duration of the construction activity to ensure implementation of best management practices (BMPs).

- Construction employees will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the project and will be specified in the construction plans. Construction limits will be demarcated using environmentally sensitive area fencing (e.g., orange snow screen). Exclusion fencing should be maintained until the completion of all construction activities.
- Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
- Short-term stream diversions will be accomplished by use of sand bags or other methods that will result in minimal instream impacts. Short-term diversions will consider effects on wildlife.
- Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off site.
- No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
- The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
- The limits of disturbance, including the upstream, downstream, and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
- During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland habitats occupied by Covered Species that are outside of the project footprint will be avoided.
- Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
- Active construction areas shall be watered regularly to control dust and minimize impacts on adjacent vegetation (MSHCP Vol. I, Section 7.5.3).
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain runoff.

BIO-3: Standard Best Management Practices. MSHCP BMPs will be implemented during construction (MSHCP Volume I, Appendix C), as applicable. Some of the measures in **BIO-2** would also be considered BMPs and would apply in conjunction with the measures below.

- Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.

- The footprint of disturbance shall be minimized to the maximum extent feasible. Employees will be instructed that their activities are restricted to the construction areas. Access to sites shall be via pre-existing access routes to the greatest extent possible.
- When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream.
- Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
- Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
- The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
- The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
- To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
- The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

BIO-4: Preconstruction Nesting Bird Survey. A pre-construction nesting bird survey will be conducted no more than 3 days prior to vegetation clearing, ground disturbance, or construction activities (including staging) during the breeding season (March 1 to August 31 for non-raptors, January 1 to June 30 for raptors). The survey will occur within the 300-foot buffer area for raptors and within the 200-foot buffer area for other birds. If nesting birds (or raptors) are found, an avoidance buffer will be established by a qualified biologist and will remain until a qualified biologist has determined that young have fledged or nesting activities have ceased. This measure will be superseded by any preconstruction nesting bird survey measure(s) required in an aquatic permit (CWA 401, 404; CDFW 1602).

BIO-5: Preconstruction Bat Survey. To prevent impacts on daytime bat roosts and maternity roosts, a qualified biologist experienced with southern California bat species will conduct bat and bat roosting site surveys prior to removal of mature trees. This preconstruction survey will be conducted at any mature tree proposed for removal and within any man-made structure (e.g.

bridges and culverts) that would be suitable for bat species within 100 feet of the project impact area/limits of disturbance (PIA/LOD). If roosting sites or bats are not found, a report confirming their absence will be sent to the CDFW and no further mitigation will be required.

If the preconstruction survey determines bats are roosting, and tree removal is scheduled to occur between October 1 and March 30 (outside of the maternity season of April 1 through September 30), the following two-step cutting process would occur to the tree roost:

1. Surrounding branches that do not house bats at the time that the eviction would occur would be removed. This would alter the condition of the roost tree, causing bats to abandon the roost.
2. The tree can then be fully removed. A visual inspection of the roost tree would be required prior to removal to verify that all bats have been successfully excluded. This work will be completed by a bat exclusion professional.

If the preconstruction survey finds bats to be roosting and tree removal is scheduled to occur during the maternity season (April 1 through September 30), a qualified biologist will monitor the roost to determine if the roost site is a maternal roost. This may be determined by either visual inspection of the roost for bat pups, if possible, or monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats will be evicted as described above. If the roost is determined to be a maternal roost, eviction cannot occur during the nursery season, as bat pups cannot leave the roost until they have reached maturity. In this case, a 250-foot-wide buffer zone (or an alternative width, as determined in consultation with CDFW) will be established around the roosting site, within which no construction-related impacts will occur until the bat pups are mature enough to permanently leave the roost.

If bat roosts are found within man-made structures during the maternity season (April 1 through September 30), no work will be permitted. In this case, a 250-foot-wide buffer zone (or an alternative width, as determined in consultation with CDFW) will be established around the roosting site, within which no construction-related impacts will occur until the bat pups are mature enough to permanently leave the roost. If the roost is determined to not be a maternal roost, then bats will be evicted by a bat exclusion professional.

2.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Regulatory Setting

The National Historic Preservation Act (NHPA) of 1966 , as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation [36 Code of Federal Regulations (CFR) 800]. On January 1, 2014, The First Amended Section 106 Programmatic Agreement (PA) between the Advisory Council, the Federal Highway Administration (FHWA), State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as CA Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet the National Register of Historic Places listing criteria. It further specifically requires the Department to inventory state-owned structures in its rights-of-way.

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.5.1 Discussion of Environmental Evaluation Question 2.5 – Cultural Resources

The information used in this section is from the November 2013 *I-15/Limonite Avenue Interchange Improvement Project Historic Property Survey Report (HPSR)* (Caltrans 2013d) and *I-15/Limonite Avenue Interchange Improvement Project Archaeological Survey Report (ASR)* (Caltrans 2013b).

a) No Impact: According to the HPSR, the Department has determined that a finding of no impact is appropriate for the project because there are no historical resources within the project area limits, pursuant to CEQA Guidelines §15064.5(b)(3). As assigned by FHWA, the Department has determined a Finding of No Historic Properties Affected according to Section 106 PA Stipulation IX.A and 36 CFR 800.4(d)(1) is appropriate for this undertaking, and is hereby notifying the SHPO of this finding. The Department has determined that there are no State-owned cultural resources within the project area of potential effect (APE).

b) No Impact: According to the ASR, there is a low likelihood of encountering subsurface archaeological material during activities associated with the proposed project. This was concluded because there has been past disturbance of the project area by construction and agricultural activities and the records search showed that no resources have been recorded within the APE and a field survey yielded no archaeological resources within the APE. Therefore, the proposed project would not cause a change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5.

The results of the literature and records search indicate that no cultural resources have been identified within the APE and one historic power line (Site #33-16681/13627/30-179857) is recorded adjacent to the APE. In addition to the literature and records search, the Native American Heritage Commission (NAHC) was contacted on October 17, 2012. The NAHC stated that a search of their Sacred Lands Database did not yield any sacred lands or traditional cultural properties within the project area.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

c) Less than Significant Impact with Mitigation: Refer to Section 2.6, Paleontology.

d) No Impact: Based on the results of the cultural resource record searches, surveys, and Native American Consultation detailed in the HPSR and ASR, there are no human remains within the project APE that would be affected by the proposed project.

If human remains are discovered, the provisions of **CR-2** below will be followed.

2.5.2 Avoidance, Minimization, and/or Mitigation Measures

The following standard avoidance and/or minimization measures will be implemented to minimize potential cultural resource impacts:

CR-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

CR-2: If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), which will then notify the Most Likely Descendent (MLD). The person who discovered the remains will contact the District 08 Division of Environmental Planning; Gabrielle Duff, DEBC: (909) 383-6933 and Gary Jones, DNAC: (909) 383-7505. Further provisions of PRC 5097.98 are to be followed as applicable.

2.6 Paleontological Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V(c). CULTURAL RESOURCES: Would the project:				
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

2.6.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.6.2 Discussions of Environmental Evaluation Question 2.5 – Cultural Resources

The information used in this section is from the October 2013 *I-15/Limonite Avenue Interchange Improvement Project Combined Paleontological Identification Report/Paleontological Evaluation Report (PIR/PER)* (Caltrans 2013e)

C) Less Than Significant with Mitigation. As detailed in the PIR/PER, the proposed project is located in an area of high paleontological sensitivity. The young eolian deposits (Qye) and very old alluvial channel deposits (Qoa) within the project site have the potential to contain paleontological resources. It is possible that construction of the proposed project, in particular excavation for widening and replacement of the Overcrossing structure, would potentially result in negative impacts on these deposits, which have been assigned a high paleontological resource sensitivity. In order to reduce these impact, a Paleontological Mitigation Plan (PMP) (Measure PALEO-1) will be prepared and implemented.

2.6.3 Avoidance, Minimization, and/or Mitigation Measures

PALEO-1: A PMP shall be developed and implemented prior to commencement of project construction. The PMP shall follow the guidelines of the Department and the recommendations of the Society of Vertebrate Paleontology (SVP). These recommendations include:

- Attendance by a qualified paleontologist at the preconstruction meeting to consult with the grading and excavation contractors.

- On-site presence of a paleontological monitor to inspect for paleontological resources on a full-time basis during the original cutting of previously undisturbed deposits of high paleontological resource potential and on a part-time basis during the original cutting of previously undisturbed deposits of low paleontological resource potential.

- Salvage and recovery of paleontological resources by the qualified paleontologist or paleontological monitor.

- Collection of stratigraphic data by the qualified paleontologist and/or paleontological monitor to provide a stratigraphic context for recovered paleontological resources.

- Preparation (repair and cleaning), sorting, and cataloguing of recovered paleontological resources.

- Donation of prepared fossils, field notes, photographs, and maps to a scientific institution with permanent paleontological collections, such as the San Bernardino County Museum (SBCM).

- Completion of a final summary report that outlines the results of the mitigation program.

- The PMP shall also incorporate the general guidelines for conformable impact mitigation to significant nonrenewable paleontological resources as developed by the SVP (1995). A PMP shall be prepared and submitted to the Department for review during the Plans, Specifications, and Estimates (PS&E) phase of the project.

2.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste-water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

Earthquakes are prime considerations in the design and retrofit of structures. The Department's Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. Structures are designed using the Department's Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

2.7.1 Discussion of Environmental Evaluation Question 2.6 – Geology and Soils

The information used in this section is from the September 2013 Preliminary Geotechnical Design Report for the I-15/Limonite Avenue Interchange Improvement Project (GEOCON 2013) and the January 2014 Preliminary Materials Report for the I-15/Limonite Avenue Interchange Improvement Project (GEOCON 2014).

a. i) **No Impact:** The proposed project area is not within or adjacent to an Alquist-Priolo Earthquake Fault Zone. In addition, the project area is not located on any known "active" earthquake fault trace. Therefore, the potential to expose people or structures to adverse effects from ground rupture due to on-site active faulting is considered to be low, and no impacts are anticipated.

a. ii) **Less than Significant Impact:** The project area is within a seismically active region of Southern California and would therefore experience the effects of seismic ground shaking. The nearest known active fault to the project area is the Chino fault, which is part of the Elsinore Fault Zone and extends from the City of Corona to Chino Hills. The Chino fault is capable of generating a magnitude 6.0 to 7.0 earthquake[4]. Fill slopes associated with the project would be graded and compacted in accordance with the Department's standard specifications to ensure avoidance of unstable earth surfaces. Compliance with the most current Department procedures regarding seismic design, which is standard practice on all Department projects, is anticipated to prevent any adverse effects related to seismic ground shaking. Seismic design would also meet County requirements under the Uniform Building Code (UBC). Therefore, through the incorporation of standard seismic design practices, the proposed project would result in a less than significant impact.

a. iii) **No Impact:** Liquefaction is a destructive secondary effect of strong seismic shaking. It occurs primarily in loose, saturated, fine- to medium-grained soils in areas where the groundwater table is within approximately 50 feet of the ground surface. Shaking causes the soils to lose strength and behave as liquid. Based on a review of as-built information, groundwater was not encountered within 65 feet of the ground surface and site soils were found to be dense to very dense. Groundwater at the project site is expected to be approximately 75 feet below ground surface. Therefore, the risk for liquefaction at the site is low. Since the potential for liquefaction is low, the potential for lateral spreading and other secondary effects, such as seismic-induced settlement, is also low. To confirm these preliminary conclusions, a comprehensive geotechnical study, including a field investigation and laboratory soil testing, would be performed during the PS&E phase of the proposed project. Any recommendations arising from that study would be implemented into the proposed project. No impact as a result of liquefaction is anticipated.

a.iv) **No Impact:** The project area is relatively flat and there would be a low probability for a landslide. Therefore, the proposed project would result in no impact.

