INTERSTATE 5/STATE ROUTE 74 (ORTEGA HIGHWAY) INTERCHANGE IMPROVEMENT PROJECT

ORANGE COUNTY, CALIFORNIA
DISTRICT 12 – ORA – 5, KP 15.07/15.90 (PM 9.36/9.88)
DISTRICT 12 – ORA – 74, KP 0.00/0.32 (PM 0.0/0.20)
EA 0E3100

Draft Environmental Impact Report/Environmental Assessment

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 U.S.C. 327.

March 2008

GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:

The California Department of Transportation (Caltrans; Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Draft Environmental Impact Report/Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in Orange County, California. The document describes why the project is being proposed by the Department in cooperation with the City of San Juan Capistrano, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this Draft EIR/EA. Additional copies of this document, as well as supporting technical studies, are available for review at the following locations:
  - Caltrans District 12, 3337 Michelson Drive, Suite 100, Irvine, CA 92612
  - San Juan Capistrano Regional Library, 31495 El Camino Real, San Juan Capistrano, CA 92675
  - San Juan Capistrano City Hall, 32400 Paseo Adelanto, San Juan Capistrano, CA 92675
- We welcome your comments. If you have any comments regarding the proposed project, please attend the Public Hearing on Tuesday, April 29,2008 and/or send your written comments to the Department by the deadline.
- Submit comments via postal mail to: Smita Deshpande, Environmental Branch Chief, Attn: Scott Shelley, Caltrans District 12, Environmental Planning, 3337 Michelson Drive, Suite 380, Irvine, CA 92612-0661.
- Submit comments via e-mail to: 5-74_interchange_EIRD12@dot.ca.gov
- Submit comments by the deadline: Monday, May 12, 2008.

What happens next:

After comments are received from the public and reviewing agencies, the Department and FHWA may: (1) give environmental approval to the proposed project, (2) undertake additional environmental studies as necessary, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, the Department could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Parsons Transportation Group, Attn.: Amy Walston, Principal Environmental Planner, 2201 Dupont Drive, Suite 200, Irvine, CA 92612; (949) 263-9322 ext 271, or use the California Relay Service 1 (800) 735-2929 (TTY) or 711.

It should be noted that at a future date FHWA or another federal agency may publish a notice in the *Federal Register*, pursuant to 23 United States Code (U.S.C.) §139(l), indicating that a final action has been taken on this project by FHWA or another federal agency. If such notice is published, a lawsuit or other legal claim will be barred unless it is filed within 180 days after the date of publication of the notice (or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the federal agency action is allowed). If no notice is published, then the lawsuit or claim can be filed as long as the periods of time provided by other federal laws that govern claims are met.

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SCH# 2006051132
12–ORA–5-PM 9.36/9.88
12–ORA–74-PM 0.0/0.20
EA 0E3100

Interstate 5/State Route 74 (Ortega Highway) Interchange Improvement Project

In the County of Orange, within the City of San Juan Capistrano, improvements are proposed at the Interstate 5/State Route 74 (Ortega Highway) interchange, located on Interstate 5 from Kilometer Post (KP) 15.07 (Post Mile [PM]9.36) to KP 15.90 (PM 9.88), and on Ortega Highway from KP 0.00 (PM 0.0) to KP 0.32 (PM 0.20).

DRAFT ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S.C. 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

3-17-08
Date of Approval

Cindy Quon
District 12 Director
California Department of Transportation

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Summary/

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Summary

The California Department of Transportation (Caltrans; Department), in participation with the City of San Juan Capistrano (City) proposes to improve the existing Interstate 5 "San Diego Freeway" (I-5)/State Route 74 "Ortega Highway" (SR-74) interchange, which is located in San Juan Capistrano, California. The I-5/Ortega Highway Interchange Project (project) is needed to facilitate traffic flows and ease congestion along Ortega Highway and the I-5 freeway on-/off-ramps, accommodate an expected increase in regional traffic, and accommodate increased traffic generated by planned development east of the interchange along Ortega Highway. Caltrans, as the lead agency for this project, has prepared this Environmental Impact Report/Environmental Assessment (EIR/EA) in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Overview of the Project Area

The existing I-5/Ortega Highway interchange is located in an urbanized area of the City just east of its downtown area, and it provides the primary entrance to the City. The area surrounding the interchange is characterized by commercial, retail, hotel, and community facility uses. The limits of the project on I-5 are between Post Mile (PM) 9.36 and PM 9.88, and on Ortega Highway between El Camino Real (PM 0.0) and approximately 394 feet (ft) east of Los Cerritos Avenue (PM 0.20). The project regional location and vicinity are depicted in Figures ES-1 and ES-2, respectively.

Additional cumulative development in the project vicinity consists of twenty-two development projects in the City of San Juan Capistrano and seven Caltrans roadway projects. Table ES-1 lists the Caltrans roadway projects in the project vicinity. Section 2.4 (Cumulative Impacts) provides a full list of all cumulative development projects (including the Caltrans roadway projects) in Table 2.4-1 and discusses the potential cumulative effects of this project and concurrent cumulative development.

Table ES-1
Caltrans Roadway Projects in the Project Vicinity

Caltrans Roadway Projects		
Related Project Name	**Description**	**Project Type**
Caltrans EA 0G940K	Soundwalls approximately 660 ft (201 m) long from El Camino Real to Avenue Ramona in San Clemente.	Transportation
Caltrans EA 0E5700	This road project is located on Interstate 5 (I-5) (PM 8.58/9.35) at the Camino Capistrano interchange approximately 0.7 mile south of the I-5/Ortega Highway interchange. This project proposes to install an auxiliary lane and to widen the I-5/Camino Capistrano southbound off-ramp. This project also proposes to widen Camino Capistrano near the ramp intersection in the city of San Juan Capistrano.	Transportation

Table ES-1
Caltrans Roadway Projects in the Project Vicinity

Caltrans Roadway Projects		
Related Project Name	**Description**	**Project Type**
Caltrans EA 086900	State Route 74 Lower Ortega Highway Widening (EA 086900) proposes to widen State Route 74 (SR-74) from two lanes to four through lanes from Calle Entradero [Kilopost (KP) 1.7/Postmile (PM) 1.0] in the City of San Juan Capistrano (City) to the City /Orange County line (KP 3.0/PM 1.9). The existing SR-74 alignment consists of four through lanes from I-5 to approximately 330 feet (ft) [100 meters (m)] east of Calle Entradero where it transitions to two through lanes.	Transportation
Caltrans EA 0G6300	The Middle Ortega Safety Project (EA 0G6300) is located on Ortega Highway (PM 5.2/13.1) This project proposes to restore the eroded and damaged shoulder; replace all of the existing traffic stripes with inverted thermoplastic traffic stripes; and where conditions allow, create a 1-ft soft barrier on Ortega Highway beginning at PM 5.2 and extending to PM 13.1. This project is completely within state right-of-way (ROW).	Transportation
Caltrans EA 0F5100	The San Juan Creek Scour Project will repair streambed scouring that has exposed and endangered the existing I-5 support columns.	Transportation
Caltrans EA 043214	Upper Ortega widening is located on Ortega Highway (PM 13.30/16.28) from Trabuco Road to the Orange/Riverside County line. This project will widen the roadway for safety purposes along portions of the Cleveland National Forest.	Transportation
SR-74 /Antonio Parkway/La Pata Avenue	This is an intersection improvements project that is currently under construction.	Transportation

Purpose and Need

The proposed project is intended to facilitate traffic flows and ease existing and future congestion along Ortega Highway and the I-5 freeway on-/off-ramps. Ortega Highway at the I-5 interchange has been identified by the Department and the Orange County Transportation Authority (OCTA) as a "Choke Point," where substantial delay and congestion occur, necessitating improvement to alleviate the problem.

