information available to scientists, educators and the general public that they would not possess without construction of these Alternatives. This fossil recovery would be a beneficial impact. This information could include new data on the evolutionary relationships and developmental trends among organisms, biostratigraphic information on the age of rock units or sedimentary strata, the depositional history of the region and the timing of geologic events, development of biological communities, interactions between paleobotanical and paleozoological biotas, geographic restrictions of past biota and unusual or spectacular circumstances in the history of life. Recovered fossil specimens or casts of specimens could also serve as a source of educational material and be incorporated into exhibits for public display.

3.23 Public Services and Utilities.

3.23.1 Potential Effect. The Preferred Alternative could have adverse impacts related to Fire protection and emergency medical services. Adverse impacts include an increased risk of wildfires in currently undeveloped areas and the potential of blocked access to the existing fire road grid in undeveloped areas, which could also interfere with emergency medical response during construction and operation of the Preferred Alternative. The Preferred Alternative crosses approximately 21.9 km (13.6 mi) of undeveloped land that is susceptible to wildfires. Also, the potential for non-fire-related medical emergencies would increase with the presence of construction workers and heavy machinery during construction of the project and with the presence of vehicles during operation of the corridor. These potential impacts are considered less than significant.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure PS-2. Fire Protection. During construction, in areas subject to wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, the contractor will be required to install signs around construction sites warning of high fire risk and of area closings during the high fire season as declared by OCFA or the MCB Camp Pendleton Fire Department.

(2) Measure PS-3. Fire Protection. During operation, Caltrans will install signs along the new or improved road segments in areas subject to wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, warning of high fire risk and of area closings during the high fire season declared by OCFA and the MCB Camp Pendleton Fire Department.

(3) Measure PS-4. Fire Protection. Emergency call boxes will be installed along the road in undeveloped areas of high and extreme fire hazard, consistent with existing OCFA, Orange County Transportation Authority, Caltrans, TCA and/or local jurisdiction, as appropriate, policies on emergency call boxes.

(4) Measure PS-5. Fire Protection. During construction of a build Alternative, the contractor will be required to maintain access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton.

(5) Measure PS-6: Fire Protection. During final design, the long-term preservation/provision of access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, will be incorporated in the facility design, in consultation with the OCFA and the MCB Camp Pendleton Fire Department.

(6) Measure PS-7: Fire Protection. During construction, the contractor will implement fuel modification techniques as required by the OCFA, and the MCB Camp Pendleton Fire Department in areas on MCB Camp Pendleton, in areas of fire hazard as determined by the OCFA and the MCB Camp Pendleton Fire Department.

(7) Measure PS-8. Fire, Emergency Medical and Law Enforcement. During final design, the TCA, Caltrans and/or the City of San Clemente, as appropriate, will coordinate the addition of OPTICON or other traffic pre-emption devices as used in the City of San Clemente with the City's traffic engineer. These devices will be provided at impacted intersections, as identified in the Traffic Technical Report, to reduce impacts to fire, medical emergency and law enforcement response times.

(8) Measure PS-9. Fire, Emergency Medical and Law Enforcement. During construction the TCA will require the contractor to coordinate all temporary ramp closures and detour plans with fire, emergency medical and law enforcement providers to minimize temporary delays in response times.

(9) The ability to move OCFA resources from one area to another would be enhanced by the improved transportation network and paved road access would be improved to areas not currently accessible to emergency equipment. This Alternative may also provide an effective barrier to the spread of wildfire in currently undeveloped areas. This benefit would also apply to land within Marine Corps Base (MCB) Camp Pendleton.

(10) There would be no physical impacts to existing fire stations related to Preferred Alternatives, as there are no fire stations within the disturbance limits.

3.23.2 Potential Effect. The Preferred Alternative could have adverse impacts related to law enforcement because there will be a need for non-federal law enforcement service on the corridor segment through MCB Camp Pendleton. This impact is considered less than significant.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure PS-10. Law Enforcement. Prior to operation, the State of California shall solicit a transfer of concurrent legal (law enforcement) jurisdiction from the federal government to the State for any part of an alternative that crosses MCB Camp Pendleton as provided in Section 2851 of the Fiscal Year 1999 National Defense Authorization Act (H.R. 3616).

(2) Although the CHP has indicated that additional officers would be required to service this Alternative (Correspondence Lt. Steve Deck, June 8, 2001), this is not expected to be an adverse impact of this Alternative because the CHP would address staffing needs in its annual budget and staff allocation process.

(3) TCA will request that the Department of the Navy (DON) grant an easement for right-of-way through MCB Camp Pendleton. If such an easement is granted to the TCA, concurrent law enforcement jurisdiction would be transferred to the State of California for the segment of the Alternative that is approved for construction within MCB Camp Pendleton. Concurrent law enforcement jurisdiction on the corridor segment that crosses Camp Pendleton would allow the CHP to provide law enforcement service on this segment. Non-federal law enforcement jurisdiction on the corridor segment through MCB Camp Pendleton is necessary to ensure the provision of adequate law enforcement service on this segment. It is anticipated that the MCB Camp Pendleton Provost Marshall patrol staff would provide back-up law enforcement service on the segment though Camp Pendleton through mutual aid agreements with the CHP. It is not

anticipated that Provost Marshall patrol staff would be added to respond to additional mutual aid calls that may be generated with the Preferred Alternative. Therefore, this Alternative would not result in adverse impacts related to MCB Camp Pendleton law enforcement services.

(4) This Alternative is a transportation project and does not include the construction of residences or businesses that could increase the number of persons in a community that might use the Sheriff's Department services. Therefore, the Preferred Alternative would not result in impacts on the ability of the Sheriff's Department to provide services to contracting communities.

(5) There would be no physical impacts to any existing law enforcement facilities related to the Preferred Alternative, as there are no law enforcement facilities in the disturbance limits.

3.23.3 Potential Effect. The Preferred Alternative would not result in the generation of excess soil and rock material. Therefore, the Preferred Alternative would have a less than significant impact on landfill capacity associated with solid waste disposal of excess soil and rock during construction and operation.

Findings. The Board hereby makes finding (1)

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure PS-13: Solid Waste. Prior to construction of a build Alternative which will generate excess fill, the contractor will be required to offer fill for use in other development projects or to area landfills as daily cover. Landfilling of excess soil and rock material will be considered the option of last resort.

(2) Measure PS-13A: Solid Waste. Excess fill material from construction will not be disposed of at MCB Camp Pendleton landfills, unless such disposal is approved in advance though mutual agreement with the Environmental Security Department's Solid Waste Branch. If Base agreement for such disposal is granted, the contractor shall be responsible for hauling the materials to the Base landfill(s) and for complying with all Base regulations regarding the transport and disposal of that material on the Base.

(3) The operation of the Preferred Alternative would not result in adverse impacts to solid waste disposal or generation in Orange or San Diego Counties. Refuse collected along the Preferred Alternative during routine maintenance would be disposed of in existing landfills, including Prima Deshecha Sanitary Landfill. The first choice for disposal of landscape trimming from routine maintenance would be to deposit it, as prudent and feasible, in existing green waste composting facilities. The second choice for disposal would be into a landfill. The amount of refuse and landscape trimmings collected along this Alternative would represent a very minor part of the planned capacity of the Prima Deshecha Sanitary Landfill, the nearest landfill to the Alternative, based on the Prima Deshecha GDP 2001.

Therefore, no adverse impacts to solid waste facilities would result from operation of the A7C-FEC-M/Preferred Alternative.

3.23.4 Potential Effect. The Preferred Alternative could result in adverse impacts related to utilities due to the following: potential interruption of utility service during construction; temporary use of 3.8 ha (9.4 ac) and permanent acquisition of 0.7 ha (1.6 ac) of the Talega Substation easement; temporary use of 1.7 ha (4.2 ac) and the permanent acquisition of 0.85 ha (2.1 ac) of the fee parcel for the Cristianitos Substation; and relocation of towers/large poles (3 towers, 38 wood poles and 2 wood H-frames) associated with 138 kV, 220 kV and 230 kV transmission lines are within the disturbance limits of the Preferred Alternative.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure U-1. Utilities. As early as possible during final design, the TCA, as appropriate, will consult with each utility provider/owner to avoid or reduce potential impacts on existing and planned utilities through design refinements. Should impacts be unavoidable, all affected facilities shall be relocated or protected in place prior to, during or after construction, as appropriate, and in accordance with the methods and designs approved by the affected utility provider/owner. For utilities located on MCB Camp Pendleton, as early as possible the TCA will consult with and receive approval from the Marine Corps on any utility relocations or realignments prior to discussing the proposed activities with utility providers.

(2) Measure U-2. Temporary Use and Permanent Acquisition. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with utility providers whose facilities will be temporary used and/or permanently acquired to determine appropriate action and/or compensation to mitigate for the temporary use and/or permanent acquisition of their property.

(3) Measure PS-1. Avoidance of the Temporary Use and/or Permanent Acquisition of Public Services and Utilities Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary use during construction and the permanent acquisition of land currently occupied by public services and utilities. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of public services and utilities property will apply to the build Alternatives.

(4) Measure PS-16. Public Facilities. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with owners of public facilities that will be removed, partially

removed or will experience loss of parking facilities, to determine appropriate action and/or compensation to mitigate for the temporary use and/or permanent acquisition.

(5) The Talega Substation will remain operational during and after project construction, and no service interruptions are planned or anticipated to occur. The Talega Substation itself will not be directly impacted but the access road may be slightly realigned as part of the project.

(6) The Cristianitos Substation facility itself will not be directly impacted, however, a portion of the land owned by SDG&E that is west of the substation will need to be acquired and included in the project right-of-way. The Cristianitos Substation will remain operational during and after project construction, and no service interruptions are anticipated.

(7) The relocation of SDG&E and SCE utility infrastructure as a result of implementation of the Preferred Alternative would not result in residential, business, or agricultural displacements, nor would the relocations create changes to local tax revenues.

(8) The post-construction configuration of utility poles and towers will be a more efficient design, and there will be fewer utility poles and towers for the service providers to maintain. Also, the relocated utilities will include new infrastructure that meets current standards, and the proposed corridor will provide improved access to the area. The cost of the relocations will be borne by the TCA and therefore will not result in increases to SDG&E and SCE rate payers.

3.23.5 Potential Effect. One of the twelve percolation ponds on MCB Camp Pendleton, south of San Onofre Creek is within the disturbance limits of the Preferred Alternative for an extended detention basin (EDBs). The Preferred Alternative will result in temporary and permanent use of approximately 1.21 ha (3 ac) of the pond. This is considered a less than significant impact.

Findings. The Board hereby makes findings (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure PS-1. Avoidance of the Temporary Use and/or Permanent Acquisition of Public Services and Utilities Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary use during construction and the permanent acquisition of land currently occupied by public services and utilities. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of public services and utilities property will apply to the build Alternatives.

(2) Measure U-3. MCB Camp Pendleton Percolation Ponds. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 appropriate action and compensation to reduce the effect of the encroachment on MCB Camp Pendleton will be negotiated with the Department of the Navy.

3.23.6 Potential Effect. The Preferred Alternative would have a beneficial effect on emergency evacuation service.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) I-5 is the major emergency evacuation route for San Onofre Nuclear Generating Station (SONGS), and is the only non-signalized evacuation route between SONGS and I-405 to the north. Ortega Highway, north of SONGS, provides a route from I-5 to the east that is two-lane and non-signalized over most of its length. The Preferred Alternative would provide an additional evacuation route from I-5, immediately south of San Clemente, to Ortega Highway and to SR-241, north of Ortega Highway and east of I-5. To the north, SR-241 connects with SR-91 to the east, affording access to Riverside and Los Angeles Counties and connects to I-5 and I-405 to the west, providing access to the north and northwest, respectively. The Preferred Alternative would have the beneficial effect of increasing the speed at which evacuations could be completed and would provide an alternate route should I-5 become impassable.

3.24 Recreation.

3.24.1 Potential Effect. Tesoro High School Sports Field is located within 0.25 miles of the centerline of the Preferred Alternative. Project implementation will result in short term adverse noise impacts during construction and long term operational noise impacts related to traffic.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses,

and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

(2) Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

(3) Measure N-3. Schools Adjacent to Construction Zone. Prior to construction activities in the vicinity of any school, the construction contractor shall be responsible for developing an agreement with Fallbrook Union Elementary School District, Camp Pendleton and private school operators, as appropriate, that would mitigate construction noise levels in classrooms and playfields at the affected schools to an agreed to construction noise performance standard. Each agreement shall be completed prior to the initiation of any grading on construction within 600 m (2,000 ft) of the school grounds. Examples of noise mitigation options include construction of temporary soundwalls, and limitation of some of the noisiest construction activities to periods when the schools are closed (e.g., the summer for the two public schools).