[4] Southern California Earthquake Data Center. www.data.scec.org/significant/chino.html.

b) **Less than Significant Impact:** Approximately 51.4 acres of land would be cleared and grubbed, and an additional 3 acres of soil would be disturbed due to removal of existing pavement, under the proposed project. As a result of these activities, soil could be exposed to rain and wind, potentially causing accelerated erosion and loss of topsoil from the project site. Federal and state jurisdictions require that an approved Storm Water Pollution Prevention Plan (SWPPP) be prepared for projects that involve greater than one acre of disturbance. A SWPPP specifies BMPs that would minimize erosion and keep all products of erosion from moving off site into receiving waters. Earthwork in the project area would be performed in accordance with the most current edition of the Department's Standard Specifications, the project SWPPP, and the requirements of applicable government agencies, thereby minimizing impacts to less than significant levels under the proposed project.

c) **No Impact:** The project would not be located on a geologic unit that is unstable or that would become unstable as a result of the project. As discussed above under Responses (a.iii) and (a.iv), the project is in an area that has low potential for liquefaction and subsidence and low probability of a landslide. Since the potential for liquefaction is low, the potential for lateral spreading and other secondary effects, such as seismic-induced settlement and collapse, is also low. A comprehensive geotechnical study, including a field investigation and laboratory soil testing, would be performed during the PS&E phase of the proposed project to confirm these findings. Any recommendations arising from that study would be implemented into the proposed project. Therefore, there would be no impact as a result of unstable geologic units.

d) **Less than Significant Impact:** Soils within the project area are generally sandy loams, which show little change as moisture changes. Therefore, it is anticipated that the proposed project would not be constructed on expansive soils. However, a comprehensive geotechnical study, including a field investigation and laboratory soil testing, would be performed during the PS&E phase of the proposed project. Any recommendations arising from that study would be implemented into the proposed project. Therefore, the project would result in less than significant impacts.

e) **No Impact:** The proposed project is an interchange improvement project and would not require septic tanks or water disposal systems.

2.7.2 Avoidance, Minimization, and/or Mitigation Measures

Measures **WQ-1** through **WQ-4** (from Section 2.9.2) would be implemented to minimize soil erosion.

2.8 Greenhouse Gas Emissions

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	While the Department has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is the Department's determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. The Department does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined below.

2.8.1 Discussion of Environmental Evaluation Question 2.7 – Greenhouse Gas Emissions

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[5].

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower GHG-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.[6]

[5] http://climatechange.transportation.org/ghg_mitigation/
[6] http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Regulatory Setting

This section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with GHG emissions and climate.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order (EO) S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by the 2020, and 3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

Federal

Although climate change and GHG reduction are a concern at the federal level; currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG analysis.[7] FHWA supports the approach that climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by FHWA to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and EO 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions. U.S. EPA in conjunction with NHTSA issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.[8]

The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced

[7] To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.
[8] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of GHG emissions.

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

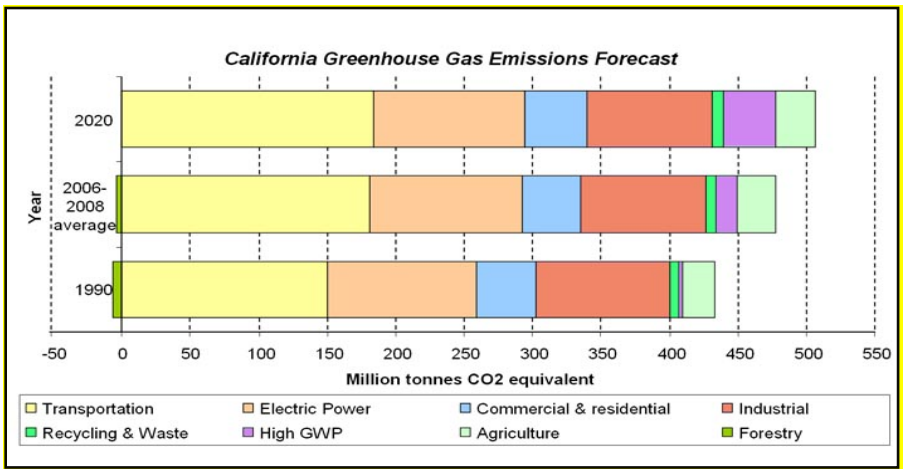
Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.[9] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, the ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

[9] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Figure 6. California Greenhouse Gas Forecast



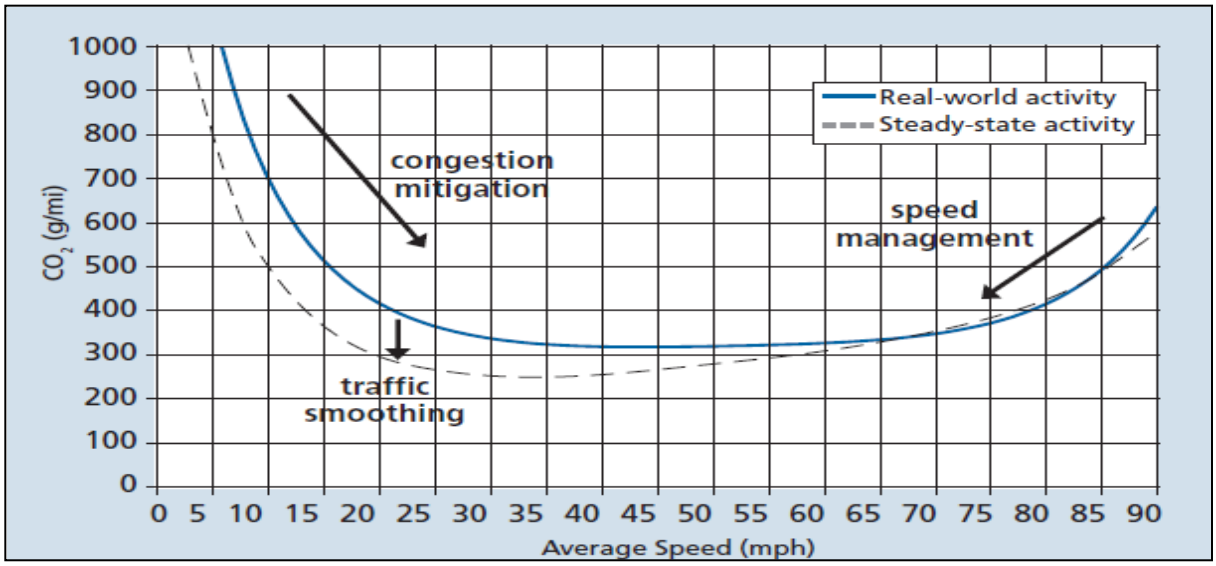
Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

The Department and its parent agency, the Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[10]

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide (CO_2) from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 7 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors GHG emissions, particularly CO_2, may be reduced.

[10] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Figure 7. Possible Effect of Traffic Operation Strategies in Reducing On-Road CO_2 Emission[11]



Using EMFAC2011 emission factors within CT-EMFAC and traffic data provided by the traffic engineer (Dokken Engineering 2011), CO_2 emissions were forecast based on Baseline/Existing Year 2011, Opening Year 2018, and Horizon Year 2040 traffic conditions. The forecast of CO_2 emissions under the Build Alternative and No-Build Alternative is provided in Table 2-2. As shown in Table 2-2, the modeled CO_2 emissions at Opening Year 2018 and Horizon Year 2040 are higher than those for the Baseline/Existing Year 2011, which is attributed to the growth in VMT. When compared to the No-Build Alternative, CO_2 emissions are predicted to be less under the Build Alternative at Opening Year 2018 and Horizon Year 2040. It is important to note that these modeled CO_2 emission estimates are useful only for comparison between project alternatives. These estimates are not necessarily an accurate reflection of what the true CO_2 emissions will be because CO_2 emissions are dependent on other factors that are not part of the model, such as the fuel mix,[12] rate of acceleration, and the aerodynamics and efficiency of the vehicles.

The 2012–2035 RTP/SCS includes strategies to reduce VMT and associated per capita energy consumption from the transportation sector as well as mitigation measures related to energy that are designed to reduce consumption and increase the use and availability of renewable sources of energy in the region (Southern California Association of Governments 2012a). Potential mitigation programs identified in the 2012–2035 RTP/SCS to reduce GHG emissions include increased construction of infrastructure and automobile fuel efficiency to accommodate increased use of alternative-fuel motor vehicles as well as coordinating transportation, land use, and air quality planning to reduce VMT, energy use, and GHG emissions (Southern California Association of Governments 2012a).

[11] Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin (TR News 268 May-June 2010)<http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>

[12] EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle. Fuel cycle emission rates can vary dramatically, depending on the amount of additives like ethanol and the source of the fuel components.

Table 2-2. Summary of CT-EMFAC-Modeled CO_2 Emissions

Scenario	Tons per Year CO_2 Emissions
Baseline/Existing 2011	25,358
2018 No-Build Alternative	30,556
2018 Build Alternative	30,353
2040 No-Build Alternative	62,758
2040 Build Alternative	59,749
Build Alternative Increase/(Decrease) Compared to Baseline/Existing Year 2011	
2018 Build Alternative vs. Baseline/Existing	4,996
2040 Build Alternative vs. Baseline/Existing	34,391
Build Alternative Increase/(Decrease) Compared to No-Build Alternative	
2018 Build Alternative vs. 2015 No-Build Alternative	(202)
2040 Build Alternative vs. 2035 No-Build Alternative	(3,009)
Source: Compiled by ICF International using traffic data provided by Dokken Engineering 2013 Calculation worksheets provided in Appendix F of the Air Quality Report.	

The EIR for the 2012–2035 RTP/SCS performed a GHG emission reduction strategy consistency analysis to evaluate impacts related to climate change associated with the 2012–2035 RTP/SCS. This consistency analysis evaluated consistency with the ARB; Public Utilities Commission; Business, Transportation, and Housing Agency; State and Consumer Services Agency; and EPA GHG reduction strategies and found that impacts on climate change are considered significant even with implementation of mitigation measures. To help mitigate impacts associated with the 2012–2035 RTP/SCS, SCAG identified mitigation measures to mitigate the impacts of growing transportation energy demand associated with the RTP (Southern California Association of Governments 2012a). Measures identified in the RTP that are applicable to the project are reflected under Air Quality (Section 2.3), Measures **AQ-6** and **AQ-15**; Biological Resources (Section 2.4), Measure **BIO-2**; and Public Services (Section 2.14), Measures **PS-2** through **PS-8**.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

A qualitative analysis of construction-related emissions was provided in Section 3.2.2.1 of the Air Quality Report. As stated in Section 3.2.2.1, construction emissions of criteria pollutants are considered temporary emissions. This is not the case with GHGs because of the cumulative nature of GHGs, which remain in Earth's atmosphere long after the time of emission. As detailed in the construction emissions calculation worksheet provided in Appendix F of the Air Quality

Report, approximately 1,444 metric tons of CO_2 emissions associated with proposed project construction would be emitted into the atmosphere with construction of the Build Alternative.

CEQA Conclusion

While the project would result in an increase in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. When compared with the No-Build Alternative, CO_2 emissions are predicted to be less under the Build Alternative at Opening Year 2018 and Horizon Year 2040. While it is the Department's determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change, the Department is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following sections.

Greenhouse Gas Reduction Strategies

AB 32 Compliance

The Department continues to be involved on the Governor's Climate Action Team as the ARB works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from Former Governor Arnold Schwarzenegger's Strategic Growth Plan for California The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in GHG emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 8: The Mobility Pyramid.