The I-5 Ortega Highway interchange currently experiences congestion during the morning and afternoon peak periods, resulting in unacceptable Level of Service (LOS) F conditions. Without any improvements to the interchange, traffic congestion would increase and LOS would further degrade in the future. Although the current year (2006) calculated theoretical LOS values range from LOS A through LOS E, the actual delays currently experienced in the project study area are equivalent to LOS F conditions due to

current traffic operational deficiencies resulting from closely spaced intersections (i.e., traffic queue blockage between intersections). Such operational problems are apparent from the existing traffic queue lengths, which exceed the available vehicle storage space for various turning movements within the interchange area. Approximately 99,000 vehicles per day (vpd) use this interchange, which represents an increase over year 2004 conditions, which were approximately 71,000 vpd.

With the planned development east of the project area, year 2030 traffic at the I-5/Ortega Highway interchange is projected to reach approximately 121,000 vpd. Without any improvements, the interchange will experience more congestion, continued safety deficiencies leading to higher accident rates, and further degradation of traffic operations at the interchange. The proposed project would improve the I-5/Ortega Highway interchange to alleviate existing and future traffic congestion and delays within the interchange and improve safety.

Proposed Action

Two interchange improvement alternatives have been proposed to meet the project purpose and need. In addition, a no build alternative is under consideration. All three alternatives are evaluated in this Environmental Impact Report/Environmental Assessment (EIR/EA). The potential interchange improvement alternatives are as follows.

No Build Alternative: No changes to the existing roadway configuration are anticipated for the analysis of this alternative. Ortega Highway and the surrounding land uses in the interchange area would continue to exist and operate as they do today. Currently, Ortega Highway consists of two westbound and two eastbound lanes from the I-5 freeway to Via Cordova with additional turn lanes for the I-5 on- and off-ramps. There is also a dedicated right-turn lane on each side of the highway between the I-5 freeway northbound ramps and Rancho Viejo Road. From Via Cordova to the Riverside County line, SR-74 consists of one lane in each direction. The portion of Ortega Highway west of the I-5 freeway is not part of SR-74 and is operated by the City of San Juan Capistrano. There are currently seven lanes across the bridge that include dual 10-ft left-turn lanes, an 11-ft inside lane, and a 12-ft outside lane in the eastbound direction, and a 10-ft left-turn lane, an 11-ft inside lane, and a 12-ft outside lane in the westbound direction. Figure ES-3 displays the existing conditions associated with the No Build Alternative.

It is anticipated that I-5 may be widened in the future (as a separate project) by providing one additional HOV lane in each direction. Currently, the Ortega Highway overcrossing over I-5 does not provide enough span length (horizontal clearance) to accommodate the future widening of I-5.

If the No Build Alternative is selected in lieu of one of the proposed build alternatives, the purpose and need for the project would not be achieved, and impacts related to increased traffic congestion, the inability of the interchange to accommodate projected year 2030 traffic levels, ongoing traffic safety issues, nonstandard design features, and air quality effects (because of increased traffic congestion) would be exacerbated in the project area. In addition, the Ortega Highway overcrossing over I-5 would exist as it is currently designed and would not provide the required span length to accommodate the

future widening of I-5; therefore, the Ortega Highway overcrossing would ultimately need to be reconstructed as a separate project if the I-5 widening project is implemented.

Alternative 3 (Locally Preferred Alternative) – Reconfigured Del Obispo Street Intersection and Single Cloverleaf Interchange: This alternative realigns Ortega Highway west of the I-5 southbound ramps and widens the I-5 southbound off-ramp (refer to Figure ES-4). Proposed improvements would realign Del Obispo Street and Ortega Highway so that the eastern branch of Ortega Highway curves into Del Obispo Street, which would form a new intersection south of the existing intersection. A new curved roadway would also be constructed, which would connect the current El Camino Real/Ortega Highway intersection with this new intersection. In addition, Ortega Highway would be widened and restriped east of the proposed northbound I-5 freeway ramps to accommodate the eastbound and westbound through/turn lanes and to allow for lane widening to standard widths.

The east side of the interchange would feature a partial cloverleaf ramp configuration. The current I-5 northbound off-ramp would be realigned to the east to provide room for a loop ramp in the southeast quadrant of the interchange. This loop ramp would be used for eastbound traffic to access northbound I-5 without having to make a left turn onto the current northbound on-ramp, which would be retained for westbound traffic turning right. The current intersection would be simplified by the removal of this left-turn movement, and it would be moved east, which would increase the spacing between it and the intersection of Ortega Highway and the southbound I-5 ramps. In addition, the northbound on-ramp would be modified to accommodate an acceleration lane for the proposed loop on-ramp. A retaining wall would be placed along the outside of the reconfigured northbound off-ramp to minimize right-of-way (ROW) impacts on the adjacent business park.

The Ortega Highway/I-5 freeway overcrossing would be replaced to allow for additional full-width standard[1] lanes (8 total) as well as a longer span length to provide additional space underneath to accommodate the proposed northbound loop on-ramp and for possible future widening of the I-5 freeway. The increased span length would result in a deeper bridge section, thus requiring the bridge profile to be raised to maintain the minimum required vertical clearance.

It is anticipated that the I-5 freeway may be widened in the future (as a separate project) by providing one additional high-occupancy vehicle (HOV) lane in each direction. Alternative 3 has been designed to accommodate this future widening. The cloverleaf on-ramp proposed as part of Alternative 3 was designed such that a reduction of the ramp radius would not be required to provide room for the additional I-5 HOV lanes. In the event that the I-5 freeway is widened in the future, the acceleration lane for the proposed loop on-ramp may be revised to accommodate the future freeway HOV lanes while still meeting minimum radius standards for the loop portion of the ramp. Similarly, the proposed northbound on-ramp would require minimal modification to accommodate additional I-5 freeway HOV lanes.

[1] *Full-width standard* is defined as a 12-ft lane.