(4) Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

(5) Measure N-7. Final Noise Analysis. During final design, the TCA will prepare a final noise analysis based on the detailed and finalized design developed during final design for the selected Alternative. Feasibility considerations for each sound barrier must meet FHWA/Caltrans criteria including a minimum of 5 dB of noise reduction at the impacted receiver. Additional feasibility considerations are (1) topography, (2) access requirements for driveways, ramps, etc; (3) the presence of cross streets, (4) other noise sources in the area and (5) safety considerations. The TCA will finalize noise mitigation requirements for the selected Alternative and coordinate design with the local agency. As appropriate, the Final Noise Assessment Technical Report and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report will provide specific recommendations that will then be incorporated into the Construction documentation (i.e., final design) for building purposes.

(6) Measure N-8. Long-Term Noise Impacts. During construction, the TCA shall implement permanent sound barriers, including walls, berms or combinations of walls and berms. The sound barrier and/or supplemental berm must provide a minimum of 5 dB of noise reduction at the impacted receiver as refined during final design. The locations of these proposed sound barrier/berms are shown on Figures by Alternative in Appendix K. The construction contractor will be responsible for constructing the sound barrier/berm for the selected Alternative and as refined during final design. As appropriate, the Final Noise Assessment Technical Report will be reviewed and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report provides specific recommendations that ate then translated into the construction documentation (i.e., final design) for build purposes. The design and specifications of the sound walls, shown on Figures 5.2-79 through 5.2-82 (Appendix K of the Draft EIS/SEIR), on MCB Camp Pendleton shall be approved by the Commanding General of Camp Pendleton.

3.24.2 Potential Effect. Due to the proximity of the General Thomas F. Riley Wilderness Park to the alignment of the Preferred alternative, project implementation would result in short term adverse noise impacts during construction and long term visual impacts due to minor changes in view from the park.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures N-1, N-2 and N-4 are hereby incorporated by reference.

(2) The change in view from General Thomas F. Riley Wilderness Park is not adverse because the views from this resource will not be substantially changed.

3.24.3 Potential Effect. The Donna O'Neill Land Conservancy will be impacted by the temporary and permanent acquisition of property as a result in construction and operation of the Preferred Alternative. Approximately 157 acres of the 1,284-acre Conservancy will be acquired and result in an adverse impact to open space resources. The alignment of the Preferred Alternative will fragment the Conservancy with parts of the Conservancy on the east and west side of the corridor. Due to the location of the Conservancy, in relation to the Preferred Alternative alignment, short term construction noise impacts and long term noise impacts will impact the Conservancy.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure R-1. Avoidance of the Temporary Occupancy and/or Permanent Acquisition of Recreation Resources Property. During final design, the TCA will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary occupancy during construction and the permanent acquisition of land currently occupied by or proposed for use by recreation resources. In the event that the temporary occupancy or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of recreation resources property will apply to the build Alternatives consistent with Uniform Relocation Assistance.

(2) Measure R-2. Consultation with Owners/Operators of Recreation Resources. In conjunction with measures R-3 and R-4 (compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, refer to Section 4.6), the TCA will consult with the affected property owner/operator of recreation resources temporarily used or permanently acquired by a build Alternative. The purposes of this consultation will be to:

- Identify and implement opportunities to protect recreation resources in place.
- Identify and implement opportunities to replace lost recreation facilities within the existing recreation property.
- Combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and minimize adverse impacts on recreation resources.

(3) Measure R-3. Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be permanently

acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

(4) Measure R-4. Direct Temporary Impacts (Occupancy of Property During Construction) on Recreation Resources. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA will negotiate with the owner/operator whose recreation facilities will be temporarily occupied during construction to determine appropriate action and or compensation to mitigate for the temporary occupancy.

(5) Measures N-1, N-2, N-4, N-7, N-8, N-9 and N-10 are hereby incorporated by reference.

3.24.4 Potential Effect. Talega Community Park will have a less then significant change in viewshed due to implementation of the corridor.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

3.24.5 Potential Effect. Implementation of the Preferred Alternative will result in the temporary use and permanent acquisition of property in the SOSB Cristianitos Subunit 1. SOSB Subunit 1 would be adversely impacted by acquisition of an easement of 290 acres of the 1,393-acre subunit for right-of-way and construction of the corridor. Additionally, approximately 41 acres would be temporarily affected due to the Department of the Navy to construction staging activities.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures R-1, R-2, R-3, and R-4 are hereby incorporated by reference.

(2) Temporary occupancy defines areas that will be within the disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions.

(3) The Navy reserved the right to grant easements for right-of-way in the lease. The TCA will acquire an easement from the Navy.

(4) SOSB is held by State Parks by virtue of a 1971 agreement of lease with the United States. The State Parks' lease with the United States is specifically subject to the right of the United States to grant additional easements and rights-of-way over the leased property. Part II, Section C of the Lease provides that State Parks are subject to outstanding easements and rights-of-way on the Leased Property and reserves to the United States the right to grant to third parties additional easements and rights-of-way on the Leased Property:

> This Lease is subject to all outstanding easements and rights-of-way for location of any type of facility over, across, in and upon the Leased Property, or any portion thereof, and to the right of the government, after consultation with State Parks as to location, to grant such additional easements and rights-of-way over, across, in and upon the Leased Property as it shall determine to be in the public interest; Provided, that any such additional easement or right-of-way shall be located so as not to unreasonably interfere with the use of the State Parks' improvements erected on the Leased Property;

Pursuant to Part II, Section C, the United States has reserved additional easements and rights-of-way over, across, in and upon the Leased Property. The United States has the right to use any such reserved easements and rights-of-way for its own use or grant the same to third parties. As such, the United States is able to grant to the TCA an easement for a right-of-way on the Leased Property for the purpose of constructing the Preferred Alternative without first obtaining permission from the State Parks to the grant, provided such easements and rights-of-way are located so as not to unreasonably interfere with the use of the State Parks' "erected" improvements.

(5) Congress enacted legislation specifically authorizing the Navy to grant the TCA the easement for the Project. (National Defense Authorization Act of 1999, Section 2581(a) Pub. Law 105-261.) Although the proposed easement will run through a portion of the Leased Property, the easement will, in fact, only impact the unimproved portion of the leasehold and none of the State Park's erected improvements will be physically impacted.

(6) Under the terms of the Lease, the United States has the right to grant the TCA a permanent easement of right-of-way on the Leased Property that is superior to the rights of the State Parks. It is important to note that in accepting the grant from the Navy, the TCA will not be acquiring any interest of the State Parks under the Lease. Rather, the TCA will be acquiring an interest in the leasehold belonging solely to the Marines that was carved out of the Lease. As a result of the grant, the TCA will stand in the shoes of the Marines with respect to its superior right of use of a portion of the Leased Property that is the subject of the easement. From a practical point of view, upon acquisition of the easement, the TCA's rights with respect to use of the easement within the Leased Property will effectively replace

the rights of the State Parks with respect to that portion of the leasehold covered by the easement.

(7) As a negotiated contract between the parties, the execution of the Lease by the State Parks confirms the State Parks' consent to its terms and the reservation of easements and rights of way provided thereunder. (See generally, Civ. Code § 1066.) The express language of the Lease provides the State Parks with sufficient notice of the possible existence of outstanding easements and rights-of-way on the Leased Property and the United States' intent to establish additional easements and/or rights-of-way on the Leased Property during the Term, either for itself or its grantees. The broad reservation language permits the United States or its grantees to use the land for a number of different purposes, including the construction of a toll road by the TCA as the United States' grantee.

(8) Congress enacted legislation preempting state regulation of the construction, maintenance, or operation of SOCTIIP within Camp Pendleton. The legislation provides:

(a) Easement Authorized.—The Secretary of the Navy may grant an easement, in perpetuity, to the Foothill/Eastern Transportation Corridor Agency (in this section referred to as the "Agency") over a parcel of real property at Marine Corps Base, Camp Pendleton, California, consisting of approximately 340 acres to permit the recipient of the easement to construct, operate, and maintain, notwithstanding any provision of state law to the contrary, a restricted access highway. The area covered by the easement shall include all slopes and all necessary incidents thereto.

Pub. L. No. 105-361, as amended by Pub. L. No. 107-107 § 2867, 115 Stat. 1012, 1334 (2001) (emphasis added).

(9) SOSB is located entirely on lands leased from the DON; the State has not acquired the land. SOSB is operated by the State by virtue of a 1971 agreement of lease ("lease contract") with the United States. Under Section 5060 of the PRC, State Parks may enter into contracts for the lease of lands for parks and recreation "...subject to such conditions as the department may determine." A contract as defined by Civil Code Section 1549 is "...an agreement to do or not to do a certain thing." Further, Civil Code Section 1636 provides that a "...contract must be so interpreted as to give effect to the mutual intention of the parties as it existed at the time of constructing, so far as the same is ascertainable and lawful."

(10) The State Parks' lease with the United States is specifically subject to the right of the United States to grant additional easements and rights-of-way over the leased property. Thus, in implementing the authority to lease, State Parks agreed to a reservation - the United States' ability to grant a right-of-way to a third party - in accordance with PRC Section 5060 whereby possession by State Parks of the lease property is specifically subject to the right of the United States to grant such other rights.

3.24.6 Potential Effect. The Preferred Alternative will fragment the SOSB Cristianitos Subunit 1. The corridor will divide SOSB Subunit 1, resulting in a trail crossing from the City of San Clemente onto SOSB Subunit 1 being on the west side of the corridor and San Mateo Campground being on the east side. The corridor disturbance and right-of-way limits will result in the removal of the RV tank pumping station and several fire roads in the north part of SOSB Cristianitos Subunit 1. These fragmentation impacts will be adverse on SOSB Subunit 1.

Findings. The Board hereby makes finding (1) and (3).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measures R-2 and R-3 are hereby incorporated by reference.

(2) The design of the corridor includes structures (wildlife crossings and utility maintenance access roads) in SOSB Subunit 1 which would allow park users to cross between the east and west sides of the park under the corridor.

(3) SOSB is held by State Parks by virtue of a 1971 agreement of lease with the United States. The State Parks' lease with the United States is specifically subject to the right of the United States to grant additional easements and rights-of-way over the leased property. Part II, Section C of the Lease provides that State Parks are subject to outstanding easements and rights-of-way on the Leased Property and reserves to the United States the right to grant to third parties additional easements and rights-of-way on the Leased Property:

> This Lease is subject to all outstanding easements and rights-of-way for location of any type of facility over, across, in and upon the Leased Property, or any portion thereof, and to the right of the government, after consultation with State Parks as to location, to grant such additional easements and rights-of-way over, across, in and upon the Leased Property as it shall determine to be in the public interest; Provided, that any such additional easement or right-of-way shall be located so as not to unreasonably interfere with the use of the State Parks' improvements erected on the Leased Property;

Pursuant to Part II, Section C, the United States has reserved additional easements and rights-of-way over, across, in and upon the Leased Property. The United States has the right to use any such reserved easements and rights-of-way for its own use or grant the same to third parties. As such, the United States is able to grant to the TCA an easement for a right-of-way on the Leased Property for the purpose of constructing the Preferred Alternative without first obtaining permission from the State Parks to the grant, provided such easements and

rights-of-way are located so as not to unreasonably interfere with the use of the State Parks' "erected" improvements.

(4) Congress enacted legislation specifically authorizing the Navy to grant the TCA the easement for the Project. (National Defense Authorization Act of 1999, Section 2581(a) Pub. Law 105-261.) Although the proposed easement will run through a portion of the Leased Property, the easement will, in fact, only impact the unimproved portion of the leasehold and none of the State Park's erected improvements will be physically impacted.

(5) Under the terms of the Lease, the United States has the right to grant the TCA a permanent easement of right-of-way on the Leased Property that is superior to the rights of the State Parks. It is important to note that in accepting the grant from the Navy, the TCA will not be acquiring any interest of the State Parks under the Lease. Rather, the TCA will be acquiring an interest in the leasehold belonging solely to the Marines that was carved out of the Lease. As a result of the grant, the TCA will stand in the shoes of the Marines with respect to its superior right of use of a portion of the Leased Property that is the subject of the easement. From a practical point of view, upon acquisition of the easement, the TCA's rights with respect to use of the easement within the Leased Property will effectively replace the rights of the State Parks with respect to that portion of the leasehold covered by the easement.

(6) As a negotiated contract between the parties, the execution of the Lease by the State Parks confirms the State Parks' consent to its terms and the reservation of easements and rights of way provided thereunder. (See generally, Civ. Code § 1066.) The express language of the Lease provides the State Parks with sufficient notice of the possible existence of outstanding easements and rights-of-way on the Leased Property and the United States' intent to establish additional easements and/or rights-of-way on the Leased Property during the Term, either for itself or its grantees. The broad reservation language permits the United States or its grantees to use the land for a number of different purposes, including the construction of a toll road by the TCA as the United States' grantee.

(7) Congress enacted legislation preempting state regulation of the construction, maintenance, or operation of SOCTIIP within Camp Pendleton. The legislation provides:

(a) Easement Authorized.—The Secretary of the Navy may grant an easement, in perpetuity, to the Foothill/Eastern Transportation Corridor Agency (in this section referred to as the "Agency") over a parcel of real property at Marine Corps Base, Camp Pendleton, California, consisting of approximately 340 acres to permit the recipient of the easement to construct, operate, and maintain, notwithstanding any provision of state law to the contrary, a restricted access highway. The area covered by the easement shall include all slopes and all necessary incidents thereto.