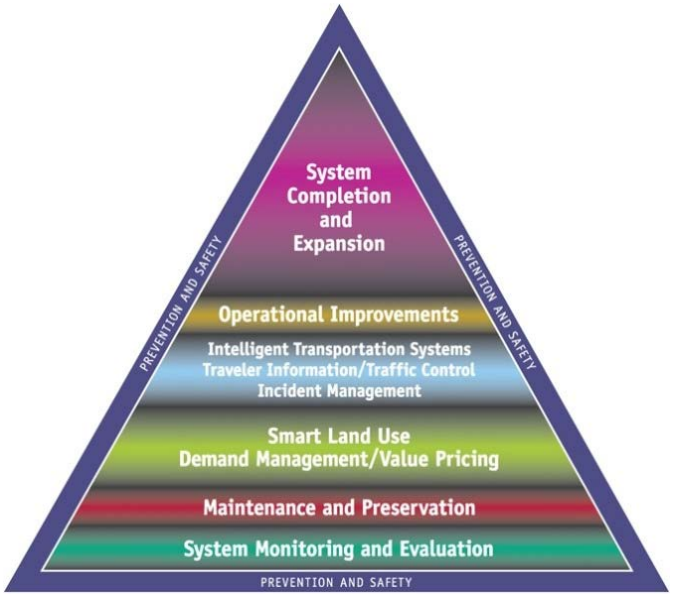


Figure 8. Mobility Pyramid

The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. The Department works closely with local jurisdictions on planning activities, but does not have local land use planning authority. The Department also assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by

supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. EPA and ARB.

The Department is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill (SB) 375 (Steinberg 2008), SB 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill (AB) 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas (GHG) emissions. The CTP defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the CTP is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the CTP 2040 will identify the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the State's transportation needs.

Table 2-3 summarizes the Department and statewide efforts that it is implementing to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 2-3. Climate Change/CO_2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings Million Metric Tons (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)[13] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures will be implemented as benefits under other sections in this Initial Study to reduce the GHG emissions and potential climate change impacts from the project:

1. The Department and the California Highway Patrol are working with regional agencies to implement intelligent transportation systems (ITS) to manage the efficiency of the existing highway system. ITS is commonly referred to as electronics, communications, or information processing, used singly or in combination, to improve the efficiency or safety of a surface transportation system. This is included under Public Services (Section 2.14) in Measure **PS-2**.

2. Landscaping reduces surface warming and, through photosynthesis, decreases CO_2. The project proposes planting in the intersection slopes and drainage channels and seeding in areas adjacent to frontage roads. Planting a variety plant material and scattered skyline trees of different sizes, where appropriate, would not obstruct views of the mountains. This is included under Aesthetics (Section 2.1) in Measure **AES-5**.

3. The project would incorporate the use of energy-efficient lighting, such as LED traffic signals. LED bulbs—or balls, in the stoplight vernacular—cost $60 to $70 apiece but last five to six years compared with the one-year average lifespan of the incandescent bulbs that were previously used. The LED balls themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the project's CO_2 emissions.[14] This is included under Public Services (Section 2.14) in Measure **PS-2**.

4. According to the Department's Standard Specification Provisions, the contractor must comply with all local Air Pollution Control District's (APCD) rules, ordinances, and regulations regarding air quality restrictions. This is included under Air Quality (Section 2.3) in Measures **AQ-1**, **AQ-2**, **AQ-4**, and **AQ-6**.

Adaptation Strategies

"Adaptation strategies" refer to how the Department and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

[13] http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml
[14] Knoxville Business Journal, "LED Lights Pay for Themselves," May 19, 2008 at http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data

All projects that have filed a Notice of Preparation (NOP) as of the date of the EO S-13-08, and/or are programmed for construction funding through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines.

The proposed project is programmed for construction funding after 2013. As such, it is not exempt at this time from requirements to analyze the impacts of sea-level rise directed in Executive Order S-13-08. The Vulnerability of Transportation Systems to Sea-Level Rise (Caltrans 2009) report suggests that by 2100, sea-level rise along the California coast could be as much as 55 inches. Given the proposed project's distance from the coastal zone, impacts related to sea-level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

2.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires; including where wildlands are adjacent to urbanized areas, or where residences are intermixed with wildlands?	☐	☐	☐	☒

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992

- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean up of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

2.9.1 Discussion of Environmental Evaluation Question 2.8 – Hazards and Hazardous Materials

The information used in this section is from the August 2013 *Hazardous Waste Initial Site Assessment (ISA) for the I-15/Limonite Avenue Interchange Improvement Project* (Dokken 2013a), December 2015 *I-15 Limonite Interchange Improvement Project Initial Site Assessment Addendum Memorandum* (Dokken 2015), August 2013 *Final Aerially Deposited Lead Report* (Dokken 2013e), *City of Eastvale General Plan* (June 2012), and *Riverside County General Plan* (2013) [15].

[15] The Riverside County General Plan was officially adopted in October 2003, and is currently undergoing revisions. For purposes of this IS, the online version of the General Plan, which has an effective date of August 20, 2013, was utilized and referenced.

a) Less than Significant Impact: According to the ISA and ISA Addendum Memorandum, several Recognized Environmental Conditions (RECs) are located within the proposed project boundaries, as described in Table 2-4. None of the RECs within the project area have Activity and Use Limitations (AULs).

Table 2-4. Recognized Environmental Conditions

Location	Description of REC Evidence Found
Limonite Avenue bridge structure over I-15	Potential for Asbestos Containing Materials (ACM). New uses of ACM were banned by the EPA in 1989. Revisions to regulations issued by the Occupational Safety & Health Administration (OSHA) on June 30, 1995, require that all thermal systems insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered Presumed Asbestos Containing Materials (PAC) and treated accordingly. In order to rebut the designation as PAC, OSHA requires that these materials be surveyed, sampled, and assessed in accordance with 40 CFR 763 (Asbestos Hazard Emergency Response Act [AHERA]). ACM have also been documented in the rail shim sheet packing, bearing pads, support piers, and expansion joint material of bridges.
Existing roadways within project boundaries including I-15 and associated on- and off-ramps to Limonite Avenue, Hamner Avenue, Wineville Avenue, and the Park & Ride facility within the project boundaries.	Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic stripe and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and require disposal in a Class I disposal site.
Various pole- and pad-mounted electrical transformers within or immediately adjacent to the project boundaries.	Potential polychlorinated biphenyls (PCB)'s in pole- or pad-mounted electrical transformers. As of the date of the ISA, the existence and/or levels of PCB's associated with the pole- or pad-mounted electrical transformers, which may be encountered within the planned construction area, had not been determined.
The Gas Company high pressure gas pipeline located adjacent to, and parallel to the north side of Limonite Avenue (just west of I-15 and eastward) and crossing to Limonite to parallel the south side of Limonite Avenue westward beyond Hamner Avenue.	Potential explosive hazard associated with The Gas Company pipeline should construction activities extend into the pipeline easement.
Chevron gas station (located at the southwest quadrant of the intersection of Eastvale Gateway and Limonite Avenue), Ralphs gas station (located in the southwest quadrant of the intersection of Limonite Avenue and Hamner Avenue), and Vons gas station (located off the east side of Hamner Avenue approximately 700 feet north of Limonite Avenue).	Potential for underground fuel storage tank leaks from existing gas stations and other businesses that store fuel within or near to the project boundaries. At the time of the ISA, there was no documented evidence of soil or groundwater contamination associated with the existing gas stations adjacent to, or near the project study area.
Median of I-15 at Limonite Avenue Overcrossing	Intermittent soil staining observed along unpaved shoulder and median.
Source: Dokken Engineering 2013, 2015	

Soil samples from the project area were collected and analyzed for aerially deposited lead (ADL) and agricultural chemicals. None of the soil samples within the Limonite Interchange Project area were found to contain lead concentrations that exceeded the total threshold limit

concentrations (TTLC) of 50 milligrams per kilogram (mg/kg). It was concluded that the soil does not represent significant environmental or health hazards, and according to the Department of Toxic Substances Control (DTSC) variance issued to the Department, can be classified as soil type X, non-hazardous, and can be reused on site. Based on a site reconnaissance, potential RECs within the project boundaries included potential pesticide and herbicide residuals in soils at agricultural properties. Soil samples were acquired from the affected agricultural parcels and analyzed in the laboratory for the presence and levels of agricultural chemicals. Four soil samples were acquired and sent to the laboratory. No agricultural chemicals were detected at or above the reporting limit from the four samples acquired from the agricultural parcels (Assessor's Parcel Numbers [APNs] 160-050-031, 160-050-050, and 160-050-049). Results of the laboratory analysis of the soil samples utilized U.S. EPA or other Environmental Laboratory Accreditation Program (ELAP) approved methodologies. Field sampling of asbestos and traffic striping paint was collected and analyzed in a laboratory. The results indicated that no asbestos was detected in the samples collected from the survey and traffic striping paint sampled during the survey would not be considered California or Federal hazardous based on lead and other metal content.

As no asbestos was detected from the field samples, the Cal/OSHA asbestos standards do not apply for planned activities. Demolition debris would not be considered a California hazardous waste based on asbestos content. Regardless of whether asbestos is present or not, written notification to the South Coast Air Quality Management District is required ten working days prior to commencement of any demolition activities. Furthermore, traffic striping paint sampled and tested would not be considered hazardous, however, it is recommended that all paints be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. Standard measures and recommendations to address hazardous waste/materials are in included in Section 2.8.2 below.

b) Less than Significant Impact: As discussed under Response (a), the proposed project would not involve hazardous materials, and no hazard to the public or environment is foreseen. Field sampling of asbestos and traffic striping paint was collected and analyzed in a laboratory. The results indicated that no asbestos was detected in the samples collected. Regardless of whether asbestos is present or not, written notification to the South Coast Air Quality Management District is required ten working days prior to commencement of any demolition activities. Traffic striping paint sampled during the survey would not be considered California or Federal hazardous based on lead and other metal content. However, it is recommended that all paints be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. Compliance with state and federal regulations would make this a less than significant impact. Standard measures and recommendations to address hazardous waste/materials are in included in Section 2.8.2 below.

c) No Impact: There are no schools within one mile of the proposed project; therefore, the

proposed project would not emit or handle hazardous substances within one-quarter mile of a school site.

d) No Impact: Government Code 65962.5 is known as the Cortese List. The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with Underground Storage Tanks (USTs) having a reportable release and all solid waste disposal facilities from which there is known migration. A review of the Environmental Data Resources (EDR) report listing known hazardous substance sites within one mile of the project area was conducted as part of the ISA and ISA Addendum Memorandum preparation. The ISA indicated two Cortese sites were reported within a one-mile radius of the project area. Neither of these sites is located within or adjacent to the project area. The first was a gasoline spill at 5800 Hamner Avenue (Swan Lake Texaco). The case has since been cleaned up and closed and is not considered a REC. The second site is at 6500 Hamner Avenue (Western Sky Dairy). No release or cleanup information was reported. The site is not considered an REC for the proposed project. The ISA Addendum Memorandum indicated seven new sites within one mile of the project site. No violations were reported for the seven sites. Therefore, the proposed project is not located on a site included on a list compiled pursuant to Government Code 65962.5, and no impact would result.

e) No Impact: The proposed project is located outside of the easternmost boundary of the Chino Airport Influence Area. The proposed project would not result in a safety hazard for people residing or working in the area.

f) No Impact: The proposed project is not within the vicinity of a private airstrip; therefore, no impact would occur.

g) Less than Significant Impact: The proposed project would improve the ability of emergency service providers to serve the community as it would reduce congestion in the interchange area, which would likely reduce response times for these services. Therefore, it would not interfere with an emergency response or evacuation plan. However, emergency response times could increase temporarily during construction of the proposed project due to increased congestion in the area of the Limonite Interchange, which could interfere with emergency response and evacuation plans. This impact would be temporary and would be less than significant with the implementation of a Traffic Management Plan (TMP).

h) No Impact: The proposed project would improve an existing interchange and would not expose people to a greater risk of loss, injury, or death due to wildland fires than presently exists.