After comparing and weighing the benefits and impacts of all of the feasible alternatives, the project development team has identified Alternative 3 as the "Locally Preferred Alternative," subject to public review. Alternative 3 has been identified as the Locally Preferred Alternative because of its smaller direct impact footprint and associated smaller amount of property acquisition required for ROW, as compared to Alternative 5. Furthermore, Alternative 3 would not require property acquisition and relocations of buildings on the San Juan Elementary School site, which would provide a lower project cost associated with property acquisition and avoid temporary inconveniences to the school during the construction period that would result from relocation and reconstruction of the school buildings.

Alternative 5 – Double Cloverleaf Interchange: Alternative 5 provides a double cloverleaf design with dual-lane loop on-ramps located in the northwest and southeast quadrants of the interchange (refer to Figure ES-5). The southbound and northbound off-ramps would be realigned to terminate at the intersections of Del Obispo Street and Los Cerritos Avenue, respectively. Del Obispo Street would be widened and realigned to meet the new southbound off-ramp configuration. Furthermore, Ortega Highway would be widened and/or restriped to accommodate the additional eastbound and westbound through/turn lanes and to allow for lane widening to standard widths.

The current southbound freeway on-ramp would be maintained at its current location for traffic making right turns from eastbound Ortega Highway to the I-5 freeway. Similarly, the current northbound on-ramp would be maintained for traffic making right turns from westbound Ortega Highway to the I-5 freeway; however, the northbound on-ramp would be modified to accommodate construction of the northbound loop on-ramp, as previously discussed under Alternative 3.

To minimize ROW impacts, retaining walls would be placed along the outside of the proposed southbound and northbound off-ramps. A portion of the existing 16-ft soundwall that currently protects portions of the San Juan Elementary School buildings, playground, and baseball fields would remain in place, but a portion of the barrier must be removed and replaced to accommodate the new I-5 southbound ramp configuration. South of the remaining portion of that soundwall, a new 10-ft soundwall is proposed to be constructed along the ramp shoulder to Ortega Highway. The new 10-ft soundwall along the ramp shoulder would also shield the line of sight from heavy-duty truck exhaust stacks. To be effective, the new soundwall would be designed to connect to, or overlap, the existing soundwall at this location.

If it is determined that conditions have substantially changed during the future final design phase of the project, there is a possibility that the proposed new soundwall could be determined to be infeasible, unreasonable (not cost-effective), or ineffective to achieve the desired level of noise reduction. The final decision regarding the soundwall will be made during the project design phase and after the public involvement process.

It is anticipated that the I-5 freeway may be widened in the future (as a separate project) by providing one additional HOV lane in each direction. Alternative 5 has been designed to accommodate this future widening. Similar to Alternative 3, Alternative 5 would replace the Ortega Highway/I-5 freeway overcrossing to allow for additional lanes and

full-width (12-ft) standards, as well as to provide additional span length for the possible future widening of the I-5 freeway. The bridge span and cloverleaf on-ramps were designed such that ramp acceleration lanes could be moved to provide room for additional I-5 lanes while still meeting minimum radii standards for the loop portion of the ramp. The increased bridge span length would result in a deeper bridge section, thus requiring the bridge profile to be raised to maintain the minimum required vertical clearance.

Joint CEQA/NEPA Document

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA), and it is subject to state and federal environmental review requirements; therefore, project documentation has been prepared in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Department is the lead agency under CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 United States Code (U.S.C.) 327.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, it is often the case that a "lower level" document is prepared for NEPA. One of the most commonly seen joint document types is an EIR/EA, as is the case for this project.

Following receipt of public comments on the Draft EIR/EA, the Department will be required to take actions regarding the environmental document. The Department will determine whether to certify the EIR and issue Findings (and possibly a Statement of Overriding Considerations) under CEQA and whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) under NEPA.

Coordination with Public and Other Agencies

Agency Coordination

On May 31, 2006, a Notice of Preparation/Notice of Initiation of Studies (NOP/NOIS) was submitted to the California State Clearinghouse Office (SCH). The SCH circulated the NOP to and solicited comments from appropriate state agencies during a 30-day comment period. During this review period, the NOP was posted on the Office of Planning and Research CEQAnet online database. In addition, copies of the NOP/NOIS were mailed out to local agencies and interested parties.

Agency coordination was also conducted for this project through notification/ correspondence letters. The list of agencies contacted for scoping was developed through consideration of the resources that may be affected by the project. Chapter 5 provides a list of the agencies contacted, as well as a summary of each correspondence.

Table ES-2 lists the permits, reviews, and approvals that would be required for project construction.

Table ES-2
Probable Permit Requirements

Agency	Permit/Approval	Purpose	Authority
California Department of Fish and Game	1602 Agreement	Regulates work within channel of Horno Creek	California Fish and Game Code, Section 1602
U.S. Army Corps of Engineers	Nationwide Permit	Required for work within "waters of the United States"	Federal Clean Water Act, Section 404
San Diego Regional Water Quality Control Board	Water Quality Certification	Required to ensure consistency with federal clean water requirements	Federal Clean Water Act, Section 401
State Water Resources Control Board	General Construction Stormwater Permit	Entails preparation of a Storm Water Pollution Control Plan to control discharges	Caltrans' Statewide National Pollutant Discharge Elimination System (NPDES) Permit
Orange County, Certified Unified Program Agency, Environmental Health Division	Underground Storage Tank Permit	Review and approval for removal of underground storage tanks	California Code of Regulations, Title 23
Orange County, Certified Unified Program Agency, Environmental Health Division	Well Permit	The County issues permits for wells and certain test borings as specified	County Ordinance No. 2607

Public Scoping

Three public meetings were held since project initiation in July 2000. The first two meetings, which were held on December 11, 2000, and October 8, 2003, served as public information conducted to solicit public feedback on the proposed project. The third public meeting, which was held on June 8, 2006, served as a public scoping meeting for the EIR/EA where comments were received from the public. Chapter 5 provides a description of each public meeting conducted for the project.

On May 31, 2006, an NOP/NOIS, which included an invitation to the June 8, 2006, public scoping meeting, was circulated to the public. The NOP/NOIS and public scoping meeting invitation was mailed to all property and business owners located within ½ mile of the project site, as well as other parties who had previously shown interest in the project. The notice also provided a description of the project, summaries of each alternative being considered, and contact information for questions or comments. Comment cards were attached to notices that were distributed to the recipients on the mailing list.

A newspaper advertisement announcing the public scoping meeting was also published on June 5, 2006, in local newspapers. The advertisement was available in both English and Spanish.

Copies of this Draft EIR/EA have been made available for public review at the following locations:

Caltrans District 12	San Juan Capistrano Library	San Juan Capistrano City Hall
3347 Michelson Drive	31495 El Camino Real	32400 Paseo Adelanto

Suite 100 San Juan Capistrano, CA 92675 San Juan Capistrano, CA 92675
Irvine, CA 92612

Summary of Project Impacts and Mitigation

It was determined that the appropriate environmental document to satisfy NEPA is an Environmental Assessment (EA). An Environmental Impact Statement (EIS) was not required because no issues are anticipated to have the potential to significantly affect the quality of the human environment. This determination was made after consideration of both the context in which the action takes place and the intensity of effects per section 1508.27 of the Council on Environmental Quality (CEQ) regulations. Also under NEPA, there must be evidence in the document that avoidance and minimization of impacts have been considered.