Pub. L. No. 105-361, as amended by Pub. L. No. 107-107 § 2867, 115 Stat. 1012, 1334 (2001) (emphasis added).

(8) SOSB is located entirely on lands leased from the DON; the State has not acquired the land. SOSB is operated by the State by virtue of a 1971 agreement of lease ("lease contract") with the United States. Under Section 5060 of the PRC, State Parks may enter into contracts for the lease of lands for parks and recreation "...subject to such conditions as the department may determine." A contract as defined by Civil Code Section 1549 is "...an agreement to do or not to do a certain thing." Further, Civil Code Section 1636 provides that a "...contract must be so interpreted as to give effect to the mutual intention of the parties as it existed at the time of constructing, so far as the same is ascertainable and lawful."

3.24.7 Potential Effect. The Preferred Alternative will result in less than significant operational noise and visual impacts to SOSB Cristianitos Subunit 2.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) The Preferred Alternative is designed to minimize operational noise impacts to a level that is less than significant on SOSB Cristianitos Subunit 2.

(2) The change in the views from this resources is not adverse because the views from the resources will not be substantially changed or the resource is not considered to be sensitive to changes in the viewshed.

(3) Continued access to Trestles Beach will be provided during and after construction of the Preferred Alternative and, as described in Section 4.25, there will be no changes to sediment and no effect on the quality of the surf. The supply of sediment from San Mateo Creek will be virtually unchanged in the after-project condition with anticipated storm water. Foothill-South will bridge over the creek, allowing water to flow naturally as it does today with the existing I-5 freeway and railroad facilities. No channel improvements or lining will be made to the creek that will alter the quality, function, or sediment flow of the creek. The sediment budget analysis concludes that the supply of bed material load from San Mateo Creek will be virtually unchanged in the after-project condition with the anticipated storm water controls. There will be no changes to sediment and no effect on the quality of the surf.

(4) A Sediment Transport Study was prepared to analyze the potential for the project to affect San Mateo Creek, and consequently the wave and surf action of the Pacific Ocean. The analysis found insignificant impacts. This information can be found in Attachment 8 of the Response to Comments document. The report reviewed the historical shoreline changes at the mouth of San Mateo Creek and demonstrated that the large cobble and small boulder delta that generate the surf spot are robust features that are not particularly sensitive to changes in beach

sands or shoreline position. Based on analysis of the hydraulics and runoff analysis of the management plan, the study concluded that the project will not have a measurable impact on the natural delivery of sediment, therefore not impacting the surfing resources. An independent review of the Sediment Transport Study was prepared by Skelly Engineering. The analysis concurred with the information in the Sediment Transport Study and the conclusions that the SOCTIIP would have an insignificant impact on the transport of sediment to the shoreline and no measurable impact on surfing resources.

3.24.8 Potential Effect. Proposed South San Clemente Neighborhood Park (east) could have less than significant impacts related to noise.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) This proposed resources is not in operation. Future planning for this resource would address noise impacts.

3.24.9 Potential Effect. Operation of the corridor would result in less than significant impacts on MCB Camp Pendleton San Onofre Recreation Beach related to operational noise and visual impacts.

Findings. The Board hereby makes finding (1).

Facts in Support of Findings. The following facts or mitigation measures indicate that this potential impact is not significant, or will be mitigated below a level of significance.

(1) Measure N-7. Final Noise Analysis. During final design, the TCA will prepare a final noise analysis based on the detailed and finalized design developed during final design for the selected Alternative. Feasibility considerations for each sound barrier must meet FHWA/Caltrans criteria including a minimum of 5 dB of noise reduction at the impacted receiver. Additional feasibility considerations are (1) topography, (2) access requirements for driveways, ramps, etc; (3) the presence of cross streets, (4) other noise sources in the area and (5) safety considerations. The TCA will finalize noise mitigation requirements for the selected Alternative and coordinate design with the local agency. As appropriate, the Final Noise Assessment Technical Report and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report will provide specific recommendations that will then be incorporated into the Construction documentation (i.e., final design) for building purposes.

(2) Measure N-8. Long-Term Noise Impacts. During construction, the TCA shall implement permanent sound barriers, including walls, berms or combinations of

walls and berms. The sound barrier and/or supplemental berm must provide a minimum of 5 dB of noise reduction at the impacted receiver as refined during final design. The locations of these proposed sound barrier/berms are shown on Figures by Alternative in Appendix K. The construction contractor will be responsible for constructing the sound barrier/berm for the selected Alternative and as refined during final design. As appropriate, the Final Noise Assessment Technical Report will be reviewed and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report provides specific recommendations that ate then translated into the construction documentation (i.e., final design) for build purposes. The design and specifications of the sound walls, shown on Figures 5.2-79 through 5.2-82 (Appendix K of the Draft EIS/SEIR), on MCB Camp Pendleton shall be approved by the Commanding General of Camp Pendleton.

(3) The change in the views from this resource is not adverse because the views from the resources will not be substantially changed or the resource is not considered to be sensitive to changes in the viewshed.

4.0 FINDINGS REGARDING ALTERNATIVES.

The Preferred Alternative is an alternative that implements the Foothill Transportation Corridor-South (FTC-S), the proposed southern extension of the Foothill Transportation Corridor-North (FTC-N), which has been the subject of ongoing planning efforts for over 20 years. Prior studies completed for the FTC-S include Final EIR 123, which was certified by the County of Orange (County) in 1981. FEIR 123 resulted in the identification of a conceptual alignment for a transportation corridor facility that was placed on the County Master Plan of Arterial Highways (MPAH).

The analysis in the EIS/Subsequent EIR considers eight (six toll road [with initial and ultimate configurations for each], one arterial and one Interstate 5 [I-5]) alternatives at an equivalent level of detail. In addition, a wide range of possible alternatives was considered by the Southern Orange County Transportation Infrastructure Improvement Project (SOCTIIP) Collaborative in the technical studies for the EIS/SEIR and in the Draft EIS/SEIR, including different alternatives for I-5 and alternatives that considered combinations of improvements to I-5 and the arterial highway network. A wide range of non-toll road alternatives was also considered, including the arterial and I-5 alternatives advanced for detailed analysis in the Draft EIS/SEIR.

The range of alternatives considered for evaluation, the range of alternatives evaluated in the Technical Reports, and the range of alternatives further evaluated in the EIS/SEIR are well documented in the Project alternatives Technical Report and in Chapter 2 of the Draft EIS/SEIR. The process by which the alternatives were considered, analyzed, and selected occurred over the course of several years and in collaboration with resource and transportation agencies. This

process was thorough and ensured that the Collaborative was provided with the detailed information that created a clear basis for decision making.

Further, because the Corridor is a regional transportation facility which has been considered in regional transportation and air quality planning efforts, alternatives to the Project considered at the regional level are also relevant to consideration of the feasibility of alternatives, and regional planning efforts are discussed generally in these alternatives findings.

This section presents findings regarding alternatives to the Project. It includes findings regarding the regional and sub-regional planning programs which define the framework for determining a reasonable range of feasible alternatives to the Project. The section provides a summary and discussion of the feasibility of the non-alignment alternatives, and area-specific alignment and cross-section alternatives considered in the EIR and throughout the tiered environmental review process.

4.1 Overview of Standards For Determining a Reasonable Range of Alternatives.

CEQA requires that EIRs examine feasible mitigation measures and feasible alternatives to a proposed project. An important element of any EIR is the selection of which alternatives warrant detailed review in the document.

In any environmental review, the lead agency must determine the range of alternatives to be examined. As the California Supreme Court has found, "both the California and the federal courts have . . . declared that the "statutory requirements for consideration of alternatives must be judged against the rule of reason." The Court further noted that "these statutory and judicial concepts are carried forward in the [CEQA] Guidelines":

> "[An EIR must describe] a reasonable range of alternatives to the project or to the location of the project, which could feasibly attain the basic objectives of the project, and evaluate the comparative merits of the alternatives." (CEQA Guidelines 15126 subd. (d)). *Laurel Heights Improvements Assn. v. The Regents of the University of California* (1988) 47 Cal.3d 376, 400.)

It is important to note that the range of alternatives is defined by those alternatives "which could feasibly attain the basic objectives of the project . . . ." (emphasis added.) Accordingly, in determining the scope of the alternatives analysis and the reasonable range of alternatives, the alternatives analysis in the EIR for the ETC was framed by the project objectives/purposes identified for the ETC in the course of its planning history and in relation to the sub-regional and regional planning framework summarized in the EIR and in the Statement of Overriding Considerations attached hereto.

Not only must the range of alternatives reflect those alternatives capable of attaining the basic objectives of the project, but the alternatives must also comprise actions that can feasibly be implemented. The California Supreme Court has noted that "in determining the nature and scope of alternatives to be examined in an EIR, . . . local agencies shall be guided by the doctrine of 'feasibility'." *Citizens of Goleta Valley v. Bd. of Supervisors* (1990), 52 Cal.3d 553, 565. As defined in CEQA, the term "feasibility" involves an assessment of whether the mitigation

measures and alternatives are "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, social and technological factors." Accordingly, the alternatives examined in this document (and in prior related environmental reviews as incorporated by reference in the EIR) are those that have been determined to be "feasible" relative to the definition set forth in the environmental statutes and regulations and in relation to the regional and sub-regional transportation planning context.

Transportation projects must be considered within a regional and sub-regional planning context rather than viewing projects in isolation. In particular, a project of the scale of the SOCTIIP must be viewed in relation to regional and sub-regional planning objectives so that project alternatives can be related to identified public policy goals both for purposes of defining the range of the alternatives to be examined (e.g. alternatives to the project itself) and to the type of alternatives to be reviewed in detail in the environmental document (e.g. alternative means of providing HOV functions, alternative alignments in specific links to avoid or lessen direct environmental impacts).

4.2 Purpose and Need.

The purpose of the SOCTIIP is to provide improvements to the transportation infrastructure system that would help alleviate future traffic congestion and accommodate the need for mobility, access, goods movement, and future traffic demands on I-5 and the arterial network in the action area. The Preferred Alternative meets this purpose because it provides the number of traffic lanes necessary to meet forecasted traffic demand through 2025, which is the design forecast year for the SOCTIIP and the planning horizon year for regional plans and socioeconomic forecasts. The Preferred Alternative also meets the purpose because it accommodates the need for mobility, access, and goods movement by providing increased traffic capacity. The Preferred Alternative also meets the purpose because it provides an alternative route to I-5.

Another project purpose is to improve the projected future level of service (LOS) and reduce the amount of congestion and delay on the freeway system and, as a secondary objective, the arterial network in southern Orange County. The overall goal is to improve projected levels of congestion and delay as much as is feasible and cost-effective. This may include strategies that lead to a reduction in the length of time LOS F will occur, even if the facility will still operate at LOS F for a short period of time, if the strategy will result in benefits to the traveling public and more efficient movement of goods by reducing total delay. The Preferred Alternative furthers this objective by increasing overall regional capacity and reducing congestion on I-5 and local arterials.

The traffic congestion relief and beneficial traffic effects of the Preferred Alternative are described in detail in section 3.1 of this Findings document.

4.3 Regional Transportation Planning Context For Alternatives Development.

Individual transportation projects function within a larger transportation network of existing and planned facilities and programs. The Southern California Association of Governments (SCAG) conducts regional transportation planning in the Southern California region (comprised of Los Angeles, Orange, Riverside, San Bernardino, Imperial and Ventura

Counties). The San Diego Association of Governments (SANDAG) conducts regional planning in San Diego County. Both SCAG and SANDAG prepare a Regional Transportation Plan (RTP) that provides the framework for ground and aviation transportation planning in the region. Proponents of individual projects (e.g., Counties, Cities, and transportation agencies) coordinate with SCAG and/or SANDAG through the regional transportation planning process in order to ensure that proposed facilities will complement the existing and planned transportation network in the region. Thus, planning for major transportation projects is subject to an iterative process between local and subregional transportation planning agencies and SCAG and/or SANDAG. The Statement of Overriding Considerations, section 5.0 of these Findings, includes additional details about regional planning documents. See especially section 5.1, Federal, State and Regional Planning Context.

The regional transportation planning agencies rely on a number of strategies to address the region's transportation needs, including the following:

- preservation of existing infrastructure; operational strategies to maximize the efficiency of the current system (e.g., though congestion management improvements such as auxiliary lanes and advanced ramp metering)

- transportation demand management (for example, through the incentives for the use of alternative modes of transportation, such as rideshare and transit)

- highway and arterial improvements (including high occupancy travel [HOT] lane facilities, inter-county corridors, and planned toll roads such as FTC-S)

- public transportation facilities and services (including bus and bus rapid transit, metrolink commuter rail and transit-oriented development), and

- goods movement strategies (including additional investments along high truck demand routes and regional rail capacity improvements).

In addition to ground transportation, SCAG looks at regional aviation issues, including aviation planning to use available capacity at airfields in the region (2004 Regional Transportation Plan, SCAG).