2.9.2 Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required; however, the following avoidance and/or minimization measures will be implemented to minimize potential impacts:

- **HAZ-1:** To avoid impacts from pavement striping during construction, testing and removal requirements for yellow striping and pavement marking materials shall be performed in accordance with the Department's Standard Special Provision 15-2.02C(2) "REMOVE TRAFFIC STRIPES AND PAVEMENT MARKINGS CONTAINING LEAD". This Standard Special Provision requires a lead compliance plan for removal when residue is non-

hazardous.

- **HAZ-2:** Any leaking transformers observed during the course of the project shall be considered a potential PCB hazard. Should leaks from electrical transformers (that will either remain within the construction limits or will require the removal and/or relocation) be encountered during construction, the transformer fluid shall be sampled and analyzed by qualified personnel for detectable levels of PCBs. Should PCBs be detected, the transformer shall be removed and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Any stained soil encountered below electrical transformers with detectable levels of PCBs shall also be handled and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency.
- **HAZ-3:** Based on preliminary plans, right of way acquisition is not expected at the Chevron Gas Station, which is immediately adjacent to the project on the southwest corner of Limonite Avenue and Eastvale Gateway. Should final plans indicate that a portion of this parcel will be acquired for new right of way, a preliminary environmental screening (limited subsurface sampling and laboratory analysis) shall be performed for potentially elevated levels of petroleum hydrocarbons and methyl tertiary butyl ether (MTBE) contamination within the limits of proposed construction, and/or right of way acquisition, adjacent to the existing Chevron Gas Station. Should the preliminary screening encounter elevated levels of petroleum hydrocarbons and/or MTBE, a limited Phase II ISA shall be performed. The Phase II ISA shall consist of subsurface sampling and laboratory analysis and be of sufficient quantity to define the extent and concentration of contamination within the areal extent and depths of planned construction activities adjacent to the existing Chevron Gas Station. The Phase II ISA shall also provide both a Health and Safety Plan for worker safety and a Work Plan for handling and disposing contaminated soil during construction.
- **HAZ-4:** Should any previously unknown hazardous waste/material be encountered during construction, the Department's *Hazards Procedures for Construction* shall be followed.
- **HAZ-5**: In accordance with Section 112 of the Clean Air Act, which established the National Emission Standards for Hazardous Air Pollutants (NESHAP), specific work practices will be followed during demolitions and renovations of all facilities. As such, written notification to the South Coast Air Quality Management District is required ten working days prior to commencement of any demolition.

2.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area, structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding; including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[16] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of

[16] A point source is any discrete conveyance such as a pipe or a man-made ditch.

storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations [CFR] 40 Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[17] standards, jeopardize the continued existence of listed species, violate marine

[17] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department's MS4

permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (BMPs). The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

For the project area outside the Department's right of way, the post-construction stormwater requirements will be in compliance with the NPDES No. CAS618033, Order No. R8-2010-0033.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit **unless the project disturbs more than one acre but less than five acres and qualifies for erosivity waiver**. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

The practicability of alternatives to any longitudinal encroachments.

Risks of the action.

Impacts on natural and beneficial floodplain values.

Support of incompatible floodplain development.

Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

2.10.1 Discussion of Environmental Evaluation Question 2.9 – Hydrology and Water Quality

The information used in this section is from the June 2013 *Location Hydraulic Study for the I-15/Limonite Avenue Interchange Improvement Project* (Dokken 2013c) and the July 2013 *Final Scoping Questionnaire for Water Quality Issues for the I-15/Limonite Avenue Interchange Improvement Project* (Dokken 2013b).

a) No Impact: Under the proposed project, Limonite Avenue would be widened, thereby increasing impervious surface area. The additional 7.1 acres of impervious surface area would increase stormwater runoff, which could contain various visible, floating, suspended, and/or petroleum product pollutants. Construction activities associated with the proposed project could result in sediment or other construction-related pollutants from contaminated runoff.

The conceptual roadway drainage system would continue to direct stormwater runoff in a north to south direction as it does currently. Along I-15, water would be captured by inlets and overside drains and conveyed to roadside ditches. These ditches would direct water to the south where it discharges to the Santa Ana River, which is the receiving water body. Similarly, along Limonite Avenue, runoff would be collected by inlets and conveyed via storm drain pipes south to the Santa Ana River. Permanent treatment BMPs such as biofiltration strips or swales and infiltration and/or detention basins are anticipated to be located within the available areas provided by the loop ramps, or as the interchange configuration would allow, and would be used to improve water quality and reduce the peak flow runoff from the project site. In order to ensure that no water quality standards or discharge requirements are violated, the proposed project would be required to implement temporary construction BMPs (refer to Measures **WQ-1**, **WQ-2**, and **WQ-4**), which are standard practices for erosion and water quality control. The BMPs would be included in the project-specific SWPPP and would provide adequate protection against water quality degradation during construction.

The construction activities of the proposed project would also be required to comply with the California Construction General Permit, NPDES Number CAS000002, Order No. 2009-0009-DWQ. Additionally, for the post-construction stormwater runoff requirements, the proposed project area within the Department's right of way would be required to comply with NPDES No. CAS000003, Order No. 2012-0011-DWQ, and the proposed project area outside the Department's right of way would comply with NPDES No. CAS618033, Order No. R8-2010-0033. Implementation of Measures **WQ-1** through **WQ-4**, which are standard practice on all Department projects, would ensure that potential water quality impacts are minimized or avoided. Therefore, the proposed project would not violate any water quality standards or waste discharge requirements, and no impacts are anticipated.

b) No Impact: The Department of Water Resources (DWR) database of groundwater elevations identifies groundwater at an elevation of approximately 575 feet at the two closest monitoring wells to the project site, less than 2 miles away. Ground elevations at the project site are generally around 650 feet. Therefore, it is expected that groundwater is approximately 75 feet below ground surface. Groundwater was not observed in any of the borings performed at the project site. Borings were made to a maximum of 70 feet. The

proposed project would not require the use of groundwater, nor would it deplete the recharge of groundwater. Therefore, the proposed project would have no impact on groundwater or groundwater supplies.

c) Less than Significant Impact: The widening of Limonite Avenue would contribute to an increase in impervious surface area, which would result in additional stormwater runoff. The drainage system would continue to direct stormwater runoff in a north/south direction as it does currently. It is not anticipated that this project would result in hydrologic impacts on the Santa Ana River—the downstream receiving body—because the anticipated proposed infiltration and/or detention basins would reduce the post-project peak flows, and any increase in roadway contaminants that could ultimately affect surface water quality would be minimized with implementation of Measures **WQ-1** through **WQ-4**. With implementation of Measures WQ-1 through WQ-4, the project would not result in substantial erosion or silt, on- or off-site. Therefore, the proposed project would have a less than significant impact on the drainage pattern of the area, and would not result in substantial siltation or erosion on or off site.

d) Less than Significant Impact: The proposed project would result in an increase in impervious surface area and runoff. However, due to the implementation of detention or infiltration basins and implementation of Measures **WQ-1** through **WQ-4**, it is not anticipated that the project would result in hydrologic impacts, such as flooding, on the Santa Ana River or project area because of the increased runoff. As a result, the proposed project would have a less than significant impact on the drainage pattern of the area and would not result in substantial flooding on or off site due to runoff.

e) Less than Significant Impact: The proposed project would result in an increase in impervious surface area (7.1 acres), which would result in an increase in stormwater runoff. As mentioned earlier in Response (a), the conceptual roadway drainage system would continue to direct stormwater runoff in a north to south direction as it does currently. Along I-15, water would be captured by existing inlets and overside drains and conveyed to roadside ditches that direct water to the south where it discharges to the Santa Ana River. Along Limonite Avenue, runoff would be collected by inlets and conveyed via storm drain pipes south to the Santa Ana River. Permanent treatment BMPs such as biofiltration strips or swales and infiltration and/or detention basins are anticipated to be located within the available areas provided by the loop ramps, or as the interchange configuration would allow, and would be used to improve water quality and reduce the peak flow runoff from the project site. Therefore, the project would result in less than significant impacts related to the capacity of existing and planned stormwater drainage systems. In addition, an NPDES General Construction permit and a SWPPP (Measure **WQ-4**) would be required to address sediment control during construction activities. Impacts related to polluted runoff would be less than significant.

f) Less than Significant Impact: As described above under Responses (a) through (e), the proposed project would result in less than significant short-term construction and long-term operational impacts on water quality. Construction impacts would be reduced through the implementation of Measures **WQ-1** through **WQ-4**. Water quality impacts would be less than significant.

g) No Impact: The proposed project is an interchange improvement project and no housing is proposed. Therefore, no housing would be placed within a 100-year flood hazard area.

h) Less than Significant Impact: The Federal Emergency Management Agency (FEMA) has performed a detailed study of the Santa Ana River, which is approximately 2 miles south of the project area. According to FEMA Flood Insurance Rate Map (FIRM) number 06065C0681G, the majority of the project area is located in Zone X, which is defined as an area within the 0.2% annual chance floodplain (500-year flood), but outside the 1.0% annual chance floodplain (100-year flood). The segment of the Limonite Avenue widening between Pats Ranch Road and Wineville Avenue is approximately 20 feet south of Zone A, which is defined as an area with a 1% chance of flooding in any given year (100-year frequency) with no base flood elevations determined. FEMA has also classified this area as a special flood hazard area. The floodplain within the project area is the result of backwater from the storm drain system known as Line J. This system runs south under Pats Ranch Road and ultimately conveys flows to the Santa Ana River.

The floodplain in the vicinity of the project covers an area of approximately 135 acres with a volume of approximately 365 acre-feet. The proposed project would widen Limonite Avenue 30 feet to the north. Although the roadway itself would not encroach on the floodplain, an existing ditch and berm adjacent to Limonite Avenue would be shifted to the north as required by the widening. This ditch and berm would encroach 0.8 acre into the floodplain, displacing the base flood volume by 0.6% chance (2.2 acre-feet). The incremental increase in water surface elevation over the entire floodplain is 0.2 inch, which will continue to be contained on the vacant agricultural parcel currently occupied by the floodplain. The change in water surface elevation is not anticipated to create an increased risk of potential damage to the surrounding areas or create flooding that would result in loss of life or property and there is no significant risk associated with implementation of the proposed project. Therefore, the proposed project would have a less than significant impact.

i) Less than Significant Impact: As discussed above, under Response (h), the proposed project would place a ditch and berm within the floodplain. The incremental increase in surface water elevation would be inconsequential and would result in a less than significant impact. No roadways or other structures used or inhabited by people would be placed in the floodplain or any area that would expose them to significant loss or death involving flooding.

j) No Impact: The proposed project is located in an area where there is no risk of tsunami or seiche. The topography of the area is flat; therefore, the risk of mudflow is low.

2.10.2 Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required; however, the following avoidance and/or minimization measures will be implemented to minimize potential impacts:

- **WQ-1:** Construction site BMPs shall be implemented during construction for controlling potential pollutants on construction sites. The following BMP categories shall be considered and implemented, where feasible: Soil Stabilization Practices; Sediment Control Practices; Tracking Control Practices; Wind Erosion Control; Non-Storm Water Controls; and Waste Management and Material Pollution Controls.