Tables ES-3 and ES-4 provide a summary of the impacts that have been determined for the proposed project. These are organized into Temporary Impacts (Table ES-3) and Permanent Impacts (Table ES-4). Also provided in the tables is a listing of the proposed avoidance, minimization, and mitigation measures intended to avoid, reduce, or mitigate impacts where possible. Impacts are characterized in terms of degree (prior to mitigation) and residual impact (after mitigation) so that the effectiveness of the mitigation measures in reducing the impacts may be understood. For this combined NEPA/CEQA document, NEPA and CEQA findings are shown separately. The term “beneficial effect” means a change producing a beneficial consequence and applies to both NEPA and CEQA. The term “no effect” means essentially no change from either existing conditions or the No Build Alternative, and it applies to both NEPA and CEQA. Where no entry is provided in the table for a given alternative, it should be presumed by the reader that the effect would be essentially the same as the No Build Alternative.

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Land Use (see Section 2.1.1)				
Alternatives 3 and 5	Alternatives 3 and 5 have the potential for construction related short-term traffic, air quality, noise, and facility impacts that could affect commercial land uses and the San Juan Elementary School site. Closure of existing commercial land uses due to property acquisition would occur and would be temporary until the businesses relocate and reopen.	▪ No mitigation is required. ▪ See mitigation for Community Impacts, Air Quality, Noise, and Traffic & Transportation/ Pedestrian & Bicycle Facilities.	Minor Impact	Less Than Significant
Community Impacts (see Section 2.1.2)				
Alternative 3	During project construction, Alternative 3 has the potential for short-term traffic, air quality, noise impacts related to construction activities that could affect commercial land uses and the San Juan Elementary School.	▪ **MM COM-1:** The City will conduct public outreach with affected area residents and businesses regarding construction schedules and potential temporary inconveniences during project construction. ▪ See mitigation for Air Quality, Noise, and Traffic & Transportation/Pedestrian & Bicycle Facilities.	Minor Impact	Less Than Significant
Alternative 5	Alternative 5 would have the potential for short-term traffic, air quality, noise, and facility impacts that could conflict with the operation of commercial land uses and the San Juan Elementary School. In addition, temporary inconveniences could occur during construction of the replacement buildings on the San Juan Elementary School property.	▪ **MM COM-1:** The City will conduct public outreach with affected area residents and businesses regarding construction schedules and potential temporary inconveniences during project construction. ▪ See mitigation for Air Quality, Noise, and Traffic & Transportation/Pedestrian & Bicycle Facilities.	Minor Impact	Less Than Significant
Utilities/Public & Emergency Services (see Section 2.1.3)				
Alternatives 3 and 5	During construction, temporary traffic impacts may be experienced in the proposed project vicinity. Delays in traffic can be expected during construction. These delays will affect motorist travel times and the response time of emergency service vehicles.	▪ **MM PS-1:** In accordance with standard project requirements, a Traffic Management Plan (TMP) shall be prepared for the project prior to construction. The TMP will include plans and requirements for the project area that must be implemented during project construction to ensure traffic safety, minimize construction-related traffic congestion, and minimize driver and pedestrian inconveniences.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Utilities/Public & Emergency Services (continued) (see Section 2.1.3)				
		▪ **MM PS-2:** To ensure that emergency response times are not disrupted, the Orange County Sheriff and Fire Departments must be informed of the project construction schedule, lane closures (if any), and detour plans (if any) well in advance of any detour plan or lane closure being implemented throughout the construction period. ▪ **MM PS-3:** Area residents must be continually informed of the project development and construction plans prior to and during the construction period so that they are aware of the construction timing, traffic detour plans, lane/road closures, and transit detour plans.		
Alternative 3	Construction activities would result in minor disruptions to the following utility services: ▪ Gas (Gas Company) ▪ Water Lines (Capistrano Valley Water District) ▪ Electrical (SDG&E) ▪ Communication (SBC/Pac Bell and Cox Telecom)	▪ **MM PS-4:** All public utility lines, pipes, and cables that are disturbed or removed to accommodate the proposed project must be replaced or relocated within the project limits to continue to meet the needs of residents and businesses in the community. During construction, arrangements must be made to avoid disruption in utility services. If interruption in service is unavoidable, then notice must be given and proper arrangements shall be made with residents and businesses.	Minor Impact	Less Than Significant
Alternative 5	Would result in similar temporary impacts to utilities as Alternative 3, but with the addition of impacts to overhead electrical lines.	▪ **MM PS-4:** All public utility lines, pipes, and cables that are disturbed or removed to accommodate the proposed project must be replaced or relocated within the project limits to continue to meet the needs of residents and businesses in the community. During construction, arrangements must be made to avoid disruption in utility services. If interruption in service is unavoidable, then notice must be given and proper arrangements shall be made with residents and businesses.	Minor Impact	Less Than Significant
Traffic & Transportation/Pedestrian and Bicycle Facilities (see Section 2.1.4)				
Alternatives 3 and 5	Temporary impacts related to construction activities and closures are expected to occur.	▪ **MM TC-1: Traffic Management Plan (TMP).** A TMP shall be developed prior to project construction and shall be implemented during construction to ensure traffic safety, reduce accident hazards, minimize construction-related traffic congestion, identify detour routes, and minimize driver and pedestrian inconveniences. The plan must include appropriate signage, identification of alternate/detour routes, and a public awareness campaign.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Traffic & Transportation/Pedestrian and Bicycle Facilities (continued) (see Section 2.1.4)				
		▪ **MM TC-2: Construction Management Plan.** A construction management plan shall be prepared prior to project construction that describes construction management activities pertaining to on-site and off-site street circulation, planned haul routes, and anticipated temporary traffic lane closures. The project construction contractor shall follow the plan and coordinate with the City and Caltrans in advance if any deviations or changes to the plan are necessary.		
Visual/Aesthetics (see Section 2.1.5)				
Alternatives 3 and 5	Visual quality during construction period would be affected by removal of vegetation, use of heavy equipment, excavation, and the presence of other general construction activity.	No mitigation is required.	Minor Impact	Less Than Significant
Cultural Resources (see Section 2.1.6)				
Alternatives 3 and 5	Potential exists for uncovering previously unidentified archaeological resources or human remains during construction activities.	▪ **MM CR-1:** If cultural materials are discovered during construction, then all earth-moving activity within and around the immediate discovery area must be diverted until a qualified archaeologist can assess the nature and significance of the find. ▪ **MM CR-2:** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbance and activities shall cease in any area or nearby area suspected to overlie remains, and the county coroner contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, then the coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Caltrans District 12 so that they can work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.	Minor Impact	Less Than Significant
Hydrology and Floodplain (see Section 2.2.1)				
Alternatives 3 and 5	Construction activities are not expected to affect flood conveyance facilities or present significant flood hazards.	No mitigation is required.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Water Quality and Stormwater Runoff (see Section 2.2.2)				
Alternatives 3 and 5	Construction activities may reduce the quality of water running off from the project area; standard construction practices would reduce this risk.	▪ **MM WQ-SW-1:** Construction activities must give special attention to storm water pollution control during the "Rainy Season" (defined by the RWQCB as October 1 through May 1). The proposed project construction shall be scheduled and phased to minimize soil-disturbing work during the rainy season to the maximum extent practical. To the extent practical, earth-moving activities shall be avoided whenever rain is predicted. Water Pollution Control BMPs must be used to minimize impacts to receiving waters. Measures must be incorporated to contain all vehicle loads and avoid any tracking of materials, which may fall or blow onto Department ROW. ▪ **MM WQ-SW-2:** The Contractor shall conform to the requirements of the Caltrans Statewide NPDES Storm Water Permit, Order No. 99-06-DWQ, NPDES No. CAS000003, adopted by the SWRCB on July 15, 1999, in addition to the BMPs specified in the Caltrans SWMP. When applicable, the Contractor shall also conform to the requirements of the General NPDES Permit for Construction Activities, Order No. 99-08-DWQ, NPDES No. CAS000002, and any subsequent General Permit in effect at the time of project construction. ▪ **MM WQ-SW-3:** An SWPPP shall be prepared by the Contractor and reviewed by the Department for approval prior to the commencement of any soil-disturbing activities. The SWPPP shall address all state and federal storm water control requirements and regulations. The SWPPP shall address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP shall include BMPs to control pollutants, sediment from erosion, storm water runoff, and other construction-related impacts. In addition, the SWPPP shall include the provisions of *SWRCB Resolution No. 2001-046*, which requires implementation of specific Sampling Analysis Procedures (SAP) to ensure that the implemented BMPs are effective in preventing exceedance of any water quality standards. ▪ **MM WQ-SW-4:** A Notice of Construction (NOC) will be filed with the RWQCB at least 30 days prior to any soil-disturbing activities.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Water Quality and Stormwater Runoff (continued) (see Section 2.2.2)				
		▪ **MM WQ-SW-5:** All work must conform to the Construction Site BMPs (Category II) requirements specified in the latest edition of the Caltrans SWMP to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs. ▪ **MM WQ-SW-6:** If dewatering were required during construction, the Department must fully conform to the requirements of the San Diego RWQCB. A Dewatering/ Deminimus Permit would be obtained, and the RWQCB would be notified at least 60 days prior to any dewatering discharges. Dewatering BMPs must be used to control sediments and pollutants. An EPA-certified laboratory would test and monitor the discharge for compliance with the requirements of the RWQCB.		
Geology/Soils/Seismic/Topography (see Section 2.2.3)				
Alternatives 3 and 5	Soil loss due to grading and other construction activities is expected to be minimal.	Standard BMPs would be followed to minimize soil loss and erosion during constructions. No mitigation is required.	Minor Impact	Less Than Significant
Paleontology (see Section 2.2.4)				
Alternatives 3 and 5	The potential exists for encountering paleontological deposits during project construction activities.	▪ **MM PAL-1:** A qualified Principal Investigator for paleontology, who is also an Orange County Certified Professional Paleontologist, must be retained to provide professional services. The Principal Investigator shall be responsible for the implementation of the mitigation plan and maintaining professional standards of work.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Paleontology (continued) (see Section 2.2.4)				
		▪ **MM PAL-2:** Qualified paleontological monitors shall perform full-time construction monitoring in areas of excavations for soundwalls and bridge pilings since they will affect the Capistrano Formation. Qualified paleontological monitors must be retained on an on-call basis during project construction to respond if there are unanticipated discoveries in other areas of the project site. Monitoring must include inspection of exposed surfaces and microscopic examination of matrix. The monitor shall have authority to divert grading away from exposed resources temporarily to recover the specimens. Cooperation and assistance from on-site personnel will be required to facilitate the timely resumption of work in the area of the discovery. ▪ **MM PAL-3:** If any discovery meets the criteria for a fossil locality, then work must be diverted until the Paleontology Field Supervisor or Principal Investigator evaluates the discovery. Localities require documentation, including location and stratigraphic information. Decisions about testing and data recovery shall be made in consultation with the City and the Department. ▪ **MM PAL-4:** If microfossil localities are discovered, then the paleontological monitor shall collect matrix for processing. To limit downtime, the paleontological monitor shall be authorized to request heavy machinery assistance to move large quantities of matrix out of the path of construction to a designated stockpile area. Testing of stockpiles shall consist of screen washing small samples (200 pounds) to determine if fossils are present. Productive tests shall result in screen washing of additional matrix from the stockpiles to a maximum of 6,000 pounds per locality. ▪ **MM PAL-5:** The Principal Investigator must prepare monthly progress reports during the project construction period to be filed with the City and the Department. ▪ **MM PAL-6:** Fossils recovered must be prepared, identified, and cataloged before donation to the accredited repository designated by the Department. The Natural History Museum of Los Angeles County or the San Diego Natural History Museum are both suitable, accredited repositories. Any resources determined not to meet significance criteria shall be offered to local schools for use in education programs.		