The SOCTIIP Collaborative evaluated a wide range of alternatives, including several that have not been adopted or continued as alternatives in the regional planning process summarized in this section. Because the Preferred Alternative implements the FTC-S project, and because the FTC-S has been evaluated and incorporated as part of regional plans for over two decades, this section focuses on the regional transportation planning context for the Preferred Alternative/FTC-S. The proposed FTC-S project was first approved at the subregional level by the Orange County Transportation Authority (OCTA) and included on the Orange County MPAH in 1981. The planned improvements in the MPAH, along with the planned improvements in other local and sub-regional transportation plans, are considered for inclusion in the RTP. The FTC-South project continues to be identified as an important regional transportation project on the most current (2004) RTP.

The Preferred Alternative is identified in the SCAG RTP and is intended to implement a project that has been included in the approved RTP for many years. The proposed SOCTIIP is also identified in the SANDAG RTP, Final April 2003 (see Table A.1 of the April 2003 RTP). The range of alternatives identified for evaluation in the SOCTIIP Draft EIS/SEIR includes a reasonable range of feasible alternatives to meet the project objectives and the purpose and need of the proposed action.

4.4 Development of Project Alternatives.

As previously stated, the FTC-S, the proposed southern extension of the FTC-N, has been the subject of ongoing planning efforts for over 20 years. The FTC is included in the multimodal transportation system ("MMTS") recommended circulation system (adopted by the Orange County Transportation Commission on October 29, 1979. Prior studies completed for the FTC-S include Final EIR 123, which was certified by the County of Orange (County) in 1981. FEIR 123 resulted in the identification of a conceptual alignment for a transportation corridor facility that was placed on the County MPAH.

Between 1989 and 1991, the Transportation Corridor Agencies (TCA) prepared TCA EIR No. 3 in conformance with the requirements of CEQA, which addressed the C and BX road alignments, (selected as part of the alternatives analysis phase of the project) as the primary Build Alternatives. This effort concluded with the EIR being certified and the Modified C alignment was the locally Preferred Alternative selected by the TCA's Foothill/Eastern Board of Directors.

In December 1993, the TCA initiated the preparation of an SEIR to evaluate the CP Alignment, the BX Alignment, and the No build Alternative. The CP Alignment is a refinement of the C Alternative, refined to reduce biological impacts, and is similar to the FEC-M Alternative described in the Draft EIS/SEIR. The BX Alignment is identical to the CC Alternative described in this Draft EIS/SEIR. Subsequent to this effort, the project was mandated to participate in the NEPA/Section 404 Memorandum of Understanding (MOU) process. Between August 1999 and November 2000, the NEPA/Section 404 MOU signatory agencies and the TCA developed the project alternatives to be evaluated in this Draft EIS/SEIR. The NEPA/404 MOU agencies (U.S. Environmental Protection Agency [USEPA], U.S. Fish and Wildlife Service [USFWS], U.S. Army Corps of Engineers [ACOE], Federal Highway Administration [FHWA] and Caltrans, as well as the U.S. Marine Corps and the TCA, are collectively referred to as the "SOCTIIP Collaborative."

During the course of Phase I of the SOCTIIP Collaborative process (August 1999-November 2000), the Collaborative developed a list of alternatives for evaluation in the SOCTIIP project's NEPA and Section 404 process. The Phase I Collaborative identified several alternatives for evaluation.

It was during this time that the Central Corridor-Complete (the CC Alternative was previously referred to as the BX Alternative) and the Far East Alternative (CP Alternative) were evaluated to determine optimal alignments. TCA/FHWA defined the Alignment 7 Corridor Alternative (A7C Alternative) as an Alternative to the CC Alternative to avoid and/or reduce impacts to the significant biological resources in the upper and middle Chiquita areas. The A7C

Alternative represents a shift to the east to move the alignment out of Cañada Chiquita, including its primary drainage course, and to avoid the wetlands area at the confluence of Cañada Chiquita and San Juan Creek and at the Segunda Deshecha wetlands complex. Additionally, this shift minimized impacts to sensitive habitat including coastal sage scrub. Similarly, other alternatives to the CC Alternative were created (i.e., Alignment 7 Corridor Swing Variation [A7C-7SV] Alternative, the Alignment 7 Corridor-Far East Crossover Variation [A7C-FECV] Alternative and the Alignment 7 Corridor Ortega Highway Variation [A7C-OHV] Alternative). The A7C Alternatives and its variations were created as Alternatives to the CC Alternative.

In early 2000, the SOCTIIP Collaborative obtained the services of a Neutral Senior Transportation Planning Expert (John Long of DKS Associates) to serve as a third-party peer review for traffic modeling and alternative selection criteria analysis and to assist the Collaborative in determining the most suitable alternatives for evaluation.

In November 2000, the SOCTIIP Collaborative concurred on the alternatives to be evaluated in the technical studies. The Collaborative selected 24 alternatives for evaluation in the technical analysis, including 19 toll road alternatives, 3 non-toll road alternatives, and 2 no action alternatives.

During Phase II of the SOCTIIP Collaborative (January 2001–present), the TCA sought to further refine the alternatives in order to focus planning efforts on those alternatives that best met the purpose and need for the project while minimizing impacts to sensitive environmental resources. In the course of this analysis, it was determined that the land use and socioeconomic impacts of the alternatives that connected to I-5 at Pico could not be appreciably avoided by specifically refining those alternatives. Development in the City of San Clemente had increased substantially, especially in the previously undeveloped areas where the Foothill-South Corridor alignments were proposed.

The Collaborative, recognizing that impacts to residences and businesses could not be avoided through refinement, focused instead on reevaluating and modifying, as necessary, those alternatives that connected to I-5 near the Orange County/San Diego County border.

Table 4.1 represents the results of the avoidance/minimization efforts conducted by the TCA in coordination with the SOCTIIP Collaborative. The C Alignment (CP Alignment), which was selected as the Preferred Alternative in 1991, had much greater environmental impacts than either the FEC-M or Preferred Alternative. The continued refinement of the SOCTIIP alternatives has resulted in an alternative that is significantly superior to the CP alternative. Most notably, impacts to ACOE jurisdictional wetlands have been minimized to 0.82 acres from the previously delineated 17.0 acres of impact. Occupied Pacific pocket mouse habitat was avoided through refinement efforts to the Preferred Alternative. The total disturbance limits for the Preferred Alternative have been reduced approximately 30 percent resulting in significantly less impact to the natural environment.

Table 4.1
Comparison of Environmental Impacts CP, FEC-M, Preferred Alternatives

	CP Alignment	FEC-M Alignment	Preferred Alternative
Total Area of Disturbance	1735 acres	1274 acres	1194 acres
Plant Communities			
Venturan-Diegan Coastal Sage Scrub (2.3)	537.5 acres	443.9 acres	385.3 acres
Thread-leaved brodiaea			
Population Counts	13 384	6 94	3 16
Wetlands			
Riparian Ecosystems (Dan Smith, June 2003)	160.1 acres	53.4 acres	42.9 acres
ACOE Wetlands (GLA)	17 acres	1.99 acres	0.82 acres
ACOE Non-wetland water (GLA)	20.28 acres	4.01 acres	5.45 acres
Wildlife			
Arroyo Toad (use areas)	6	2	2
Coastal California Gnatcatcher (use areas)	23	13	9
Least Bell's vireo (use areas)	2	0	0
Pacific Pocket Mouse	Occupied Habitat Affected	No Occupied Habitat Affected	No Occupied Habitat Affected
Consistency with NCCP Reserve Design	Low	Low	High

Source: TCA, 2005

4.4.1 Alternatives Not Carried Forward.

"Non-road" strategies were developed to maximize the effectiveness of existing and planned improvements. However, these alternatives were found to not be reasonable alternatives to the proposed project. Specifically, both a Transportation Systems Management (TSM) alternative and a transit-only alternative were considered but rejected for further evaluation. Refer to Chapter 2 of the Draft EIS/SEIR and the Project Alternatives Technical Report for more information.

A number of TSM strategies were examined as possible SOCTIIP alternatives but not carried forward to the Draft EIS/SEIR because these strategies were already being implemented or programmed for implementation in Orange County, were found to have limited transportation benefit relative to the need for the proposed project, and/or were found to have greater impacts to existing communities with little to no increased transportation benefit as compared with alternatives that were carried forward. In sum, it was determined that identifying

transportation demand and management strategies as an alternative to a "build" alternative would have failed to meet the stated purpose and need of the project and would have been a redundancy of current efforts, as they are already reflected in the transportation plan and traffic demand projections for the region by SCAG. While no TSM-only alternative was carried forward in the SOCTIIP Draft EIS/SEIR, it is anticipated that TSM measures will continue to be implemented by the County of Orange and other agencies, consistent with local, subregional, and regional transportation goals and objectives.

A mass transit alternative was also considered by the Collaborative but not carried forward to evaluation in the Draft EIS/SEIR. The existing public transit services in the SOCTIIP study area include public bus, paratransit, commuter rail, and intercity rail services. The OCTAM 3.1 traffic model, which is the basis for the traffic forecasting for the SOCTIIP, assumes the OCTA transit services that were in place in September 2000 for the base year conditions. The 2025 transit conditions in the OCTAM 3.1 model, used in analysis of SOCTIIP in the Draft EIS/SEIR, assume that there will be improvements to select route headways, no new local routes, and an increase of approximately 50 percent in local bus service. Since there are no plans or findings committed to implementing a light rail transit system in Orange County at this time, none are assumed in the OCTAM 3.1 model. The Collaborative considered existing planning for transit improvements by the OCTA, the nature of the existing traffic system in Orange County, and OCTA's analysis of future traffic patterns and travel mode choices by Orange County drivers. Based on these considerations and the inability of a transit-only alternative to meet future demand as articulated in the Statement of Purpose and Need for SOCTIIP, the Collaborative chose not to evaluate a mass transit alternative in the Draft EIS/SEIR.

In addition, the background assumptions for the development of the SOCTIIP build alternatives included, or assumed, continued improvements to existing arterial streets and to the transit service system, including build out of the MPAH and the RTP and implementation of planned bus and rail improvements. These planned improvements were found to be insufficient to meet the purpose of the project, which is to alleviate future traffic congestion on I-5 and the arterial street network. Also, the SOCTIIP build alternatives include two build alternatives (AIO and I-5 Alternatives), which propose improvements to existing/MPAH facilities in the study area and do not entail building a new corridor.

The Collaborative also considered several other groups of alternatives: alternative alignment segments, I-5 alternatives, arterial improvement alternatives, and combination alternatives. The Collaborative determined that none of these alternatives warranted further evaluation in the EIS/SEIR. See the Project Alternatives Technical Report, section 5.7, for further details on these alternatives and the reasons they were not carried forward.

4.4.2 Process for Identification of the Environmentally Superior Alternative (Preferred Alternative).

Selection of the Environmentally Superior Alternative (Preferred Alternative) represents a coordinated, balanced approach to minimizing harm to both the natural and built environments.

The Draft EIS/SEIR included a comprehensive evaluation of six corridor build alternatives, two non-corridor build alternatives (the AIO and I-5), and two no build alternatives. A full analysis of the alternatives is provided in Section 4 of the Final EIR, which is incorporated by reference. After release of the Draft EIS/SEIR and review of the comments received on the Draft EIS/SEIR, the SOCTIIP Collaborative began a multidimensional evaluation of the alternatives in order to identify a Least Environmentally Damaging Practicable Alternative (LEDPA) as required for the Clean Water Act section 404 permit. Using Table ES.6-1 and other information in the Draft EIS/SEIR, the Collaborative prepared a comprehensive matrix to assist in evaluating the alternatives using several parameters including: traffic conditions, air quality, aquatic resources (including compliance with Section 404 of the Clean Water Act/California Department of Fish and Game [CDFG] Streambed Alteration Program), water quality, endangered species impacts (including compliance with Section 7 of the Endangered Species Act [ESA]), socioeconomic impacts, land use impacts, military impacts on Marine Corps Base (MCB) Camp Pendleton, earth resources, cultural and historic resources, recreational resources, and project costs. The Collaborative used this multilayer process to determine which alternatives were likely to qualify as the LEDPA. For more information on the LEDPA selection process, refer to Section 2.2.3.3 in the Draft EIS/SEIR.

The Collaborative thoroughly reviewed and discussed the evaluation matrix at several SOCTIIP Collaborative meetings. The Collaborative used the evaluation matrix to screen those alternatives that might qualify as the LEDPA. The Collaborative determined that the shorter alternatives (CC-ALPV and A7C-ALPV) do not provide a substantial improvement in traffic conditions but do result in fewer effects to the natural environment because these alignments crossed areas that were recently developed. The CC Alternative, while providing good traffic relief, entails very substantial adverse impacts on the human and built environment and on social and economic conditions in the affected community because it requires the removal of 763 homes and 106 businesses. The CC Alternative also has adverse impacts to endangered species, habitat loss, and fragmentation and has a high amount of wetland impacts. The full-length alternatives (FEC-M, FEC-W, and A7C-FEC-M) perform well in traffic relief, and minimize impacts on the built environment (because they do not require acquisition of homes or businesses) but would have adverse impacts to endangered species, would cause habitat loss and fragmentation, and would have adverse impacts on wildlife connectivity.