- **WQ-2:** Implement Design Pollution Prevention, Low Impact Development (LID), source control, and treatment control BMPs (where feasible and applicable) in compliance with NPDES permit requirements.

- **WQ-3:** Construction will be scheduled to minimize soil-disturbing work during the rainy season.

- **WQ-4:** A Notice of Intent will be filed with the Santa Ana RWQCB for coverage under the state-wide NPDES permit for construction-related discharges. The contractor will prepare a SWPPP that sets forth the BMPs that will be implemented on site. The BMPs will be implemented to minimize spills and keep potentially contaminated materials used during construction out of the drainage waterways as documented in the SWPPP.

2.11 Land Use and Planning

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Regulatory Setting

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Environment Justice

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2014, this was $23,850 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. The Department's commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix A of this document.

2.11.1 Discussion of Environmental Evaluation Question 2.10 – Land Use and Planning

The information used in this section is from the March 2014 *I-15/Limonite Avenue Interchange Improvement Project Community Impact Assessment* (CIA) *Memorandum* (Caltrans 2014c).

a) **No Impact:** As described in Section 1.2 and the *CIA Memorandum*, improvements would be made to the existing interchange at I-15 and Limonite Avenue. An established community would not be divided by the proposed project.

No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of EO 12898.

b) **No Impact:** As discussed in the *CIA Memorandum*, the proposed project is located within the City of Eastvale Land Use designation of Freeway and Commercial Retail, and the City of Jurupa Valley Land Use designations of Commercial Retail and General Plan Community Overlay (CCO), which includes a combination of small lot single-family residences, multi-family residences, commercial retail, office, business park uses, civic uses, transit facilities, and recreation open space. The proposed project is consistent with these land use designations.

The proposed project is needed to alleviate traffic congestion associated with approved area development. Based on the update to the Riverside County General Plan, the cities of Eastvale and Jurupa Valley will be adding numerous residences and businesses in the coming years, resulting in substantial increases in traffic.

The Build Alternative of the proposed project is also consistent with the relevant transportation planning documents with jurisdiction over the plan area. The proposed improvements to the I-15/Limonite Avenue Interchange are included in SCAG's 2015 Federal Transportation Improvement Program (2015 FTIP) and 2012 Regional Transportation Plan (2012 RTP). The current description in the FTIP and RTP are consistent with the proposed project.

c) **No Impact:** The project area is located within the Western Riverside County MSHCP. As discussed in the NES (MI), the proposed project is a Covered Activity and take authorization for MSHCP Fully Covered Species is afforded under the plan. Improvements to the interchange are identified in the MSHCP as falling under the jurisdiction of the Department, as described in the MSHCP text for Covered Activities. Therefore, the proposed project would not conflict with the MSHCP. Further discussion of the MSHCP is included in Section 2.4.1 (Biological Resources).

2.11.2 Avoidance, Minimization, and/or Mitigation Measures

As a Covered Project under the MSHCP, avoidance and minimization Measures **BIO-2**, MSHCP Construction Guidelines, and **BIO-3**, Standard Best Management Practices, will be implemented.

2.12 Mineral Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

2.12.1 Discussion of Environmental Evaluation Question 2.11 – Mineral Resources

The information used in this section is from the *Riverside County General Plan* (County of Riverside 2013) and *City of Eastvale General Plan* (City of Eastvale 2012).

a) No Impact: According to the Riverside County General Plan (http://planning.rctlma.org/ZoningInformation/General Plan.aspx), the project area and vicinity are classified as Mineral Resource Zone (MRZ) 3: "area[s] where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined." The Riverside County General Plan provides no specific policies for property identified as MRZ-3. Furthermore, the City of Eastvale General Plan EIR determined that Mineral Resources was one of several environmental resources determined to have no impact or less than significant impacts in the City. The City of Eastvale General Plan also does not designate the project site for mineral resource related uses nor does it indicate that past recovery of minerals have occurred at the project site. The project study area has been previously used as a roadway and for agricultural uses and has not been mined for mineral resources. The areas immediately adjacent to the project site are planned for commercial, residential, and transit-related development. Mineral resources are not expected to be located within the anticipated direct impact area associated with the proposed project due to the developed nature of the project site and surrounding areas. Therefore, no impacts on mineral resources are anticipated.

b) No Impact: The proposed project is not located in an area delineated as a locally important mineral resource recovery site. Therefore, there would be no impact.

2.12.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.13 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The CEQA noise analysis is included at the end of this section.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and the Department, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use

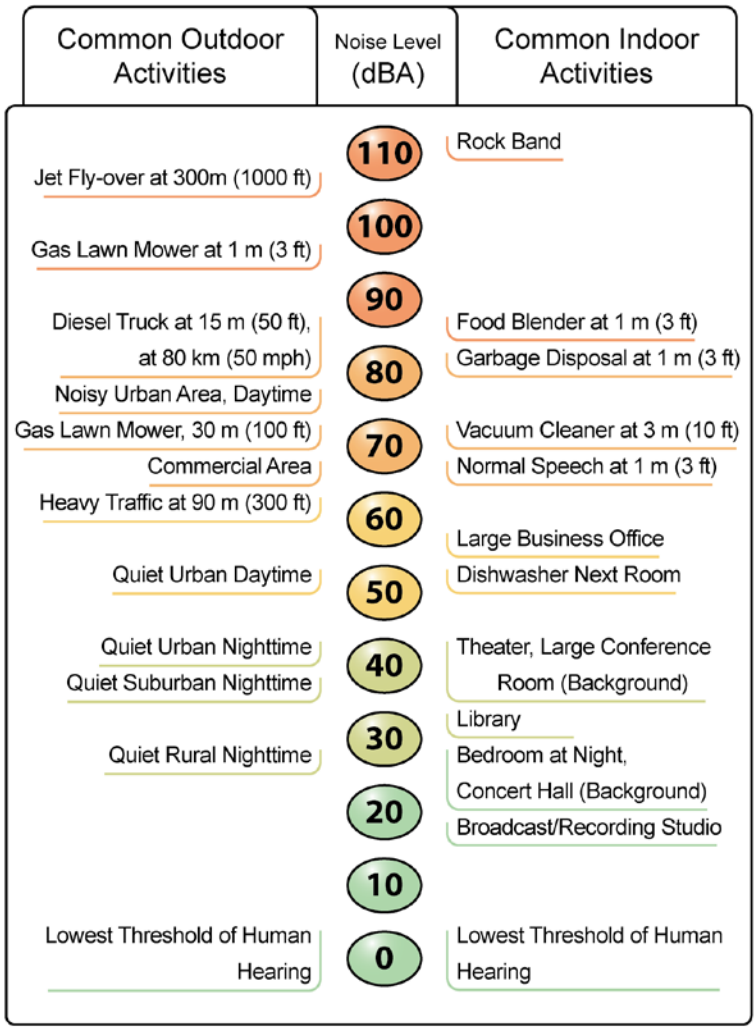
under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA 23 CFR 772 analysis.

Table 2-5. NEPA Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.
[1] Includes undeveloped lands permitted for this activity category.		

Figure 9 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 9. Noise Levels of Common Activities



According to the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 7 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination

is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

2.13.1 Discussion of Environmental Evaluation Question 2.12 – Noise

Information used in this section is from the May 2014 *I-15/Limonite Avenue Interchange Improvement Project Noise Study Report (NSR)* (Caltrans 2014b) and the August 2014 *Noise Abatement Decision Report (NADR)* (Caltrans 2014d).

a) Less than Significant Impact: A field investigation was conducted to identify land uses that could be subjected to traffic and construction noise impacts. Land uses identified in the project area included residential, commercial, agricultural, and undeveloped land uses with corresponding Activity Categories B, C, F, and G. Noise-sensitive receptors in the project area consist of residential land uses. The residential land uses are located primarily along the west side of I-15 to the north and south of Limonite Avenue. Temporary changes in noise levels in the vicinity of the project site are anticipated due to construction activities and permanent changes are anticipated due to operation of the proposed project. According to the Department's *Traffic Noise Analysis Protocol*, there is potential for a project to cause a significant adverse environmental effect due to noise if the project is predicted to result in a substantial noise increase (i.e., 12 decibel [dB] increase) over the existing noise level or when future predicted design-year noise levels with the project approach or exceed NAC. To determine if the substantial noise increase is a significant adverse environmental effect, consideration is given to the context and intensity of the substantial noise increase. Context refers to the project setting and uniqueness, or sensitive nature of the noise receiver(s). Intensity refers to the project-induced substantial noise increase (i.e., the increase over the "no-build" condition); it also refers to the number of residential units affected and to the absolute noise levels.

As part of the project, the realigned southbound off-ramp from I-15 would remove a portion of a 12- to 14-foot berm that provides shielding for residences located in the Swan Lake Mobile Home Park (Receivers M22-ST4, M23, and M24-ST5) (refer to Figure 10, Analysis Area, Noise Monitoring and Modeling Locations and Locations of Evaluated Noise Barriers). As shown in Table 2-6, these residences would experience a 0 dBA to 9 dBA (A-weighted decibel) $L_{eq(h)}$ (hourly equivalent energy noise level) increase in noise. These increases are well below the 12 dB increase and would not result in a substantial noise increase of the Department's *Traffic Noise Analysis Protocol*. However, because the predicted noise levels in the design year would approach or exceed the NAC of 67 dBA $L_{eq(h)}$, traffic noise impacts are predicted at residential land uses in this area and noise abatement was analyzed in the NADR. Under 23 CFR 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. Type I projects are defined as a proposed federal or federal-aid highway project for the construction of a highway at a new location, the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or an increase in the number of through traffic lanes. Type I projects include those that create a completely new noise source as well as those that increase the volume of speed of traffic or move the traffic closer to a receptor. Type I projects include those that add an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway or widen an existing ramp by a full lane width for its entire length.

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Insert Figure 10 Analysis Area, Noise Monitoring and Modeling Locations and Locations of Evaluated Noise Barriers

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Table 2-6. Project Future Worst Hour Noise Levels

Receiver	Land Use/Number of Dwelling Units	Existing Noise Level $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus Existing Conditions $L_{eq(h)}$, dBA
M1	Undeveloped /0	68	72	4
M2	Residential /2	60	61	1
M3	Residential/ 2	61	63	2
M4-ST3	Residential /3	62	63	1
M5	Residential /8	54	56	2
M6	Residential /6	60	62	2
M7-ST9	Residential /5	58	60	2
M8	Residential /5	60	61	1
M9	Residential /4	59	60	1
M10	Residential /4	59	60	1
M11	Residential /3	58	59	1
M12-ST13	Commercial /0	59	62	3
M13-ST2	Commercial /0	67	76	9
M14-ST10	Commercial /0	62	65	3
M15	Residential /4	58	62	4
M16-ST11	Residential /3	59	63	4
M17	Residential /2	58	62	4
M18	Agricultural /0	64	68	4
M19-ST12	Residential /3	60	65	5
M20-ST8	Agricultural /0	78	81	3
M21-ST1	Commercial /0	67	70	3
M22-ST4	Residences /3	63	71	8
M23	Residences /2	64	69	5
M24-ST5	Residences /2	63	66	3
M25	Residential /1	63	64	1
M26	Residential /2	63	65	2
M27	Residential/2	63	64	1
M28-ST6	Residential /4	60	61	1
M29-ST7	Recreation /0	52	52	0

Overall, as shown in Table 2-6, noise levels associated with project operations at all receiver sites are predicted to increase approximately 0 to 9 dB above existing levels by the Year 2040 in the project area. The barrier evaluated in the NADR is identified as Barrier SB-1 (refer to Table 2-7, Predicted Future Noise Levels and Noise Barrier Analysis). Barrier SB-1 is intended to replace the portion of the existing berm that is being removed. Noise reductions were calculated and a reasonable allowance for each feasible barrier height ranging from 8 feet to 16 feet in height were analyzed for Barrier SB-1. As seen in Table 2-8, Barrier SB-1 is acoustically feasible for a height between 12 and 16 feet. Seven benefited residences yields a total reasonable allowance of $385,000 for each barrier height considered. Based on the engineer's cost estimate to construct the barrier, the 12-, 14-, and 16-foot barriers are estimated to cost between $303,660 and $404,880 to construct. Comparing the total reasonable allowances to the estimated construction costs, all of the soundwalls are determined to be fiscally reasonable within 10%.