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Paleontology (continued) (see Section 2.2.4)				
		▪ **MM PAL-7:** The Principal Investigator must prepare a final report to be filed with the City and the Department. The report must include a list of resources recovered, documentation of each site/locality, and interpretation of resources recovered, and it must include all specialists' reports as appendices.		
Hazardous Waste/Materials (see Section 2.2.5)				
Alternatives 3 and 5	Hazardous materials may be present during construction; standard construction practices to prevent release would be applied.	▪ **MM HWM-1:** ACM management protocols must be included. The Contractor shall submit notification forms to the California Air Resources Board (CARB) a minimum of 30 days prior to demolition. ACM removal shall conform to Cal-OSHA requirements in Title 8 Sections 1529 and 341. Packaging, storage, transporting, and disposing of ACM shall conform to Cal-OSHA Title 22, Division 4, Chapter 20. ▪ **MM HWM-2:** Waste from removal of yellow thermoplastic traffic stripe, as well as residue from older buildings (if removed), shall be properly tested by a laboratory certified by the Department of Health Services Environmental Laboratory Accreditation Program. A Lead Compliance Plan must be prepared to minimize worker exposure to lead. Prior to the start of removal activities, the Contractor must submit a written work plan to the project engineer for the proper removal, storage, and disposal of the yellow thermoplastic traffic stripe. ▪ **MM HWM-3:** Prior to construction, an ADL survey must be performed near the planned excavation areas per Caltrans guidance. ▪ **MM HWM-4:** Pole-mounted transformers in the project area shall be investigated to identify transformers that contain PCBs. Once identified, SDG&E must perform at-cost testing for PCBs and PCB leaks on these transformers. ▪ **MM HWM-5:** Prior to the initiation of construction activities, surface and near-surface soil samples must be collected in excavation areas and analyzed for pesticides. Although this is not anticipated to result in worker health and safety concerns, if pesticides are detected, soil handling and disposal options shall be evaluated and implemented, as appropriate.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Air Quality (see Section 2.2.6)				
Alternatives 3 and 5	Construction activities and vehicles would produce emissions of nitrogen oxides, carbon monoxide, and particulates. SCAQMD requires control measures to reduce these emissions.	▪ **MM AQ-1:** Measures contained in Tables 1 through 4 of SCAQMD Rule 403 shall be followed, as applicable, during project construction. The Department shall be responsible for selection of appropriate applicable Rule 403 measures to be followed during project construction and for overseeing compliance with the measures by the construction contractors. The construction contractors shall be required to obtain construction permits from the City and the Department and the permits shall state the required Rule 403 measures that must be followed by the contractors. ▪ **MM AQ-2:** Construction Equipment Emission Control: The following measures shall be included in project plans and construction specifications for implementation by the construction contractors. o Use low-emission mobile construction equipment. o Maintain construction equipment engines by keeping them tuned. o Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. o Use existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher-polluting gas or diesel generators. o Develop a "Diesel Fuel Reduction Plan" that identifies the actions to be taken to reduce diesel fuel emissions during construction activities, inclusive of grading and excavation activities. Reductions in diesel fuel can be achieved by measures including, but not limited to, (a) use of alternative energy sources, such as compressed natural gas or liquefied petroleum gas, in mobile equipment and vehicles; (b) use of "retrofit technology," including diesel particulate trips, on existing diesel engines and vehicles; and (c) other appropriate measures. Prior to the issuance of a grading permit, the Diesel Fuel Reduction Plan shall be filed with the City of San Juan Capistrano Planning Division.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Noise (see Section 2.2.7)				
Alternatives 3 and 5	Construction equipment and activities would produce noise increases, but distances of separation to sensitive receptors are sufficient to attenuate most increases.	▪ **MM N-1:** To minimize noise impacts during the construction period, the contractors shall be required to comply with the noise ordinance of the City of San Juan Capistrano. Specifically, Section 9-3.531 of the San Juan Capistrano Municipal Code limits construction periods between 7:00 a.m. – 6:00 p.m. Monday through Friday and from 8:30 a.m. to 4:30 p.m. on Saturdays (Section 9-3.531, 2000). ▪ **MM N-2:** Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall operate without a muffler.	Minor Impact	Less Than Significant
Energy (see Section 2.2.8)				
Alternatives 3 and 5	Consumption of fossil fuels and electricity would occur in typical amounts. Excesses in consumption are not expected.	No mitigation is required.	Minor Impact	Less Than Significant
Biological Environment (See Section 2.3)				
Alternatives 3 and 5	Construction activities may disrupt nesting birds and other wildlife in the project area.	▪ **MM BIO-1:** To the extent practical, all removal of vegetation and other structures providing nesting habitat, as well as excavation for footings, culverts, and pilings, should be scheduled to occur between September 1 and January 31 to avoid the nesting and fledging season of many bird species common to southern California. This would be consistent with MBTA requirements. ▪ **MM BIO-2:** If the removal of vegetation and other structures providing nesting habitat, as well as excavation for footings, culverts, and pilings, cannot be postponed until after the breeding season (September 1 and January 31), then nesting surveys must be completed by a qualified biologist prior to beginning clearing and grubbing. If surveys reveal active nests closer than approximately 200 ft (60 m) and species addressed by MBTA, then all removal of vegetation and ground preparation must be delayed until fledglings have left the nest.	Minor Impact	Less Than Significant