Recognizing that the selection of the Preferred Alternative required assessment of its regional significance, the SOCTIIP Collaborative agreed that the selection of the Preferred Alternative required evaluation of the compatibility of the Preferred Alternative with the ongoing Orange County Southern Natural Community Conservation Plan (NCCP) and Special Area Management Plan (SAMP) processes. The Collaborative agreed to consider the alternatives in relation to the evaluation matrix and the NCCP and SAMP planning processes. These planning processes have implications for the SOCTIIP because they will determine the location and extent of development and open space uses in the SOCTIIP study area.

The Collaborative recognized that the impacts of a Preferred Alternative could be reduced by insuring that the alternative is located as much as possible in an area contemplated for development in the NCCP and SAMP. Doing so has the advantages of minimizing fragmentation of habitat and minimizing cumulative and growth-inducing impacts.

4.4.3 Practicability and Relative Environmental Effects of Alternatives.

It was the goal of the Collaborative to select a Preferred Alternative that would also be selected as the LEDPA; therefore the evaluation and screening of the SOCTIIP Alternatives included evaluation of the alternatives according to the NEPA/404 Evaluation criteria. The Collaborative applied the definition of "practicability" adopted by ACOE and the U.S. EPA in the section 404(b)(1) Guidelines (NEPA/404 MOU). The Section 404(b)(1) Guidelines define the concept of a "Practicable Alternative" as one that is available[2] and capable of being done[3] after taking into consideration: (1) cost[4]; (2) existing technology; and (3) logistics in light of the overall project purposes.

The Collaborative measured each alternative against the criteria described in the Section 404(b)(1) Guidelines, guidance documents, and applicable case law. The NEPA/404 guidance paper lists seven criteria for evaluating the practicability of alternatives, six of which are relevant to SOCTIIP (one is transit-related). According to the Guidance Paper, an alternative is not considered practicable if:

a. It does not meet the project purpose and need;

b. Cost of construction (including mitigation) is excessive;

c. There are severe operational or safety problems;

d. There are unacceptable adverse, social, economic, or environmental impacts;

e. There would be serious community disruption;

f. There are unsuitable demographics (for transit alternatives); and

g. There are logistical or technical constraints.

The Collaborative applied the seven criteria listed to the eight SOCTIIP alternatives. Based on that evaluation, the following SOCTIIP alternatives were determined to be not practicable: Central Corridor (CC) (yellow); Central Corridor-Avenida La Pata (CC-ALPV) (light orange); Alignment 7 Corridor-Avenida La Pata (A7C-ALPV) (dark orange); Arterial Improvements Only (AIO) (blue); the I-5 Widening Alternative (I-5) (red); and the No Action Alternatives.

The reasons for the determinations are as follows:

Criterion 1: It does not meet the project purpose and need

- No Action Alternatives

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[2] "Available" means obtainable for meeting the project purposes. Available sites may include property already owned by a permit applicant as well as properties that could be obtained, utilized, expanded, or managed.

[3] "Capable of being done" means that it is possible to achieve the basic purpose on a given site after consideration of cost, existing technology, and logistics.

[4] If an alternative is unreasonably expensive to the applicant, the alternative is not practicable.

Criterion 2: Cost of construction (including mitigation) is excessive

- CC Alternative
- I-5 Widening Alternative
- A7C-ALPV Alternative
- AIO Alternative

Criterion 3: There are severe operational or safety problems

- CC Alternative

Criterion 4: There are unacceptable adverse, social, economic, or environmental impacts

- CC Alternative (aquatic resources, built environment, and social and economic impacts)
- CC-ALPV Alternative (aquatic resources, built environment, and social and economic impacts)
- A7C-ALPV Alternative (built environment, social and economic impacts)
- AIO Alternative (built environment, social and economic impacts)
- I-5 Widening Alternative (built environment, social and economic impacts)

Criterion 5: There would be serious community disruption

- CC Alternative
- CC-ALPV Alternative
- A7C-ALPV Alternative
- AIO Alternative
- I-5 Widening Alternative

Criterion 6: There are unsuitable demographics

- None. (This criterion applies to mass transit alternatives, not highway alternatives)

Criterion 7: There are logistical and technical constraints

- AIO Alternative
- I-5 Widening Alternative

Using the above criteria, FHWA, Caltrans and TCA proposed that the Collaborative consider the Far East Crossover-Modified (FEC-M) (purple); the Far East Crossover-West (FEC-W) (lavender); and the Alignment 7 Corridor-Far East Crossover-Modified (A7C-FEC-M) (green) to be practicable alternatives for further consideration by the Collaborative.

After review and discussion of the joint proposal, the Collaborative agreed that the AIO Alternative and the I-5 Widening Alternative were not practicable due to of the absence of available funding. There was also recognition of the severe community disruption that would occur with implementation of the CC Alternative, CC-ALPV Alternative, and A7C-ALPV Alternative. The Collaborative then evaluated whether the above alignments could be further modified to avoid severe community disruption.

The Collaborative agreed that it would consider all factors related to the human and natural environment when identifying a practicable alternative that results in least environmental harm (i.e., the Environmentally Superior Alternative or Preferred Alternative).

On August 10, 2005, the new transportation bill, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law. SAFETEA-LU offers States broader ability to use tolling, on a pilot, or demonstration basis, to finance Interstate construction and reconstruction and support congestion reduction. No funding is provided for most of the programs, and they are limited to a small number of pilot and demonstration programs. Given the limited nature of these programs, they do not provide a reasonable alternative mechanism for funding the I-5 alternative or a combination of I-5 and arterial improvements. Thus, SAFETEA-LU, by itself, does not change the conclusion that the I-5 alternative is not practicable due to the absence of available funding.

Relative to the Preferred Alternative, financial analysis has shown that the Foothill-Eastern TCA can maintain sound financial operations while also funding the extension of SR-241 or Foothill-South, and providing a loan to the San Joaquin Hills TCA (see the PFM Group October 13, 2005 memorandum re Analysis of Mitigation and Loan Payments to the San Joaquin Hills Transportation Corridor Agency).

4.5 Comparison of Alternatives.

In addition to the practicability analysis and the seven criteria named in the NEPA/404 guidance paper, several other factors were used to compare the relative impacts of the project alternatives. The additional factors that were considered in the selection process are presented briefly below.

Preservation of Large Blocks of Open Space and Retention of Wildlife Corridors. The FEC-W and FEC-M cross Cañada Gobernadora and bifurcate open space areas east of the A7C-FEC-M Alternative. The FEC-M Alternative has the greatest impact on existing open space and has an adverse impact on retention of large blocks of open space on the RMV property. The FEC-M Alternative is in very close proximity to Cristianitos Creek and impacts a large number of thread leaved brodiaea plants. The A7C-FEC-M Alternative (the Preferred Alternative), with its more western location, minimizes impacts on open space areas by being located in proximity to existing development and within the areas approved for development in the Ranch Plan. It allows for retention of large blocks of open space east of the alignment and retains major wildlife movement corridors and allows greater wildlife connectivity between the RMV property and the Cleveland National Forest.

The Preferred Alternative incorporates bridges and wildlife crossings into the design to minimize the effect of habitat fragmentation. The NCCP/Habitat Conservation Plan (HCP) identifies several important linkages connecting these open space habitat block areas. Out of the 20 habitat linkages and wildlife movement areas identified from field surveys in the NCCP/HCP planning area, 15 are applicable to the wildlife corridor existing conditions in the SOCTIIP biological study area. Bridge, arch culverts, and box culverts that provide for wildlife undercrossings of the Preferred Alternative have been incorporated into the project design at locations that are consistent with the linkages identified in the NCCP/HCP guidelines.

Impacts on Wetlands and Waters of the United States. As previously stated, it was the goal of the Collaborative to select a Preferred Alternative that would also be selected as the LEDPA. Therefore, the evaluation and screening of the SOCTIIP alternatives included evaluation according to the NEPA/404 Evaluation criteria.

Section 404 of the Clean Water Act (CWA) requires that all appropriate and practicable steps must be undertaken by the applicant to first avoid and then minimize adverse impacts to the aquatic ecosystem prior to incorporating compensatory mitigation. The Refinement Process discussed in Section 4.10 of the Draft EIS/SEIR as well as the PDFs and Best Management Practices (BMP)s discussed in Sections 4.8, 4.9, 4.10, and 4.11 provide the framework for avoidance and minimization of impacts to jurisdictional waters to the maximum extent practicable.

Specifically, direct impacts to both wetlands and non-wetland waters were avoided and/or minimized during the Refinement Process discussed in Section 4.10 in the Draft EIS/SEIR. Avoidance and minimization measures included refining the grading limits to reduce cut and fill by following natural contours, placement of bridge structures across major high order drainages, and shifting the alignment to avoid sensitive resources, including the Tesoro Wetlands area. Additionally, TCA sought to minimize impacts to jurisdictional waters by reducing the size and number of structural supports and by locating those required structural columns outside of high value jurisdictional resources. In order to reduce the number of structural columns, TCA maximized bridge span by increasing the structural strength of the bridge and increasing the bridge depth.

A more detailed description of aquatic resources and associated acreages is provided in Section 4 of the Wetlands Delineation Technical Report (Glenn Lukos Associates [GLA] 2004), which has been verified by the ACOE, and is included as Attachment 12 to the RTC document. The Wetlands Delineation Technical Report was prepared for impacts associated with the SOCTIIP Alternatives, consistent with recommendations from the ACOE. The Alternatives evaluated in the delineation include the CC, CC-ALPV, A7C-ALPV, A7A-FEC-M, FEC-M, and FEC-W Alternatives. Table 1.3-2 in the Wetlands Delineation Technical Report (GLA 2004) provides a quantitative summary of impacts to Waters of the United States (WoUS), including wetland and non-wetland waters, for each alternative.

A Jurisdictional Determination and Wetlands Delineation Technical Assessment was prepared for six of the project Alternatives in August 2004 and revised in April 2005 GLA. The report is Attachment 12 of the Response to Comments document. The Wetlands Delineation Technical Report describes the location and extent of aquatic features located within the

disturbance limits of six of the corridor alternatives considered in the EIS/SEIR. The impacts of the six corridor alternatives are compared in Table 4.2 below.

Table 4.2
Summary of Permanent Impacts to Corps Jurisdiction (Acres)

Alternative	Corps		
	Total	Non-Wetland	Wetland
Preferred Alternative (A7C-FEC-M – Initial)	6.27	5.45	0.82
A7C-FEC-M Ultimate	6.90	5.97	0.93
CC – Initial	14.87	1.47	13.40
CC - Ultimate	15.08	1.51	13.57
CC-ALPV - Initial	12.38	0.97	11.41
CC-ALPV - Ultimate	13.39	1.01	12.38
A7C-ALPV - Initial	2.52	1.96	0.56
A7C-ALPV - Ultimate	3.34	1.98	1.36
FEC-W - Initial	6.69	4.07	2.62
FEC-W - Ultimate	6.96	4.32	2.64
FEC-M - Initial	5.44	3.73	1.71
FEC-M - Ultimate	6.02	4.04	1.99

Source: Glen Lukos 2004

In the planning level impact analysis conducted by the ERDC (Potential Impacts of Alternative Transportation Corridors on Waters of the U.S. and Riparian Ecosystems for the Southern Orange County Transportation Infrastructure Improvement Project, 2003), provided in the Draft EIS/SEIR, the analyses assume that all drainages within the disturbance limits are permanently filled. This initial functional assessment conducted by ERDC did not account for bridges or culverts, but assumed a complete fill; this resulted in higher than actual estimates for post-project reductions in aquatic function. More recently, at the ACOE request, an updated functional assessment has been prepared by R.D Smith of ERDC which clarifies the impact analyses addressing the avoidance of impacts by the construction of bridges and culverts.

Review of the results indicate that of the eight categories evaluated (Criteria 1, 2, 3a, 3b, 3c, 4a, 4b and 4c), the Preferred Alternative is ranked best in four categories (3a, 3b, 3c and 4a), second in two categories (2 and 4b), fourth in one category (1) and fifth in one category (4c). Being ranked at the top in four categories is the best for any of the alternatives evaluated. The normalized rank score for each of the integrity indices evaluated in the functional assessment for each the six corridor alternatives is provided in Table 4.3 below.

The Jurisdictional Determination and Wetlands Delineation Technical Assessment quantify impacts to wetlands and the Updated Functional Assessment quantifies loss of function. Together, these two technical analysis documents provide the TCA and other members of the Collaborative with the information required to ensure a complete understanding of the nature

Table 4.3
Normalized Rank Scores for all Criteria and Corridor Alternatives for the Initial Corridor Footprints

Corridor Alternatives (Initial)	Criteria 1: Miles of Stream Channel	Criteria 2: Acres of Riparian	Criteria 3: Hydrology	Criteria 3: Water Quality	Criteria 3: Habitat	Criteria 4: Hydrology	Criteria 4: Water Quality	Criteria 4: Habitat	Total Normalized Rank Scores
A7C-ALPV	0.4	0.4	0.4	0.5	0.4	0.6	0.5	0.7	3.9
A7C-FEC-M (Preferred Alternative)	0.8	0.3	0.2	0.2	0.2	0.4	0.6	0.9	3.7
CC ALPV	0.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9	7.0
CC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
FEC-M	0.9	0.4	0.4	0.4	0.4	0.9	1.0	0.9	5.2
FEC-W	0.7	0.2	0.2	0.2	0.2	0.5	0.7	0.7	3.6

Source: R.D. Smith, ERDC, 2005

and degree of impact of the proposed discharge resulting from the SOCTIIP alternatives. See Section 4.10 of the Final EIS/SEIR, and both Attachment 12 and Attachment 16 of the RTC document, for more information on these technical evaluations.