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Insert Table 2-7 Predicted Future Noise Levels and Noise Barrier Analysis. (include new table from May 2014 NSR.)

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Insert table page 2.

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Table 2-8. Summary of Barrier Cost for SB-1

Height (feet)	Location	Station	Breaks Line of Sight?	Acoustically Feasible?	Number of Benefited Residence	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance?
12	Along right of way	1039+69 to 1046+87	Yes	Yes	7	$385,000	$303,660	Yes
14	Along right of way	1039+69 to 1046+87	Yes	Yes	7	$385,000	$354,270	Yes
16	Along right of way	1039+69 to 1046+87	Yes	Yes	7	$385,000	$404,880	Yes
Source: Noise Abatement Decision Report, August 2014.								

Several non-acoustical factors were also considered relating to the feasibility of the proposed sound barrier, including geometric standards, safety, maintenance, security, geotechnical considerations, and utility relocations. The sound barrier was considered in accordance with required geometric safety standards and to minimize or avoid utility and geotechnical considerations.

Based on the studies completed to date, the County of Riverside intends to incorporate noise abatement in the form of a barrier at SB-1, with respective lengths and average heights of 723 feet in length at a height of 12 feet. Barrier SB-1 is intended to replace the portion of the existing berm that is being removed. Calculations based on preliminary design data show that the barrier will reduce noise levels by 7 dBA for seven residences at a cost of $303,660. If during final design conditions have substantially changed, noise abatement may not be necessary. A Noise Barrier Survey Response Form and figure was mailed to the residents and owners of the Swan Lake Mobile Home Park. At this location, the mobile homes are lessees/renters and the mobile home park owns the entire property within the mobile home park.[18] As of November 1, 2015, of the nine mobile home spaces that are benefitted receptors, two are vacant. The property owner along with three of the seven lessees/renters provided responses in support of the noise barrier (see Appendix I for a sample of the letters/surveys that were sent and the responses received). No responses that indicated that a wall was not desired were received. The responses provided indicate a 50 percent or greater response in support of building the barrier as defined in the Caltrans Protocol and, as such, the survey supports implementation of Barrier SB-1.

As detailed in the *Noise Study Report*, there would be two types of short-term construction noise under the Build Alternative. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site, which would incrementally raise noise levels on access roads leading to the site. A high single-event noise exposure potential at a maximum level of 87 dBA L_{max} (maximum sound level) from trucks passing at 50 feet would exist. However, the projected construction traffic would be minimal when compared to existing traffic volumes on I-15 and other affected streets, and the associated

[18] As defined in the Protocol owners get one vote and lessees/renters get 10 percent of one vote while the owner gets 90 percent of that same vote.

long-term noise level change would not be perceptible. Therefore, construction-related worker commutes and equipment transport noise impacts would be short term and less than significant.

The second type of short-term noise impact would be from construction activities. Construction of the proposed project is expected to require the use of earthmovers, bulldozers, paving machines, water trucks, dump trucks, concrete trucks, rollers, and pickup trucks. Noise associated with the use of construction equipment is estimated between 79 and 89 dBA L_{max} at a distance of 50 feet from the active construction area for the grading phase. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 91 dBA L_{max} (at a distance of 50 feet from an active construction area). In addition to the standard construction equipment, the project may require the use of pile drivers; however, the use of pile drivers is not anticipated at this time. Pile driving generates noise levels of up to 96 dBA L_{max} at 50 feet.

Construction would be conducted in accordance with applicable local noise standards and the Department's provisions in Section 14-8.02, "Noise Control," of the 2010 Standard Specifications and Special Provisions **(NOI-1)**. Therefore, construction noise impacts would be less than significant.

b) Less than Significant Impact: Any groundborne noise or vibration would be limited to the construction period and would be short in duration. Compliance with local jurisdiction noise restrictions and the Department's Standard Specifications as outlined in **NOI-1** would minimize vibration effects. Therefore, vibration and noise effects are considered less than significant.

The proposed project does not involve changes that would result in noticeable increases in groundborne vibration or groundborne noise levels from use or maintenance of the roadway when compared with the No-Build Alternative. Once the project is complete, long-term increases in groundborne noise levels from use or maintenance of the roadway would be less than significant.

c) Less than Significant Impact: As shown in Table 2-6, Receivers M22-ST4, M23, and M24-ST5 would experience a 0 dBA to 9 dBA increase in noise above existing levels by the Year 2040. These increases are well below the 12 dB increase and would not result in a substantial noise increase of the Department's *Traffic Noise Analysis Protocol*. However, because the predicted noise levels in the design year would approach or exceed the NAC of 67 dBA $L_{eq(h)}$, traffic noise impacts are predicted at residential land uses in this area and noise abatement was analyzed in the NADR. The barrier evaluated in the NADR is identified as Barrier SB-1 (refer to Table 2-7, Predicted Future Noise Levels and Noise Barrier Analysis). Based on the studies completed to date, the Department intends to incorporate noise abatement in the form of a barrier at SB-1, with respective lengths and average heights of 723 feet in length at a height of 12 feet. Calculations based on preliminary design data show that the barrier will reduce noise levels by 7 dBA for seven residences at a cost of $303,660. If during final design conditions have substantially changed, noise abatement may not be necessary. The final decision on noise abatement will be made prior to completion of the project design and the public involvement processes. Therefore, with the inclusion of the recommended Barrier SB-1, impacts would be less than significant.

d) Less than Significant Impact: Construction of the proposed project could potentially result in a temporary increase in ambient noise levels in the project vicinity. Noise associated with the use of construction equipment is estimated between 79 and 89 dBA L_{max} at a distance of 50 feet from the active construction area for the grading phase. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 91 dBA L_{max} (at a distance of 50 feet from an active construction area). In addition to the standard construction equipment, the project may require the use of pile drivers; however, the use of pile drivers is not anticipated at this time. Pile driving generates noise levels of up to 96 dBA L_{max} at 50 feet. In order to ensure noise effects are minimized during the construction period, construction activities would be conducted in accordance with applicable local noise standards and the Department's provisions in Section 14-8.02, "Noise Control," of the 2010 Standard Specifications and Special Provisions **(NOI-1)**. Temporary ambient noise increases due to construction would be considered less than significant.

e) No Impact: The proposed project is located outside of the easternmost boundary of the Chino Airport Influence Area and no habitable structures are proposed as part of the proposed project. Therefore, no noise impacts related to air traffic would occur.

f) No Impact: The proposed project is not located within the vicinity of a private airstrip and no habitable structures are proposed as part of the proposed project. Therefore, no noise impacts related to air traffic would occur.

2.13.2 Avoidance, Minimization, and/or Mitigation Measures

The following measure will be implemented to minimize potential impacts:

NOI-1: As directed by the Department, the contractor will implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

SSP-14-8.02

1. Use with 2010 Standards.

2. Use for work in a residential or urban area (1) at night or (2) if night or Sunday noise restrictions exist.

5-1. NOISE CONTROL

1. General

   This section applies to equipment on the project or associated with the project, including trucks, transit mixers, stationary equipment, and transient equipment.

2. Edit to include (1) specific local noise ordinances that the project manager has agreed to comply with or (2) work needing noise level restrictions that differ from those specified in Section 14. List exceptions in the table. Delete "except….table" and the table if exceptions are not needed. Delete paragraph 3.

The following are examples of work that exceed 86 dBA at 50 feet.

a. Removing concrete

b. Cold planing pavement

c. Grooving and grinding concrete pavement

d. Sawcutting PCC

e. Driving piles

Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from _____ p.m. to _____ a.m. except you may perform the following activities during the hours and for the days shown in the following table:

Noise Restriction Exceptions

Activity	Hours		Days	
	From	To	From	Through

3. Use if night or Sunday noise restrictions exist. Delete par. 1.

   Do not operate construction equipment or run the equipment engines from 7:00 p.m. to 7:00 a.m. or on Sundays except you may operate equipment within the project limits during these hours to:

   1. Service traffic control facilities
   2. Service construction equipment
   3. Use if a sound meter is required.

Noise Monitoring

Provide one Type 1 sound level meter and 1 acoustic calibrator to be used by the Department until Contract acceptance. Provide training by a person trained in noise monitoring to 1 Department employee designated by the Engineer. The sound level meter must be calibrated and certified by the manufacturer or other independent acoustical laboratory before delivery to the Department. Provide annual recalibration by the manufacturer or other independent acoustical laboratory. The sound level meter must be capable of taking measurements using the A-weighting network and the slow response settings. The measurement microphone must be fitted with a windscreen. The Department returns the equipment to you at Contract acceptance. Work specified in this paragraph is paid for as noise monitoring.

4. Use if a sound meter is required.

The contract lump sum price paid for noise monitoring includes full compensation for furnishing all labor, material, tools, equipment, and incidentals and for doing all work involved in noise monitoring.

2.14 Population and Housing

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. The CEQA guidelines (Section 15126.2[d]) require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code [USC] 2000d, et seq.). Please see Appendix A for a copy of the Department's Title VI Policy Statement.

2.14.1 Discussion of Environmental Evaluation Question 2.13 – Population and Housing

Information used in this section is from the March 2014 *I-15/Limonite Avenue Interchange Improvement Project Community Impact Assessment (CIA) Memorandum* (Caltrans 2014c).

a) Less than Significant Impact: The I-15/Limonite Avenue Interchange ramps are projected to operate at an unacceptable LOS by 2040 unless improvements are made to the transportation system. Furthermore, some merge/diverge areas associated with the on- and off-ramps currently operate at an unacceptable LOS and some are also projected to operate at an unacceptable LOS in 2040 unless improvements are made (refer to Table 2-10 in Section 2.16.1). As such, the proposed project would provide relief for current and anticipated future traffic congestion associated with the projected population increases and planned development in the study area.

The proposed project is consistent with SCAG's 2015 FTIP and 2012 RTP/SCS and the goals and policies of the applicable planning documents of the various jurisdictions that compose the proposed project study area. The proposed project would not provide access to any developable lands that are currently inaccessible and would not lead to changes in already planned land use and density.

Several land uses are present within the project area. Portions of the Build Alternative would be located on soils mapped as "Prime Agriculture", Farmland of Statewide Importance", and "Unique Farmland" by data from the California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP). However, the 2012 City of Eastvale and 2011 Jurupa Valley General Plan Land Use maps have designated these areas for future non-agricultural land uses with a time horizon of at least 20 years. Some of the area has recently been developed with retail land uses, such as the Eastvale Gateway South Center located at Limonite Avenue and Hamner Avenue. The western portion of the proposed project is located within the City of Eastvale General Plan Land Use designations of Freeway and Commercial Retail. The eastern portion is located within the City of Jurupa Valley General Plan Land Use designations of Industrial Park (I-P), One Family Dwellings (R-1), and General Plan Community Center Overlay (CCO). The CCO allows for development of a community center which includes a combination of small lot single family residences, multi-family residences, commercial retail, office, business park uses, civic uses, transit facilities, and recreational open space within a unified planned development area.