Table ES-3 Summary of Temporary Impacts

Alternative	Potential Environmental Impacts - Temporary	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Biological Environment (continued) (See Section 2.3)				
Alternatives 3 and 5	Construction activities present opportunities for the introduction and/or proliferation of invasive plant species.	▪ **MM BIO-3:** The Contractor shall clean all equipment and vehicles with water to remove dirt, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds before or arriving to and leaving the project site ▪ **MM BIO-4:** The Contractor shall notify the Resident Engineer a minimum of 14 days prior to obtaining material from a commercial or state-furnished borrow site. The Engineer will inspect the site or stockpile for the presence of noxious weeds or invasive plants. ▪ **MM BIO-5:** As directed by the Engineer, the Contractor shall chemically or mechanically kill existing noxious weeds and invasive plants in the work area and follow appropriate disposal methods.	Minor Impact	Less Than Significant
Cumulative Impacts (see Section 2.4)				
Alternatives 3 and 5	Potential utility disruptions could result if multiple projects are constructed in the project area at the same time.	See mitigation for Utilities/Public & Emergency Services.	Minor Impact	Less Than Significant
Alternatives 3 and 5	Emergency service providers serving San Juan Capistrano could experience response time delays due to construction-related traffic impacts if multiple projects are constructed in the project area at the same time.	See mitigation for Utilities/Public & Emergency Services.	Minor Impact	Less Than Significant

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Land Use (see Section 2.1.1)				
Alternatives 3 and 5	Commercial and public institutional property acquisition required for project right of-way would result in changes in existing land use to transportation uses.	▪ No mitigation is required. ▪ See mitigation for Community Impacts, Air Quality, Noise, and Traffic & Transportation/Pedestrian & Bicycle Facilities.	Minor Impact	Less Than Significant
No Build	The No Build Alternative would not result in needed safety and circulation improvements in the project area and would therefore be considered inconsistent with local, regional, and state safety and mobility goals as described in the San Juan Capistrano General Plan/Redevelopment Plan, the OCTA mobility goals, and the Caltrans I-5 and SR-74 Route Concept Reports.	No mitigation is required.	Adverse Effect	Significant
Community Impacts (see Section 2.1.2)				
Alternative 3	Alternative 3 would involve acquisition of property to accommodate a reconfigured interchange, which would result in full and partial property acquisition of commercial properties to accommodate a widened right-of-way.	**MM COM-2:** Federal, state, and local government property acquisition programs shall be followed for the acquisition of privately and publicly owned properties. Compensation and relocation assistance shall be provided in accordance with the Uniform Relocation and Real Properties Acquisition Policies Act of 1970 as Amended (42 U.S.C. 4601–4655) (Uniform Act), as well as FHWA regulations implementing the Uniform Act. Additional Department and/or City assistance shall be provided, if applicable.	Minor Impact	Less Than Significant
Alternative 5	Alternative 5 involve acquisition of property to accommodate a reconfigured interchange, which would result in full and partial property acquisition of commercial properties to accommodate a widened right-of-way. In addition, property acquisition and onsite building replacements on the San Juan Elementary School property would be necessary.	**MM COM-2:** Federal, state, and local government property acquisition programs shall be followed for the acquisition of privately and publicly owned properties. Compensation and relocation assistance shall be provided in accordance with the Uniform Relocation and Real Properties Acquisition Policies Act of 1970 as Amended (42 U.S.C. 4601–4655) (Uniform Act), as well as FHWA regulations implementing the Uniform Act. Additional Department and/or City assistance shall be provided, if applicable.	Minor Impact	Less Than Significant