Summary of Biological Resources Evaluation. The proposed project will involve removal of vegetative resources that are known to provide or may have the potential to provide habitat for ten federally-listed threatened, endangered, or proposed wildlife and plant species. Threatened and endangered wildlife species and plant species that may or will be directly affected by implementation of the Preferred Alternative are the tidewater goby, southern steelhead trout, arroyo toad, coastal California gnatcatcher, and thread-leaved brodiaea. The thread-leaved brodiaea is also state listed.

Threatened and endangered plant species that would not be directly impacted, and for which potential habitat is available, are as follows: Braunton's milk-vetch, Nevin's barberry, spreading navarretia, Orcutt's grass, and Gambel's watercress.

The following threatened and endangered wildlife species would not be directly impacted, but potential habitat for them is available in the project area: vernal pool fairy shrimp, San Diego fairy shrimp, Riverside fairy shrimp, Quino checkerspot butterfly, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, and Pacific pocket mouse.

The Preferred Alternative selected by the TCA and FHWA includes many conservation and avoidance methods to minimize impacts to the natural environment, including adverse impacts to sensitive species and other natural resources. Indirect impacts will be limited through project design features. For example, the drainage and water quality features will prevent water quality impacts to sensitive species. The Preferred Alternative will limit lighting to areas around toll plazas and interchanges, and low-light design features will be incorporated to the maximum extent feasible while maintaining consistency with Caltrans design standards. (See Project Design Features described in Section 2.5.1.7 of the EIS/SEIR).

Consistency With Approved Land Use Plans. The Rancho Mission Viejo Company (RMV) expressed opposition to the FEC-W alternative because of its proximity to the RMV heritage sites (cow camp and the family cemetery), designated open space in the Ranch Plan.

The Preferred Alternative generally transects the center portion of the Ranch Plan, including Planning Areas 2 and 5 designated for development as well as areas designated as open space (Planning Area 10) in the approved Settlement Agreement Plan. The Preferred Alternative avoids impacts to large areas dedicated to resource open space in the eastern portion of the Ranch Plan referred to as the "Eastern block." Overall, the alignment would impact approximately 257 acres designated for open space and infrastructure in the Ranch Plan reflected in the Settlement Agreement. This represents 1.42 percent of the 16,945-acre open space in The Ranch Plan. This occurs where the Preferred Alternative traverses the northern portion of Planning Area 2 within the area from Planning Area 2 over San Juan Creek into Planning Area 5. A portion of this impact from the Preferred Alternative represents the alignment on bridge structure. Figure 2.2-1 illustrates the compatibility of the Preferred Alternative with the proposed Ranch Plan and future NCCP design, and demonstrates that the SOCTIIP Preferred Alternative is compatible with both these regional planning processes.

Community Impacts. The proposed southern extension of existing SR-241 has been subject to planning efforts for over 20 years and has been on the County of Orange MPAH since 1981. Therefore, development in the study area has been able to anticipate and accommodate the future implementation of a transportion facility in this area. The potential direct and indirect effects of the Preferred Alternative on existing land uses are reduced by the siting of the proposed facility to minimize impacts to existing uses, combined with existing topography and committed open space areas that separate the Preferred Alternative from existing residential uses.

The Preferred Alternative does not result in direct or indirect impacts to existing homes and businesses, Chiquita Water Reclamation Plant, or the Prima Deshecha Landfill. Although the Preferred Alternative is adjacent to Tesoro High School, it would not result in direct or indirect adverse impacts to this land use. Because Tesoro High School was constructed with the knowledge of the proposed extension of the Foothill Corridor, the Final EIR for the high school included measures to mitigate potential indirect noise impacts associated with a transportation facility in the area of the SOCTIIP corridor alternatives. There are no significant adverse indirect impacts to existing homes due to the distance from the proposed alignment, combined with existing topography and the existing buffer provided in the Talega residential development.

Marine Corps Base – Camp Pendleton. The Department of the Navy (DON) owns the property on which the Preferred Alternative traverses the Marine Corps Base in San Diego County. In 1988, the Marine Corps established criteria concerning the evaluation of alternatives on the Base, the most important of which was that any on-Base portion of this proposed toll road must be as closely located to the northern Base boundary as possible and it must be routed in such a manner that it does not impact the Marine Corps mission nor interfere with Camp Pendleton's operational flexibility. The Preferred Alternative (for that section of the toll road which crosses through Camp Pendleton) meets the Marine Corps criteria.

SOSB is located entirely on lands leased from the DON; the State does not own the land. SOSB is operated by the State, pursuant to a 1971 agreement of lease (the "lease") with the United States. The California Department of Parks & Recreation (CDPR) lease with the United States is specifically subject to the reserved right of the United States to grant additional easements and rights-of-way over the leased property. Thus, in implementing the authority to lease, CDPR agreed –that the United States may grant a right-of-way to a third party. Congress has adopted legislation authorizing the Navy to grant to the TCA an easement within this portion of Camp Pendleton.

San Onofre State Beach. The Preferred Alternative extends south through Subunit 1 of San Onofre State Beach (SOSB), leased from MCB Camp Pendleton, impacting biological and habitat resources value, and the overall size of the SOSB Subunit1. No camping sites in the San Mateo Campground would be removed as a result of implementation of the Preferred Alternative, but the Preferred Alternative has visual and aesthetic impacts on the camping experience at the San Mateo Campground. No impacts to the SOSB Trestles Subunit (Subunit 2) are expected as a result of the elevated ramp connecting the Preferred Alternative to I-5. Continued access to Trestles Beach will be provided during and after construction of the Preferred Alternative and, as described in Section 4.25, there will be no changes to sediment and no effect on the quality of the surf.

Construction activities associated with implementation of the Preferred Alternative could impact Camp Pendleton San Onofre Recreation Beach. Impacts to recreation uses at San Onofre Recreation Beach would relate mostly to noise, access, and dust during construction. These short-term impacts would not change land uses at San Onofre Recreation Beach or military uses at Green Beach.

The Donna O'Neill Land Conservancy. The Preferred Alternative takes land in The Conservancy. The SOCTIIP Collaborative agreed that the beneficial affects of the Preferred Alternative crossing into the western portion of Conservancy outweighed the potential impacts. The benefits include: greater habitat connectivity into eastern Orange County; avoidance of high value aquatic resources including wetlands in the Blind Canyon/Gabino Canyon confluence; keeping in close proximity to neighboring development thereby minimization habitat fragmentation; and minimization of view shed impacts to residents in developed areas of San Clemente, including Talega. The Conservancy would be compensated for this impact. The TCA has initiated discussions with The Conservancy Board of Directors and the landowner to discuss right-of-way acquisition and potential mitigation strategies for impacts to The Conservancy. Mitigation strategies presented to The Conservancy included open space land for additional set-aside areas, either contiguous or non-contiguous to the existing Conservancy, monetary compensation to The Conservancy.

Section 4(f) Resources/Cultural. The Preferred Alternative avoids the two resources considered the "core" of the San Mateo Archaeological District (SMAD) (CA-ORA-22 and CA-SDI-8435). There will be no impact on continued ceremonial use of the area. Where possible, ground disturbing impacts of the Preferred Alternative were placed on deflating landforms where there is little likelihood of buried components for impacted 4(f) resources.

Farmland Resources. The Preferred Alternative would not result in the loss of rated farmland as defined by the Natural Resources Conservation Service on RMV. Due to alignment shifts, the Preferred Alternative would affect an additional 1 ha (2.57 ac) of rated agricultural land on MCB Camp Pendleton compared to the A7C-FEC-M-Initial and 1 ha (2.37 ac) more than the A7C-FEC-M-Ultimate. The Preferred Alternative would result in the loss of approximately 63 ha (155 ac) less agricultural preserve land than the A7C-FEC-M-Initial and approximately 65 ha (162 ac) less than the A7C-FEC-M-Ultimate.

4.6 Selection of the Environmentally Superior Alternative (Preferred Alternative).

Of the three corridor alternatives remaining after the practicability analysis, the A7C-FEC-M-Initial corridor with design modifications incorporated was selected by the Collaborative as the Preferred Alternative. In addition to meeting the seven criteria for evaluating the practicability of alternatives listed in the NEPA/404 MOU Guidance Paper and being better or comparable to the other two alternatives in terms of impacts to aquatic and biological resources the Preferred Alternative allows the greatest wildlife connectivity and is more compatible with local existing land use plans. More specifically, the Preferred Alternative was selected over the FEC-M Alternative because it does not cross Cañada Gobernadora, it minimizes impacts on open space areas contemplated by the RMV Ranch Plan and does not impact RMV heritage sites. The

benefits of the Preferred Alternative are described in detail in the Statement of Overriding Considerations, Section 5.0 of this Findings document.

Selection of the Preferred Alternative represents a coordinated balanced approach to minimizing harm to both the natural and built environments. The A7C-FEC-M as the Preferred Alternative culminates years of analysis and evaluation, engineering refinement, inter-agency consultation and coordinated consensus. The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency recently issued their preliminary agreement that the Preferred Alternative is the least environmentally damaging practicable alternative, and the U.S. Fish and Wildlife Service has preliminarily determined that the Preferred Alternative complies with the requirements of the Endangered Species Act.

For all of the reasons described above, the Board hereby finds that (1) the Preferred Alternative is the environmentally superior alternative, (2) that changes or alterations have been required in, or incorporated into, the Preferred Alternative to avoid or substantially lessen the significant effects of the project, and (3) specific economic, legal, social, technological considerations make infeasible the other project alternatives described in the Final SEIR. The facts in support of this finding are recited above and are described in greater detail in the Final SEIR and in the Statement of Overriding Considerations (Section 5.0).

5.0 STATEMENT OF OVERRIDING CONSIDERATIONS.

TCA SEIR 4 indicates that if the Preferred Alternative is constructed, certain significant effects may be unavoidable. However, if the benefits of a proposed project outweigh the unavoidable adverse environmental effects, the project may be approved in spite of the adverse environmental effects in accordance with CEQA (Public Resources Code section 210002), and CEQA Guidelines section 15093. The Board finds the unavoidable significant effects described in Section 2.0 are acceptable and alternatives with less significant environmental impacts are not preferable as described in Section 4.0, due to the following overriding considerations. The Board also finds that, in addition to the specific infeasibility findings listed throughout this Findings document, many of the Preferred Alternative impacts are inherent in the nature of the project and it is not feasible to mitigate them further. Short-term construction impacts would occur with any similar public works/infrastructure project. The Preferred Alternative includes extensive mitigation measures to reduce the impacts, and this mitigation, in combination with planned regional open space through existing approvals and the NCCP, will result in protection of all significant resources in the project area and no net loss of habitat value from the present.

5.1 Federal, State and Regional Planning Context.

5.1.1 Federal Planning Programs. Federal State Transportation Improvement Program. The Federal State Transportation Improvement Program (FSTIP and the Federal Transportation Improvement Program (FTIP) carry out the California Transportation Plan (CTP). The FSTIP is compiled by the California Transportation Commission (CTC) from the Regional Transportation Improvement Programs prepared by the regional Metropolitan Planning Organizations (MPOs). The FEC alignment of the FTC-S is included in the FSTIP.

Federal Planning Programs. Federal Transportation Improvement Program. The FTIP is complied by FHWA from the State Transportation Improvement Programs (STIPs). An alignment of the FTC-S similar to the FEC-M alignment is included in the FTIP. As defined in the FTIP, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. The Preferred Alternative, which proposes an extension of SR-241 from Oso Parkway to I-5, is consistent with the FTC-S as defined in the FTIP. For further details on consistency for air quality conformity proposes, refer to Section 4.7.3.4 (Compliance with Air Quality Planning) of the Final SEIR.

5.1.2 State of California Planning Programs. California Transportation Plan. The California Transportation Plan (CTP) provides direction for planning, developing, operating and maintaining California's transportation system. In addition, it provides the long-term transportation plan required by the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) to better accommodate the state's future work, commerce, education and recreation needs. The CTP is a broad based, policy document that addresses transportation throughout the state. The CTP is one of the documents used to prepare the FSTIP and the FTIP.

State of California Planning Programs. District System Management Plan. The District System Management Plan (DSMP) provides multi-modal, multi-jurisdictional systems strategies for evaluating and recommending improvements to the transportation system.