Based on the most recent update of the Riverside County General Plan, the City of Eastvale and City of Jurupa Valley would potentially add residences and businesses in the coming years, resulting in additional traffic. Operation of the I-15/Limonite Avenue interchange ramps are projected to operate at an unacceptable LOS by 2040 unless improvements are made to the transportation system. Furthermore, some merge/diverge areas associated with the on-and off-ramps currently operate at an unacceptable LOS and some are also projected to operate at an unacceptable LOS in 2040 unless improvements are made (refer to Table 2-10 in Section 2.16.1). As such, the proposed project would provide relief for current and anticipated future traffic congestion associated with the projected population increases and planned development in the study area. However, this increase in population as a result of development has been planned previously and therefore would not represent the inducement of unplanned population growth. This additional development is planned regardless of the improvements to the I-15/Limonite Avenue interchange. Because the proposed project is anticipated to accommodate existing and future travel demand in the corridor related to existing and planned growth approved by local jurisdictions and not contribute to unplanned growth in the area, the proposed project is not considered growth-inducing. The proposed

project is needed to reduce anticipated future traffic congestion at the interchange, as such, the project has been a part of the overall planning within the project area, which includes any anticipated growth in the area that is projected to occur. Therefore, no direct or indirect long-term impacts on growth are anticipated with the implementation of the proposed project.

b) No Impact: The proposed project would result in partial acquisitions of properties adjacent to the project area. Table 2-9 lists the properties and the amount of temporary and/or permanent right of way needed from each.

These partial acquisitions consist of commercial parcels and a Park and Ride facility. However, none of these partial acquisitions would necessitate the relocation of people or any existing developments. Implementation of the proposed project would not result in the acquisition of any existing residences. The Park and Ride facility is being reconfigured within its currently allotted space so that it would remain viable and would contain, at minimum, the same number of parking spaces as currently exists. Furthermore, the proposed project would not prevent the construction of any future residences. No existing housing would be displaced as a result of the proposed project; therefore, no replacement housing would be needed.

Table 2-9. Right of Way Acquisitions

APN	Permanent Impact (acres)	Temporary Impact (acres)
152-630-001	-	0.1
152-630-007	-	0.1
152-630-008	2.3	1.8
152-630-017	-	0.2
152-630-018	-	0.1
152-630-019	-	0.1
152-630-028	0.1	0.3
152-630-029	0.1	0.4
152-640-001	2.1	1.1
160-030-055	2.7	-
160-030-070	-	0.1
160-050-021	-	0.5
160-050-023	0.3	1.7
160-050-027	-	0.3
160-050-031	-	0.4
160-050-049	-	0.4
160-050-050	-	0.3
Source: CIA, 2014.		

c) No Impact: The proposed project would result in partial acquisitions of properties adjacent to the project area. These partial acquisitions consist of commercial parcels and a Park and Ride facility. However, none of these partial acquisitions would necessitate the relocation of people or any existing developments. Implementation of the proposed project would not

result in the acquisition of any existing residences. The Park and Ride facility is being reconfigured within its currently allotted space so that it would remain viable and would contain, at minimum, the same number of parking spaces as currently exists. Furthermore, the proposed project would not prevent the construction of any future residences. The proposed project would not require the acquisition of residential right of way. No persons would be displaced as a result of the proposed project; therefore, no replacement housing would be needed.

2.14.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.15 Public Services

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:	☐	☐	☒	☐
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐

2.15.1 Discussion of Environmental Evaluation Question 2.14 – Public Services

Information used in this section is from the March 2014 *I-15/Limonite Avenue Interchange Improvement Project Community Impact Assessment (CIA) Memorandum* (Caltrans 2014c).

a) Less than Significant Impact: According to the *CIA Memorandum*, the Build Alternative would improve the ability of fire, medical, and police service providers to serve the community, as the Build Alternative would reduce congestion in the interchange area, which would likely reduce response times for these services when compared to the No-Build condition. There are no schools within 0.5 mile of the project area that would be disrupted by construction activities or operation of the Build Alternative. Although congestion would increase during construction of the Build Alternative, a Traffic Management Plan (TMP) would be prepared that would ensure that disruptions are minimized.

Furthermore, the existing Park and Ride facility frontage located to the east of the I-15/Limonite interchange and along the north side of Limonite Avenue would be affected by the Build Alternative. The widening of Limonite Avenue to three lanes in each direction would require the Park and Ride facility footprint to be reconfigured within its currently allotted space. However, the adjusted footprint of the Park and Ride facility would not reduce the number of existing parking spaces. The Park and Ride facility would be closed for a period of time, anticipated to be several months, and inaccessible to patrons during construction. Closure of the Park and Ride facility would be short term and properly noticed in advance to reduce any inconvenience to patrons of the Park and Ride facility.

No schools are located within one mile of the project area. Home to school busing services for Harada Elementary School or Sky Country Elementary School are not provided by the Norco-Corona Unified School District or the Jurupa Unified School District, and therefore would not be affected by the proposed project.

The Riverside Transit Agency operates public bus routes 29 and 3 along Limonite Avenue, Hamner Avenue, and Pats Ranch Road. Bus stops and routes along Limonite Avenue would not be removed as a result of the proposed project, but may experience temporary delays during construction, which would be addressed through the implementation of the TMP.

No parks are located within the project area and none are anticipated to be directly or indirectly affected by the proposed project.

2.15.2 Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required; however, the following standard measures will be implemented to minimize potential impacts:

PS-1: A TMP shall be developed by the Department to minimize potential impacts on emergency services and commuters during construction.

PS-2: As of November 7, 2014, the Department has adopted the California Manual on Uniform Traffic Control Devices (California MUTCD), 2014 edition, to provide for uniform standards and specifications for all official traffic control devices in California. This action was taken pursuant to the provisions of California Vehicle Code Section 21400 and the recommendation of the California Traffic Control Devices Committee. The Department requested and has received a letter to confirm substantial conformance from the FHWA for California MUTCD 2014 edition. The California MUTCD 2014 edition includes FHWA's MUTCD 2009 edition dated December 19, 2009, as amended for use in California. The California MUTCD 2014 also includes all policies on traffic control devices issued by the Department since January 13, 2012, and other corrections and format changes that were necessary to update the previous documents.

PS-3: Use lighting systems that are energy efficient, such as LED technology.

PS-4: Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts on traffic flow.

PS-5: Development of circulation and detour plans to minimize impacts on local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. This should be implemented in coordination with Measure **PS-1**.

PS-6: Limiting of lane closures during peak hours to the extent possible.

PS-7: Inclusion of detours for bicycles and pedestrians in all areas potentially affected by construction. This should be implemented in coordination with Measure **PS-1**.

PS-8: Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary. This should be implemented in coordination with Measure **PS-1**.

2.16 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

2.16.1 Discussion of Environmental Evaluation Question 2.15 – Recreation

a) No Impact: There are no parks located within the project area and none are anticipated to be directly or indirectly affected by the proposed project. The nearest park to the project site is Limonite Meadows Park, approximately 0.4 mile southeast of the project site. As detailed in the project description (Chapter 1), improvements would be made to the existing interchange at I-15 and Limonite Avenue. Neither alternative would result in the increased use of existing parks or recreational facilities.

b) No Impact: The project proposes improvements to the I-15/Limonite Avenue Interchange only and does not propose the construction or expansion of any park or recreational facility.

2.16.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.17 Transportation and Traffic

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Regulatory Setting

The Department, as assigned by FHWA, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

2.17.1 Discussion of Environmental Evaluation Question 2.16 – Transportation and Traffic

Information used in this section is from the October 2011 *Traffic Operations Analysis for the I-15/Limonite Avenue Interchange Improvement Project* (Dokken 2011), the *Traffic Validation Data Values Memorandum* (Dokken 2013d), the March 2014 *I-15/Limonite Avenue Interchange Improvement Project Community Impact Assessment (CIA) Memorandum* (Caltrans 2014c), and the *Riverside County General Plan* (County of Riverside 2013).

a) No Impact: The proposed project is needed to reduce traffic congestion at the I-15/Limonite Avenue interchange. Based on the most recent update of the Riverside County General Plan, the cities of Eastvale and Jurupa Valley plan to add a substantial number of residences and businesses in the coming years, which is anticipated to result in traffic and would require a number of transportation and circulation improvements to accommodate this increased volume of traffic, including improvements to the I-15/Limonite Avenue interchange.

Although the I-15/Limonite Avenue interchange ramp intersections currently operate at an acceptable LOS, by design year 2040, the ramp intersections at the I-15/Limonite Avenue interchange would have insufficient capacity to accommodate the forecasted traffic demand[19]. Operation of the I-15/Limonite Avenue Interchange ramps are anticipated to worsen by opening year (2018) and to continue to degrade as traffic volumes increase unless improvements are made to the transportation system. Without the proposed project, it is projected that the northbound and southbound I-15 on- and off-ramp intersections with Limonite Avenue will function at an unacceptable LOS (F) during both the AM and PM peak hours in design year 2040. An analysis of the merge/diverge traffic operations at the I-15 on- and off-ramps indicate that in year 2018 the northbound I-15 off-ramp to Limonite Avenue will function at an unacceptable LOS (LOS F) during the PM peak hour and the northbound I-15 on-ramp from Limonite Avenue will function at an unacceptable LOS F during the AM peak hour; the southbound I-15 on-ramp from Limonite Avenue is also predicted to operate at an unacceptable LOS (E). In 2040 the I-15 off-ramp to Limonite Avenue is projected to operate at an unacceptable LOS during the AM and PM peak hours. This would conflict with the generally accepted Department minimum LOS threshold of LOS D for peak hour freeway operations.

Under the Build Alternative, in 2018, the northbound I-15 off-ramp to Limonite Avenue would function at an acceptable LOS A and B during the AM and PM peak hours, respectively, and the northbound I-15 on-ramp from Limonite Avenue would function at an acceptable LOS C and B during the AM and PM peak hours, respectively. In 2040, the northbound I-15 off-ramp to Limonite Avenue would function at an acceptable LOS A for both AM and PM peak hours, and the northbound on-ramp would function at an acceptable LOS B for both AM and PM peak hours. This would be consistent with the generally accepted Department minimum LOS threshold of LOS D for peak hour freeway operations. Therefore, the Build Alternative would not conflict with the standards established for the effectiveness of circulation. Furthermore, the proposed project would provide relief for

[19] For traffic purposes, the design year is typically 20 years beyond the opening year, rounded to the nearest multiple of 5, as such, 2040 is utilized instead of 2038. This provides consistency with the regional models, which are typically updated every 5 years.

anticipated future traffic congestion associated with future growth in the area. This increase in population as a result of development has been planned and would not represent the inducement of unplanned growth. The proposed project is consistent with applicable state, regional, and local planning documents and is needed to reduce projected traffic congestion, and improve traffic flow on the regional transportation system.

Table 2-10 identifies the existing (2011), opening year (2018), and design year (2040)[20] LOS.