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Alternatives 3 and 5	Both build alternatives would provide improved accessibility to and from the freeway to points within the community due to improved traffic flow in and around the I-5 freeway ramps.	No mitigation is required.	Beneficial Effect	Beneficial
Utilities/Public & Emergency Services (see Section 2.1.3)				
No Build	Continued congestion and delays at the interchange and on local roads would impair accessibility and reduce response times.	No mitigation is required.	Minor Impact	Significant
Alternatives 3 and 5	Emergency service providers would have improved access and reduced response times.	No mitigation is required.	Beneficial Effect	Beneficial
Traffic & Transportation/Pedestrian and Bicycle Facilities (see Section 2.1.4)				
No Build	Continued deterioration of level of service at interchange and connecting local streets would occur, thereby increasing congestion and travel delays.	No mitigation is required.	Adverse Effect	Significant
Alternatives 3 and 5	Freeway mainline acts as constraint to ideal performance under all alternatives. Interchange traffic operations improved under all build alternatives. Alternatives 3 and 5 eliminate conflict with heavy traffic within the interchange.	No mitigation is required.	Beneficial Effect	Beneficial
Visual/Aesthetics (see Section 2.1.5)				
Alternatives 3 and 5	▪ Existing landscaped areas would be removed and replaced. Overall design and configuration of the interchange and associated structures would be changed substantially.	▪ **MM VA-1:** Allow for community reviews and an opportunity for the community to participate in the design process through the City's review process outlined in the Municipal Code and City Council Policy No. 418. ▪ **MM VA-2:** Develop bridge architecture for the Ortega Highway overcrossing to create a City Gateway, including possible bridge monuments with decorative lighting, parapet wall treatments, decorative fencing and lighting, and abutment/wing wall, to increase the memorability of the interchange. ▪ **MM VA-3:** Texturize slope paving and color to deter graffiti and enhance the bridge aesthetic.	Minor Impact	Less Than Significant

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Visual/Aesthetics (continued) (see Section 2.1.5)				
		▪ **MM VA-4:** Maximize landscape areas within the interchange, realizing the established limitation required by Caltrans for planting setbacks. Avoid landscape areas less than 10 feet wide, since these areas would have to be paved per Department standards. Landscape design should reinforce the design of the architectural elements to create a unified, cohesive design theme. ▪ **MM VA-5:** Include skyline trees in the new plantings to replace those removed by the project. ▪ **MM VA-6:** Use drainage and water quality elements within the interchange that maximize the allowable landscape. Place any water quality or detention ponds out of clear view of the interchange from I-5 or Ortega Highway. ▪ **MM VA-7:** Use a visually compatible ornamental groundcover in any basins or geo-swales if they must occur within ornamental landscape areas. ▪ **MM VA-8:** Detail soundwalls architecturally to be visually compatible with the adjacent community. Use architectural detailing, such as pilasters, wall caps, and patterns to the block layout or textures to the panels, to enhance the image of the wall. ▪ **MM VA-9:** Use planting pockets for vines on both sides of the soundwall where the ROW is too narrow to allow for other plantings. These shall be a minimum of 3 feet wide by 18 inches deep and located between the back of a barrier and the face of the wall. ▪ **MM VA-10:** Apply architectural detailing to the retaining walls, including textures, colors, and patterns. Include caps that will provide shadow lines.		

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Visual/Aesthetics (continued) (see Section 2.1.5)				
		▪ **MM VA-11:** Include plantings at the base of retaining walls on the community side to screen the walls. If the ROW is too narrow for maintenance truck access, create planting pockets for vines and shrubs along the base of the wall. ▪ **MM VA-12:** Locate access-control fencing in visually unobtrusive locations and apply black vinyl coating if placed along pedestrian areas or along local streets. ▪ **MM VA-13:** Place retaining walls near the ROW so that additional access-control fencing is not required. Do not create a "dead space" between walls and fencing. ▪ **MM VA-14:** During the project design phase, an Aesthetics Report shall be developed for the project, in conjunction with the City and the Department, to address community concerns over the appearance of the project's new elements. The Aesthetics Report shall address the community's current and intended image and seek to portray these through design. Elements to be addressed in the report include sound and retaining wall aesthetics, bridge architecture and aesthetics, color applications, streetscape and urban design, and landscape plantings. Funding and maintenance sources shall also be addressed by the report. ▪ **MM VA-15:** Landscape plantings shall employ native plant material and "historical" California plant species in keeping with the community's character.		
Cultural Resources (see Section 2.1.6)				
Alternatives 3 and 5	Both build alternatives would not permanently affect the integrity of archaeological resources in the project area. Construction of a replacement curb and sidewalk along the roadway frontage of the Frank A. Forster House (property listed on the National Register and CRHP) would occur within the existing public ROW and would not adversely affect the integrity of this historic resource.	No mitigation is required.	Minor Impact	Less Than Significant

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Hydrology and Floodplain (see Section 2.2.1)				
Alternatives 3 and 5	Small increase in surface flow would have insignificant effect on flood control channels.	▪ **MM HYD-1:** The proposed project must be constructed to reduce runoff rate and minimize erosion by incorporating retaining walls to reduce the steepness of slopes or to shorten slopes. ▪ **MM HYD-2:** The proposed project must be constructed to reduce runoff rate and minimize erosion by providing cut and fill slopes flat enough to allow revegetation and limit erosion to preconstruction rates and by collecting concentrated flows in stabilized drains and channels. ▪ **MM HYD-3:** Extended detention basins shall be incorporated into the project design, where necessary and appropriate, to reduce potential runoff volumes during peak storm events.	Minor Impact	Less Than Significant
Alternative 5	The project would encroach on an unchannelized portion of Horno Creek.	Standard BMPs would be selected and followed as part of the project design requirements. No mitigation is required.	Minor Impact	Less Than Significant
Water Quality and Stormwater Runoff (see Section 2.2.2)				
Alternatives 3 and 5	Permanent effects to water quality would result from relatively small amounts of runoff entering storm drains and offsite areas. Standard best management practices would be implemented to minimize impacts.	▪ **MM WQ-SW7:** The proposed project must be designed to minimize erosion by incorporating retaining walls to reduce the steepness of slopes or to shorten slopes; providing cut and fill slopes flat enough to allow revegetation and limit erosion to preconstruction rates; and by collecting concentrated flows in stabilized drains and channels. ▪ **MM WQ-SW8:** Erosion control measures shall also be used to address site soil stabilization and reduce deposition of sediments in the adjacent surface waters. Typical measures include the application of soil stabilizers, such as hydroseeding, netting, erosion control mats, rock slope protection, velocity dissipation devices, and flared end sections for culverts.	Minor Impact	Less Than Significant