Caltrans District 12 (Orange County) system planning is comprised of three elements: the Transportation Corridor Report (TCR), the Transportation System Development Program (TSDP) and the DSMP. The DSMP integrates the TCR and the TSDP to describe how the District intends to manage and improve the circulation system. The DSMP was adopted in 1989. It includes an alignment for the FTC-S consistent with the FEC-M alignment. The Preferred Alternative, which proposes an extension of SR-241 from Oso Parkway to I-5, is consistent with the FTC-S as defined in the DSMP.

5.1.3 Southern California Association of Governments. The Southern California Association of Governments (SCAG) is the federally designated MPO under Title 23, United States Code (USC) 134(g) (1) for the six county region which includes Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. As MPO, SCAG is required to adopt and periodically update a Regional Transportation Plan (RTP) under Section 65080 of the California Government Code. In addition, SCAG also prepares and implements the Regional Transportation Improvement Program and the regional Growth Management Projections. The FTC-S is shown in the 2001 RTP as an extension of the existing FTC-N from the San Diego County line to Oso Parkway, with two mixed flow lanes in each direction by 2010 and two additional mixed flow lanes, in each direction by 2015. Now that it has been determined that the Preferred Alternative would be limited to six general purpose lanes, the TCA will work with SCAG to update the project description in the RTP. An alignment similar to the FEC-M alignment is mapped in the RTP as a programmed part of the transportation network baseline and is assumed in the modeling for the RTP. As defined in the RTP, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, the Preferred Alternative would be consistent with the FTC-S as defined in the RTP.

5.1.4 South Coast Air Quality Management District. The South Coast Air Quality Management District (AQMD) is the air pollution control agency for the four-county region including Los Angeles and Orange Counties and parts of Riverside and San Bernardino Counties. The AQMD is responsible for monitoring air quality, planning for air quality attainment and regulating sources of air pollution within its jurisdiction. Although AQMD does not directly control pollution from motor vehicles, it does have transportation-related programs aimed primarily at reducing the number of vehicle trips and miles traveled on the road and promoting the use of cleaner fuels and vehicles. AQMD coordinates with SCAG when writing the Air Quality Management Plan (AQMP) which is the blueprint for meeting the state and federal ambient air quality standards. An alignment similar to the FEC-M alignment is included in the AQMP and in the modeling for the AQMP. As defined in the AQMP and the AQMP modeling, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, the Preferred Alternative would be consistent with the AQMP and the AQMP modeling.

5.1.5 San Diego Association of Governments. The San Diego Association of Governments (SANDAG) is the state and federally designated MPO responsible for regional transportation planning for San Diego County. SANDAG prepares and implements two regional plans: the RTP and RTIP for San Diego County. An alignment similar to the FEC-M alignment is included in the SANDAG RTP. As defined in the SANDAG RTP, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, the Preferred Alternative would be consistent with the FTC-S as defined in the SANDAG RTP.

5.1.6 Orange County Transportation Authority. The Orange County Transportation Authority (OCTA) was formed through a consolidation of seven separate transportation agencies to develop and implement unified transportation programs and services for Orange County. OCTA administers the County's MPAH. As administrator of the MPAH, the OCTA is responsible for maintaining the integrity of the MPAH map through its coordination with cities and the County and determination of cities' and County consistency with the MPAH map. OCTA is also responsible for adopting the County's Congestion Management Plan (CMP) which is intended to work towards the identification of an urban mobility system involving a variety of transportation modes and providers. The FTC-S is shown on the MPAH on an alignment similar to the FEC-M alignment. As shown conceptually on the MPAH, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, the Preferred Alternative, which proposes an extension of SR-241 from Oso Parkway to I-5 would be consistent with the FTC-S as shown on the MPAH.

5.2 Existing and Forecasted Transportation Demand: Need for the Project.

The continued development of residential, commercial and industrial uses in south Orange County and throughout the rest of the County has resulted in continuing traffic congestion in the peak periods such that major travel routes experience very poor levels of service during these periods. Based on the adopted General Plans and adopted regional forecasts, south Orange County is anticipated to continue to experience growth in both residents and jobs. The total number of residents in south Orange County in 2000 was 481,900; this is forecast to increase to 627,568 residents in 2025. The total number of employees in south Orange County is forecast to increase from 207,193 employees in 2000 to 304,938 employees in 2025. The local jurisdictions' General Plans and the adopted regional demographic forecasts reflect this anticipated growth. The MPAH identifies needed transportation infrastructure to support this development. Committed, funded transportation improvements in south Orange County will address some of the current and projected traffic demand in south Orange County. However, additional transportation improvements, consistent with the MPAH, are needed to serve this demand to ensure continued mobility for travelers and goods movement over the long-term planning horizon to 2025 and beyond. Without implementation of transportation improvements consistent with the MPAH, there will be inadequate circulation infrastructure to provide mobility on existing facilities, including I-5 and major arterials in south Orange County.

This Section describes the existing deficiencies in the existing transportation/circulation system in south Orange County and how those deficiencies will worsen by 2025 without implementation of additional transportation infrastructure. Section 3.0 (Traffic) of the Final SEIR provides a detailed discussion of the existing transportation system deficiencies in the SOCTIIP study area and detailed analysis of the ability of each of the SOCTIIP Alternatives to improve the performance of the regional transportation system. The existing road deficiencies and the 2025 operating conditions with and without the SOCTIIP build Alternatives are summarized briefly in the following Sections.

5.2.1 Existing Roadway Deficiencies. These are existing deficiencies at the following freeway segments, freeway and tollway ramps and intersections:

Deficient Freeway Segments

- I-5 AM northbound and PM southbound between El Toro Road and Alicia Parkway.
- I-5 AM northbound and PM southbound between Alicia Parkway and La Paz Road.
- I-5 AM northbound and PM southbound between La Paz Road and Oso Parkway.

Deficient Freeway and Tollway Ramps

- I-5: northbound direct on ramp at Alicia Parkway in the AM.
- I-5: southbound off ramp at Oso Parkway in the PM.
- I-5: southbound off ramp at Crown Valley Parkway in the PM.
- I-5: northbound on ramp at Ortega Highway in the AM.
- I-5: northbound on ramp at Stonehill Drive in the PM.
- I-5: southbound direct on ramp at State Route 1/Camino Las Ramblas in the PM.
- I-5: southbound off ramp at Camino de Estrella in the PM.
- I-5: northbound on ramp at Avenida Pico in the AM and PM.
- I-5: southbound off ramp at Avenida Pico in the AM and PM.
- SR-241: northbound on ramp at Santa Margarita Parkway in the AM
- SR-241: southbound off ramp at Santa Margarita Parkway in the PM.
- SR-241: northbound on ramp at Antonio Parkway in the AM.

Deficient Intersections

- Intersection of Muirlands Boulevard and Alicia Parkway in the PM.
- Intersection of Oso Parkway and Marguerite Parkway in the AM.
- Intersection of Antonio Parkway and Ortega Highway in the AM.
- Intersection of Stonehill Drive and Del Obispo Street in the AM and PM.
- Intersection of Camino Capistrano and San Juan Creek Road in the PM.
- Intersection of Valle Road & San Juan Creek Road in the AM.

- Intersection of Camino Capistrano and Stonehill Drive in the AM and PM.
- Intersection of I-5 southbound ramps and Avenida Pico in the PM.
- Intersection of SR-241 southbound ramps and Santa Margarita Parkway in the PM.
- Intersection of SR-241 northbound ramps and Santa Margarita Parkway in the AM.

5.2.2 2025 Operating Conditions With and Without the SOCTIP Build Alternatives. Weekday No Action Alternative peak hour traffic conditions were projected to 2025, assuming no SOCTIIP build Alternative was implemented, to provide an understanding of the future baseline conditions without these types of transportation improvements. This future baseline is used for comparison of 2025 traffic conditions to conditions with the SOCTIIP build Alternatives. This baseline considered different levels of development on the Rancho Mission Viejo property (14,000 or 21,000 dwelling units) and whether or not the Master Plan of Arterial Highways (MPAH) and Regional Transportation Plan (RTP) are built only to the level that they are programmed or funded (committed) or as ultimately planned. RMV has now been approved with 14,000 dus and additional, non-residential, development. Because there was no approved land use plan for the RMV, at the time the Draft SEIR was prepared, the traffic analysis considered scenarios with differing numbers of dus, as described in detail in Section 3.0.

The deficiencies in 2025 under the No Action Alternative with 14,000 dwelling units on RMV would be:

Deficient Freeway Segments

- I-5 AM northbound and PM southbound between El Toro Road and Alicia Parkway.
- I-5 AM and PM northbound and PM southbound between Alicia Parkway and La Paz Road.
- I-5 AM and PM northbound and PM southbound between La Paz Road and Oso Parkway.
- I-5 AM northbound and PM southbound between Junipero Serra Road and Ortega Highway.
- I-5 AM and PM northbound and PM southbound between Ortega Highway and Camino Capistrano.
- I-5 AM and PM northbound and PM southbound between Camino Capistrano and Stonehill Drive.

- I-5 AM and PM northbound and PM southbound between Stonehill Drive and Camino Las Ramblas.
- I-5 AM and PM northbound and AM and PM southbound between Camino Las Ramblas and Camino de Estrella.
- I-5 AM and PM northbound and AM and PM southbound between Camino de Estrella and Avenida Vista Hermosa.
- I-5 AM and PM northbound and PM southbound between Avenida Vista Hermosa and Avenida Pico.
- I-5 AM and PM northbound and AM and PM southbound between Avenida Pico and El Camino Real.

Deficient Freeway and Tollway Ramps

- I-5: northbound loop on ramp at Alicia Parkway in the AM.
- I-5: southbound off ramp at Oso Parkway in the PM.
- I-5: northbound direct on ramp at Crown Valley Parkway in the PM.
- I-5: southbound off ramp at Crown Valley Parkway in the PM.
- I-5: northbound on ramp at Junipero Serra Road in the AM and PM.
- I-5: northbound on ramp at Ortega Highway in the AM and PM.
- I-5: southbound off ramp at Ortega Highway in the PM.
- I-5: northbound on ramp at Stonehill Drive in the PM.
- I-5: southbound direct on ramp at State Route 1/Camino Las Rambles in the PM.
- I-5: southbound off ramp at Camino de Estrella in the PM.
- I-5: northbound direct on ramp at Avenida Vista Hermosa in the AM.
- I-5: southbound off ramp at Avenida Vista Hermosa in the PM.
- I-5: southbound on ramp at Avenida Pico in the PM.
- SR-241: northbound on ramp at Santa Margarita Parkway in the AM.
- SR-241: southbound off ramp at Santa Margarita Parkway in the PM.
- SR-241: northbound on ramp at Antonio Parkway in the AM.

- SR-241: northbound on ramp at Oso Parkway in the AM.

Deficient Intersections

- Intersection of Muirlands Boulevard and Alicia Parkway in the AM and PM.
- Intersection of Alicia Parkway and Trabuco Road in the PM.
- Intersection of Santa Margarita Parkway and Avenida Empressa in the AM and PM.
- Intersection of Avenida Empressa and Avenida de Las Banderas in the AM.
- Intersection of Marguerite Parkway and Jeronimo Road in the AM.
- Intersection of Marguerite Parkway and La Paz Road in the PM.
- Intersection of Felipe Road and Oso Parkway in the PM.
- Intersection of Oso Parkway and Antonio Parkway in the AM and PM.
- Intersection of Cabot Road and Oso Parkway in the PM.
- Intersection of Cabot Road and Crown Valley Parkway in the PM.
- Intersection of Forbes Road and Crown Valley Parkway in the PM.
- Intersection of Marguerite Parkway and Crown Valley Parkway in the AM and PM.
- Intersection of Crown Valley Parkway and Antonio Parkway in the PM.
- Intersection of Street of the Golden Lantern and Paseo de Colinas in the AM.
- Intersection of Marguerite Parkway and Avery Parkway in the PM.
- Intersection of Camino Capistrano and Junipero Serra Road in the AM and PM.
- Intersection of Camino Capistrano and Del Obispo Street in the AM and PM.
- Intersection of Rancho Viejo Road and Ortega Highway in the PM.
- Intersection of Ortega Highway and La Novia Avenue in the PM.
- Intersection of Ortega Highway and Antonio Parkway in the AM and PM.
- Intersection of San Juan Creek Road and Valle Road in the AM.

- Intersection of San Juan Creek Road and La Novia Avenue in the AM and PM.
- Intersection of Stonehill Drive and Del Obispo Street in the AM and PM.
- Intersection of Camino Capistrano and Stonehill Drive in the AM and PM.
- Intersection of Avenida Vista Hermosa and Camino Vera Cruz in the AM and PM.
- Intersection of Avenida Vista Hermosa and Avenida La Pata in the AM.
- Intersection of El Camino Real and Camino Capistrano in the PM.
- Intersection of El Camino and Avenida Pico in the PM.
- Intersection of I-5 southbound ramps and Avery Parkway in the PM.
- Intersection of I-5 northbound ramps and Avery Parkway in the AM and PM.
- Intersection of I-5 southbound ramps and Ortega Highway in the PM.
- Intersection of I-5 northbound ramps and Ortega Highway in the AM.
- Intersection of I-5 northbound ramps and Valle Road in the AM and PM.
- Intersection of I-5 southbound ramps and Camino de Estrella in the PM.
- Intersection of I-5 southbound ramps and Avenida Pico in the AM and PM.
- Intersection of I-5 northbound ramps and Avenida Pico in the AM.
- Intersection of SR-241 southbound ramps and Santa Margarita Parkway in the PM.
- Intersection of SR-241 northbound ramps and Santa Margarita Parkway in the AM.
- Intersection of SR-241 northbound ramps and Antonio Parkway in the AM.
- Intersection of SR-241 southbound ramps and Oso Parkway in the PM.
- Intersection of SR-241 northbound ramps and Oso Parkway in the AM.