Table 2-10. Existing, Opening Year, and Design Year LOS

	Existing Year (2011)		Opening Year (2018)		Design Year (2040)	
Location	AM Peak Hour	PM Peak Hour	AM Peak Hour (No-Build/Build)	PM Peak Hour (No-Build/Build)	AM Peak Hour (No-Build/Build)	PM Peak Hour (No-Build/Build)
Intersection						
I-15/Limonite Avenue Southbound On/Off-Ramps	C	C	B/A	C/C	**F**/C	**F**/D
I-15/Limonite Avenue Northbound On/Off-Ramps	B	C	C/B	D/B	**F**/B	**F**/D
Merge/Diverge						
Limonite Avenue Off-Ramp (northbound)	D	D	D/A	**F**/B	**E**/A	**F**/A
Limonite Avenue On-Ramp (northbound)	**E**	D	**F**/C	D/B	D/B	D/B
Limonite Avenue Off-Ramp (southbound)	D	D	D/A	D/A	C/A	C/A
Limonite Avenue On-Ramp (southbound)	**E**	D	**E**/B	D/B	D/B	D/B

Bolded, underlined, entries exceed acceptable levels of service

b) No Impact: The proposed project would not conflict with the County's congestion management program as established by the county congestion management agency, Riverside County Transportation Commission (RCTC). In fact, the Build Alternative is consistent with relevant transportation planning documents as the proposed improvements to the I-15/Limonite Avenue Interchange are included in SCAG's 2015 FTIP and 2012 RTP/SCS. Therefore, there would be no impact.

c) No Impact: The proposed project would not cause a change in air traffic patterns, as it is outside of the easternmost boundary of the Chino Airport Influence Area. Therefore, there would be no impact.

d) No Impact: The proposed project would not substantially increase hazards due to a design feature or incompatible uses. In general, the Build Alternative would improve traffic safety at the I-15/Limonite Interchange, as it would improve future traffic congestion. It would also improve safety by having increased acceleration and deceleration lane lengths at the freeway merge/diverge points for each of the on- and off-ramps.

[20] ibid.

e) Less than Significant Impact: The Build Alternative would improve emergency access, as it would reduce congestion in the interchange area, which would likely reduce response times for emergency services. During construction, roads would remain open and access would be maintained. However, emergency response times could increase temporarily during construction of the Build Alternative due to increased congestion in the area of the Limonite Interchange. A TMP would be prepared to reduce potential construction-related traffic conflicts, detours, and delays. The TMP would include identification of detour routes within the construction area, placement of appropriate signs, cones, and barricades in the vicinity of construction, scheduling of construction activities during off-peak hours, and development of plans that ensure emergency access and entry to existing residences and businesses within the construction areas. Traffic control during construction may include off-peak lane closures and nighttime traffic detours to allow falsework construction. Long-term ramp closures and extensive congestion are not anticipated as a result of construction operations. A staged construction plan would be implemented to keep the existing bridge and ramps open to traffic. This impact would be temporary and would be less than significant with the implementation of Measure **PS-1** in Section 2.14.2.

f) No Impact: The proposed project is not anticipated to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. In fact, the new proposed Limonite Avenue Overcrossing would accommodate 4-foot bike lanes, 8-foot shoulders, and 8-foot sidewalks in each direction, which would be consistent with the policies in the County of Riverside General Plan (2013) and City of Eastvale General Plan (2012). The Build Alternative would affect the existing Park and Ride facility frontage located to the east of the interchange. The Park and Ride layout would need to be reconfigured within its currently allotted space. This minor adjustment would not affect or change the current capacity or use of the facility. However, there would be temporary impacts during construction that would be addressed by the TMP. The Park and Ride facility would be closed for a period of time, anticipated to be several months, and inaccessible to patrons during construction. Closure of the Park and Ride facility would be short term and properly noticed in advance to reduce any inconvenience to patrons of the Park and Ride facility. Furthermore, the proposed project includes enhancement of non-motorized and pedestrian features along Limonite Avenue. Standard sidewalks and curb returns, in compliance with the ADA and all applicable provisions of the Department's Design Information Bulletin 82, titled "Pedestrian Accessibility Guidelines for Highway Projects," will be constructed along the widened portions of Limonite Avenue and the proposed Overcrossing structure. Bicycle lanes will also be provided along Limonite Avenue and on the proposed Overcrossing structure. The widths of these facilities on Limonite Avenue will be consistent with Department standards.

2.17.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation is required. Measure **PS-1** in Section 2.14.2 addresses impacts on emergency response.

2.18 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?,	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

2.18.1 Discussion of Environmental Evaluation Question 2.17 – Utilities and Service Systems

Information used in this section is from the October 2011 *Traffic Operations Analysis for the I-15/Limonite Avenue Interchange Improvement Project* (Dokken 2011), the March 2014 *I-15/Limonite Avenue Interchange Improvement Project Community Impact Assessment (CIA) Memorandum* (Caltrans 2014c), and the Riverside County General Plan (County of Riverside 2013).

Existing utilities in the project area include the following: AT&T, AT&T Cellular, Jurupa Community Services District, Metro PCS, Southern California Edison, Southern California Gas Company, Sprint Cellular, Time Warner Telecom, T-Mobile, and Verizon Wireless. There are three existing cell towers directly adjacent to the existing Department right of way along the northbound I-15 on-ramp. All three towers would be avoided; however, underground utility lines that serve the towers would be affected and relocated. Southern California Gas Company owns and operates a high-pressure gas line that runs parallel to and north of Limonite Avenue. The line runs under the existing Park and Ride facility and crosses under the I-15 within Department right of way, north of the Overcrossing structure. Due to the sensitivity of the line, no relocation of the line would be allowed. Additionally, special precautions would be required during construction to ensure there are no impacts on the line. Furthermore, Riverside Public Utilities (RPU) is

analyzing the Riverside Transmission Reliability Project (RTRP), which proposes to construct a new 230 kilovolt transmission line in order to meet RPU's current and projected load growth. Southern California Edison will own the new transmission lines. The proposed alignment for the transmission tower corridor parallels the eastern edge of I-15 within the project area and will cross Limonite Avenue. The Project Team for the I-15/Limonite Interchange Improvements Project has continuously coordinated closely with Southern California Edison to identify potential conflicts between the proposed interchange and the transmission tower alignment.

The proposed project would also require potholing to determine if the underground utilities within the project limits would require relocation. The design profile of Limonite Avenue would be raised; as such, the existing underground utility lines are anticipated to be located below the proposed structural sections, and potholing would confirm any potential conflicts.

a) No Impact: The proposed project is needed to reduce projected traffic congestion at the I-15/Limonite Interchange and would not generate the need for additional wastewater treatment. Therefore, there would be no impact.

b) No Impact: The proposed project is needed to reduce projected traffic congestion at the I-15/Limonite Interchange and would not require or result in the construction of new water treatment facilities. Therefore, there is no impact.

c) Less than Significant Impact: Storm water runoff in the project area generally flows from north to south and is currently conveyed through a series of roadside ditches/channels, culverts, inlets/storm drain pipes, and overside drains. As described in the July 2013 *Final Scoping Questionnaire for Water Quality Issues for the I-15/Limonite Avenue Interchange Improvement Project*, the proposed project would require the modification of existing storm water drainage facilities. The proposed roadway drainage system would continue to direct stormwater runoff in a north to south direction. However, the proposed roadway improvements along I-15 and in the interchange area itself would require that existing culverts be extended or realigned in order to accommodate the new roadway widths and geometry. Similarly, existing roadside ditches/channels would be re-established along the widened roadway or converted to underground pipes where there is no longer space for the roadside ditch. Along Limonite Avenue, where new curb, gutter, and sidewalk would be installed, the existing roadside ditches would be converted to an underground storm drain system. Ultimately, the stormwater runoff from the project area would continue to discharge to the Santa Ana River, which is the current receiving water body. Therefore, modification of the stormwater facilities under the proposed project would result in a less than significant impact.

d) No Impact: The proposed project is needed to reduce projected traffic congestion at the I-15/Limonite Interchange and would not need new or expanded entitlements. Therefore, there would be no impact.

e) No Impact: The proposed project would not require wastewater treatment. As a result, there would be no impact.

f) Less than Significant Impact: The proposed project would require the use of a local landfill, if applicable, to dispose of demolition materials. The use of local landfills would be temporary during construction. It is the Department's policy to recycle materials whenever possible. It is not anticipated that the amount of construction waste would exceed the capacity of local landfills; therefore, impacts would be considered less than significant.

g) No Impact: The proposed project would be in compliance with all federal, state, and local solid waste statutes and regulations; therefore, there would be no impact.

2.18.2 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required. Measures **WQ-1** through **WQ-4** in Section 2.9.2 address impacts on drainage facilities.

2.19 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal; or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

2.19.1 Discussion of Environmental Evaluation Question 2.18 – Mandatory Findings of Significance

a) Less than Significant Impact. As discussed in Section 2.4 (Biological Resources), the project area is heavily disturbed and consists primarily of non-native and invasive plant species. Of the five vegetation communities identified in the BSA, only one, RSS, is considered sensitive. However, the RSS in the BSA is classified as "remnant," meaning there are only noncontiguous patches of RSS that are too small to be considered a viable community.

There is potential for three special status bat species (pallid bat, California western mastiff bat, and big free-tailed bat) to forage within suitable habitat (ruderal and remnant RSS) in the BSA. The number of individuals that could potentially forage in the BSA is expected to be low. There is also a potential for impacts on the special-status California western mastiff bat roosting within mature trees in the BSA. Potential temporary indirect effects from the proposed project on special-status bats would be avoided by implementing avoidance Measures **BIO-3** though **BIO-5**.

There is low quality suitable habitat within the project impact area for the special-status burrowing owl. However, burrowing owls were only found outside the project impact area during focused surveys. Avoidance Measures **BIO-1** through **BIO-3** would ensure direct and indirect impacts on burrowing owl would not occur during construction of the proposed project.

There is also potential for several other special-status species to occur in the BSA, but they do not pose a constraint to the project because they were either confirmed to be absent by a focused survey or the species is already fully Covered under the MSHCP (i.e., take authorization is already provided to Permittees); therefore, any potential impacts (if the species is present) would be fully mitigated.

Nesting birds and raptors could be affected by the proposed project during the bird breeding season (March 1 through August 31 for birds and January 15 through June 30 for raptors). Avoidance and minimization Measures **BIO-2** though **BIO-4** would ensure there are no constraints to the project under the MBTA and the California Fish and Game Code.

The proposed project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Through the incorporation of avoidance and minimization measures, the proposed project would result in a less than significant impact on biological resources.

As discussed in Section 2.5 (Cultural Resources), Response (c), the proposed project is located in an area with soil deposits that have the potential to contain paleontological resources, thereby making it an area of high paleontological sensitivity. It is likely that construction of the proposed project, in particular excavation for widening and replacement of the Overcrossing structure, would potentially result in negative impacts on these deposits. In order to reduce these impacts, a PMP (Measure **PALEO-1**) will be prepared. Therefore, the proposed project would have a less than significant impact on a period of California prehistory through the incorporation of mitigation.

b) Less than Significant Impact with Mitigation. Planned recent and future projects within the vicinity of the proposed project are listed in Table 2-11. Due to distance and location from the proposed project, not all planned and future projects listed would result in cumulative impacts and are therefore not analyzed. There are several projects in the immediate vicinity of the project: the I-15 Express Lanes Project, the San Antonio Medical Plaza, RTRP, and the William Lyon Homes Residential Project. The Eastvale San Antonio Medical Plaza and the Lodge have already been constructed. The environmental documents for the William Lyon Homes Residential Project and I-15 Express Lanes Project are not yet available. RTRP involves the construction of electrical transmission lines. Specifically, portions of a 230 kilovolt transmission line are proposed to be routed near the I-15/Limonite interchange area. According to the Final EIR prepared for the project, significant unavoidable environmental impacts would result for aesthetics, agricultural, air quality, and hydrological resources. In the area of the I-15/Limonite Avenue interchange, RTRP's incremental effect to visual resources would not be cumulatively considerable or significant given the urban character of the study area. Construction of RTRP, if it occurs at the same time as the proposed project, would meet the cumulative project criteria for air quality. However, cumulative impacts, should they occur, would be minor and temporary, as adherence to SCAQMD Rule 403 by each project in the vicinity would be required. The IS/MND for the Eastvale San Antonio Medical Plaza concluded that the project's incremental effect on visual resources would not be cumulatively considerable or significant because the medical