5.3 Purpose and Need for the Project.

The Collaborative member federal regulatory agencies developed and concurred with the Purpose and Need Statement (March 26, 1999) provided in this Section. FHWA, the federal lead agency for the SOCTIIP EIS/SEIR under NEPA and a member of the Collaborative, adopted this

Purpose and Need Statement. For this Statement of Overriding Considerations, tables and figures in the Purpose and Needs statement have not be included.. This was consistent with the NEPA/404 MOU process for the EIS/SEIR for the SOCTIIP and relevant federal Clean Water Act and NEPA guidelines (specifically the Purpose and Need section of an EIS [40 C.F.R. section 1502.13] and the overall project purposes considered by the ACOE [40 C.F.R. Section 230.10(a)(2)].

5.3.1 Need for the Project. Transportation infrastructure improvements are necessary to address needs for mobility, access, goods movement and projected freeway capacity deficiencies and arterial congestion in south Orange County. Freeway capacity deficiencies and arterial congestion are anticipated as a result of projected traffic demand, which will be generated by projected increases in population, employment, housing and intra- and inter-regional travel estimated by the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG).

5.3.1.1 Future Travel Demand. Traffic projections and analysis for 2020 indicate that Interstate 5 (I-5) will be operating at a deficient level of service (LOS) as defined by Caltrans. In the study area, the deficient LOS extends from Alicia Parkway to the Orange/San Diego County line, a distance of approximately 18 miles.

The 2020 traffic projections assume full implementation of the Orange County Master Plan of Arterial Highways (MPAH), improvements to I-5 such as high occupancy vehicle (HOV) lanes between State Route 1 (SR-1, Pacific Coast Highway) and Avenida Pico, and arterial highway improvements.

LOS F(0) represents a vehicle-to-capacity ratio between 1.00 and 1.25, causing a spreading of the peak period and up to one hour of stop and go traffic, which is experienced by each vehicle on the freeway. LOS F(1) represents a vehicle-to-capacity ratio between 1.26 and 1.35, causing a spreading of the peak period of between one and two hours of stop and go traffic. LOS F(2) represents a vehicle-to-capacity ratio between 1.36 and 1.45, causing a spreading of the peak period of between two and three hours of stop and go traffic. The projected future deficient LOS will result in tens of thousands of vehicle hours of delay per day. In addition to deficiencies on I-5, various arterial highway intersections and segments of the arterial highway network in the study area are projected to operate at deficient LOS as defined by the local jurisdictions. The 2020 deficient locations including I-5 and the arterial network are shown on Figure 1.5-2.

5.3.2 Purpose of the Project. The purpose of the SOCTIIP is to provide improvements to the transportation infrastructure system that would help alleviate future traffic congestion and accommodate the need for mobility, access, goods movement and future traffic demands on I-5 and the arterial network in the study area. The following are objectives in implementing the project purpose:

- Improve the projected future LOS and reduce the amount of congestion and delay on the freeway system and, as a secondary objective, the arterial network, in southern Orange County. The overall goal is to improve projected levels of congestion and delay as much as is feasible and cost

effective. This may include strategies which lead to a reduction in the length of time LOS F will occur, even if the facility will still operate at LOS F for a short period of time, if the strategy will result in benefits to the traveling public and more efficient movement of goods because it reduces total delay.

5.3.3 Regional Planning Context. The Regional Transportation Plan (RTP) prepared by SCAG is illustrative of the local desire for transportation system improvements to help satisfy future traffic demand in south Orange County and to achieve SCAG's long-range transportation planning goals to reduce traffic congestion and make regional air quality improvements. This conclusion is based on over 20 years of detailed study and analysis.

The RTP, developed in accordance with established federal requirements and policies, sets forth a multi-modal, financially achievable planning direction for southern California, including Orange County. It presents policies and improvements needed for meeting mobility goals over the next 20 years, taking into account anticipated population growth and economic developmental factors. The RTP is required by the Clean Air Act to be in conformity with the State Implementation Plan for air quality. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued their conformity findings for the SCAG RTP.

The RTP may be amended to substitute other types of transportation improvements, in any location, to satisfy future mobility goals. The SOCTIIP alternative ultimately selected to achieve the purpose defined earlier will be included in the RTP.

SANDAG is the state and federally designated MPO responsible for regional transportation planning for San Diego County. SANDAG prepares and implements two regional plans: the RTP and RTIP for San Diego County. An alignment similar to the FEC-M alignment is included in the SANDAG RTP. As defined in the SANDAG RTP, the FTC-S is described as an extension of SR-241 from Oso Parkway to I-5. Therefore, it is anticipated that any SOCTIIP Alternative which proposes an extension of SR-241 from Oso Parkway to I-5 would be consistent with the FTC-S as defined in the SANDAG RTP.

Balanced treatment will be given to all the SOCTIIP alternatives with respect to achievement of the above objectives, contribution to achieving regional air quality improvements, impacts on the natural and urban environment, feasibility and cost.

5.4 Project Objectives.

Project objectives are required as part of an EIR process under the California Environmental Quality Act (CEQA). The function of the project objectives is similar to the function of the Statement of Purpose and Need under NEPA because the objectives are applied in a similar manner to develop and evaluate project alternatives. Section 15124(b) of the CEQA Guidelines defines project objectives as:

> "A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a

statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project."

The CEQA lead agency for the SOCTIIP, the TCA, has identified the following project objectives which are consistent with the Statement of Purpose and Need and which provide further local objectives to fulfill the Statement of Purpose and Need:

- Alleviate existing and future peak hour traffic congestion on the existing circulation network in south Orange County.
- Provide benefits to the traveling public and more efficient movement of goods through a reduction in the amount of congestion and delay in southern Orange County.
- Implement the Orange County Master Plan of Arterial Highways by completing the transportation corridor system in south Orange County, between existing SR-241 and I-5.
- Minimize through traffic use of the existing arterial highway network in south Orange County by diverting traffic that cannot be accommodated on I-5 to a transportation corridor level facility rather than arterial highways. The MPAH states that transportation corridors will provide for efficient movement of traffic where projected volumes exceed major arterial capacities.
- Develop a "priced alternative to HOV lanes" to implement the air quality benefits of Transportation Control Measure (TCM)-01 in the Air Quality Management Plan, the State Implementation Plan and the Regional Transportation Plan. TCM-01 includes the toll road extension of the existing FTC-N as one of many transportation improvements listed in the AQMP. The toll road corridor alternatives are a "priced alternative to HOV lanes" which simply means that, rather than implementing HOV lanes as part of the toll roads when first constructed, the HOV lanes can be delayed and tolls can be used to encourage vehicle occupancy levels equivalent to those occurring on applicable free facilities with HOV lanes.
- Provide an alternative access route between south Orange County and central and northeastern Orange County to serve existing and developing employment centers and major attractions.
- Provide an alternative access route between south Orange County and central and northeastern Orange County for emergency evacuations and emergency service providers.
- Minimize adverse impacts related to community disruption, acquisition of residences and businesses, noise and aesthetics.

Minimize adverse impacts to the environment while recognizing the conflicting demands of different types of resources, regulatory requirements and environmental priorities in the study area.

5.5 Project Benefits.

Congestion Relief and Increased Mobility. The I-5 freeway in south Orange County, between El Toro Road and the county line, will realize considerable traffic benefits from construction of the Preferred Alternative. With implementation of the Preferred Alternative, the deficient segments are reduced to only 3 segments in the AM and 3 segments in the PM peak periods. Traffic forecasts for the year 2025 indicate that if the No Action Alternative is adopted there will be 10 deficient segments in the AM and 10 deficient segments in the PM peak hour periods along this segment of the I-5.

Another benefit of the Preferred Alternative is that the I-5 freeway segments that are deficient will remain that way for a much shorter period of time when compared to the No Action scenario. For example, in 2025 under the No Action Alternative four sections of the I-5 between Ortega Highway and Camino Estrella are forecast to experience more than 4 hours of LOS F congestion in the PM. With construction of the Preferred Alternative, only one of these segments, between Ortega Highway and Camino Capistrano, will be deficient and the time in which the congestion will last is reduced from more than four hours to two hours or less.

Traffic relief on the local arterials is also a component of the project Purpose and Need that is achieved by the Preferred Alternative. In 2025 under the No Action Alternative, there are forecast to be 13 arterial intersections that are considered deficient during AM and PM peak hours. With the Preferred Alternative the number of deficient intersections is reduced from 13 to 4 in the AM and from 13 to 6 in the PM peak hours.

Forecasts for the year 2025 indicate that traffic congestion on the I-5 and local arterials in south Orange County will increase significantly from present levels. Implementation of the Preferred Alternative will result in considerable beneficial impacts that will reduce the anticipated traffic congestion.

Compatibility with Regional Planning: The TCA evaluated the Preferred Alternative for its compatibility with the Natural Communities Conservation Plan (NCCP) and the proposed Rancho Mission Viejo Ranch Plan. The Preferred Alternative is compatible with the Ranch Plan as reflected in the Settlement Agreement because the Preferred Alternative is located adjacent to existing development or within the areas shown for development in the Ranch Plan and Settlement Agreement wherever feasible. As a result, the Preferred Alternative retains the large blocks of open space contemplated for the RMV property in the Ranch Plan and the Settlement Agreement. The NCCP is anticipated to be similar to the Ranch Plan as reflected in the Settlement Agreement. Also refer to Response to Comments Attachment 10 "SOCTIIP Analysis of the NCCP/HCP Planning Guidelines and SAMP/MSAA Watershed Planning Principles" for a complete analysis of the Preferred Alternative compatibility/consistency with NCCP/HCP reserve design guidelines and the SAMP/MSAA Watershed Planning Principles.

Improved Water Quality on I-5: I-5 currently has no water runoff treatment system in the vicinity of Trestles beach. With each storm event, untreated water from the I-5 freeway runs directly into the creeks and ocean, potentially polluting Trestles Beach. TCA will install treatment systems meeting Regional Water Quality Control Board standards on the new roadway and an approximately two-mile portion of I-5 north and south of the connection to SR-241.

SOCTIIP would construct extended detention facilities to treat the runoff from this existing portion of I-5 as well as the new connector roadways from the project. Based on engineers' calculations, nearly one million gallons of runoff per design water quality storm event (those storms with about 0.6-inch of rain) would receive treatment with the project. Over the past two years of record, about five design water quality events have occurred annually. Using this estimate, the project would treat five million gallons of water each year that currently flows untreated into San Onofre and San Mateo Creeks.

Emergency Evacuation Benefits: I-5 is the major emergency evacuation route for SONGS, and is virtually the only non-signalized evacuation route between SONGS and I-405 to the north. Ortega Highway, north of SONGS, provides a route from I-5 to the east that is two lanes and non-signalized over most of its length. The Preferred Alternative would provide an additional evacuation route from I-5, immediately south of San Clemente, to Ortega Highway and to State Route 241 (SR-241), north of Ortega Highway and east of I-5. To the north, SR-241 connects with State Route 91 to the east, affording access to Riverside and Los Angeles Counties, and connects to I-5 and I-405 to the west, providing access to the north and northwest, respectively. The Preferred Alternative would have the beneficial effect of increasing the speed at which evacuations could be completed and would provide an alternate route should I-5 become impassable for some reason.

Avoids/Minimizing Environmental Impacts:

The Preferred Alternative has the following additional environmental benefits:

- It avoids impact to high value wetlands in the Tesoro wetlands area – ramps for the Oso Parkway Interchange were shifted to the east to avoid Tesoro Wetlands.
- It avoids crossing of Cañada Gobernadora which is the location of Gobernadora Environmental Reserve Area.
- It bridges over San Juan Creek. A 2,100-foot long and 60-foot high bridge structure will cross over San Juan Creek allowing virtually unobstructed water flow and continued wildlife movement.
- It minimizes visual impacts to Talega residents by keeping the alignment behind a natural ridgeline. There was an extensive design effort to locate the alignment behind the existing ridgeline to minimize views of the road by homeowners.
- It avoids the Blind/Gabino wetlands located at the confluence of Blind Canyon and Gabino Canyon
- It avoids occupied Pacific Pocket Mouse habitat.
- It bridges over San Mateo Creek.
- TCA minimized impacts to jurisdictional waters by reducing the size and number of structural supports in San Mateo Creek by locating those required structural columns outside of high value jurisdictional resources. In order to reduce the number of structural columns, TCA maximized bridge span by increasing the structural strength of the bridge and increasing the bridge depth. The 3,200 feet

long bridge over San Mateo Creek and existing I-5 minimizes impacts to San Mateo creek and wetlands.