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Water Quality and Stormwater Runoff (continued) (see Section 2.2.2)				
		▪ **MM WQ-SW9:** An onsite drainage system shall be designed with a BMP concept in place that maximizes pollutant removal while taking into account economic constraints related to maintenance, right-of-way (ROW), and construction costs. ▪ **MM WQ-SW10:** Long-term Maintenance BMPs shall be implemented, including requirements for routine maintenance work, such as litter pickup, toxics control, street sweeping, drainage, and channel cleaning. Final determination regarding the selection of Long-term Maintenance BMPs shall occur during the project's Plans, Specifications, and Estimates (PS&E) phase. ▪ **MM WQ-SW11:** Design Pollution Prevention BMPs shall be implemented, including requirements for permanent soil stabilization systems, such as preservation of existing vegetation, concentrated flow conveyance systems (e.g., drainage ditches, dikes, berms, swales), and slope/surface protection systems that use either vegetated or hard surfaces. Extended detention basins and biofiltration swales shall be incorporated, where appropriate, into the project design. Final determination regarding the selection of Design Pollution Prevention BMPs shall occur during the project's Plans, Specifications, and Estimates (PS&E) phase. ▪ **MM WQ-SW12:** Permanent Treatment BMPs shall be implemented, including requirements for permanent treatment devices and facilities, such as biofiltration strips/swales, infiltration basins, detention devices, traction sand traps, dry weather flow diversion, and Gross Solids Removal Devices. Final determination regarding the selection of Treatment BMPs shall occur during the project's Plans, Specifications, and Estimates (PS&E) phase.		

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Water Quality and Stormwater Runoff (continued) (see Section 2.2.2)				
		▪ **MM WQ-SW13:** If the proposed detention basins are incorporated into the project's final design, the basins shall be designed to meet the standard guidelines set forth in the Caltrans Storm Water Quality Manual. Access roads to basin(s) must be provided as part of the final design plans for the project.		
Geology/Soils/Seismic/Topography (see Section 2.2.3)				
Alternatives 3 and 5	The build alternatives would replace an existing transportation facility and would not introduce new permanent hazards or impacts associated with geology, soils, or topography. The project would be designed to meet current Department and State seismic safety standards.	▪ **MM GEO-1:** In accordance with standard Department requirements, detailed geotechnical studies shall be conducted during the project's future plans, specifications, and estimates (PS&E) phase. Resulting recommendations shall be incorporated into the project's final design plans to address seismic safety, liquefaction, and load-bearing concerns present in the project area. ▪ **MM GEO-2:** Monitoring during construction shall be done by a licensed geologist and engineer to ensure the construction site was properly characterized by the geotechnical studies and that the project design is in compliance with geotechnical and seismic safety standards and practices included in the final design package.	No Effect	No Impact
Paleontology (see Section 2.2.4)				
Alternatives 3 and 5	No permanent effects to paleontological resources are anticipated.	No mitigation is required.	No Effect	No Impact
Hazardous Waste/Materials (see Section 2.2.5)				
Alternatives 3 and 5	No permanent effects related to hazardous waste and materials are anticipated.	No mitigation is required.	No Effect	No Impact
Air Quality (see Section 2.2.6)				
Alternatives 3 and 5	The project build alternatives would reduce traffic congestion and produce an overall air quality benefit.	No mitigation is required.	Beneficial Effect	Beneficial

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Noise (see Section 2.2.7)				
Alternative 3	Interchange configuration changes from Alternative 3 would result in minor changes in the noise environment at adjacent sensitive noise receptor properties. Noise studies have indicated that the following sensitive noise receptor properties will experience future noise increases that will exceed the FHWA Noise Abatement Criteria for each appropriate property use. • San Juan Elementary School • Three (3) Single Family Residences • South Coast Christian Assembly However, with implementation of Alternative 3, predicted future noise levels at these sensitive receptor locations would be less than or equal to the predicted future noise levels under the No Build Alternative. Because the future noise levels would be the same under Alternative 3 than if the project is not constructed, the residual noise effect attributed to Alternative 3 is considered a Minor Impact under NEPA and a Less Than Significant Impact under CEQA.	No new noise barriers are proposed under Alternative 3 that have been proven to be feasible, reasonable, and achieve the desired noise reduction. The existing soundwall along the I-5 ramp adjacent to San Juan Elementary School would remain in place under Alternative 3. This wall is at the maximum height allowed under Department policy; therefore, it cannot be raised.	Minor Impact	Less Than Significant

Table ES-4
Summary of Permanent Impacts

Alternative	Potential Environmental Impacts - Permanent	Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Alternative 5	Interchange configuration changes from Alternative 5 would result in changes in the noise environment at adjacent sensitive noise receptor properties. Noise studies have indicated that the following sensitive noise receptor properties will experience future noise increases that will exceed the FHWA Noise Abatement Criteria for each appropriate property use. • San Juan Elementary School • Four (4) Single Family Residences • South Coast Christian Assembly Under NEPA guidelines, if it is determined during final design that noise conditions have substantially changed, noise abatement may not be necessary under NEPA guidelines. Typically, the final decision regarding noise abatement is made after completion of the project design and the public involvement processes. However, CEQA significance thresholds for noise impacts would be exceeded at the San Juan Elementary School location and the construction of Soundwall S523 has been incorporated into the project as a mitigation measure required under CEQA guidelines.	▪ **MM N-3:** If Alternative 5 is selected as the project build alternative, construct proposed Soundwall S523 in the form of a new 10-ft barrier to be located along the I-5 ramp shoulder to Ortega Highway extending south to Ortega Highway. The soundwall shall be designed to connect to or overlap the existing soundwall at this location.	Minor Impact	Less Than Significant
Energy (see Section 2.2.8)				
Alternatives 3 and 5	Interchange would not affect traffic volumes; therefore, it would not affect energy consumption.	Mitigation is not required.	No Effect	No Impact
Biological Environment (see Section 2.3)				
Alternatives 3	No permanent effects related to the biological environment are anticipated.	No mitigation is required.	No Effect	No Impact
Alternative 5	The project would result in construction within a natural portion of Horno Creek.	Standard BMPs would be selected and followed as part of the project design requirements. No mitigation is required.	Minor Impact	Less Than Significant
Cumulative Impacts (see Section 2.4)				
Alternatives 3 and 5	The project would not have permanent cumulative impacts in any category.	No mitigation is required.	Minor Impact	Less Than Significant

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PROJECT REGIONAL LOCATION

I-5 / ORTEGA HIGHWAY
INTERCHANGE IMPROVEMENT PROJECT

FIGURE ES-1

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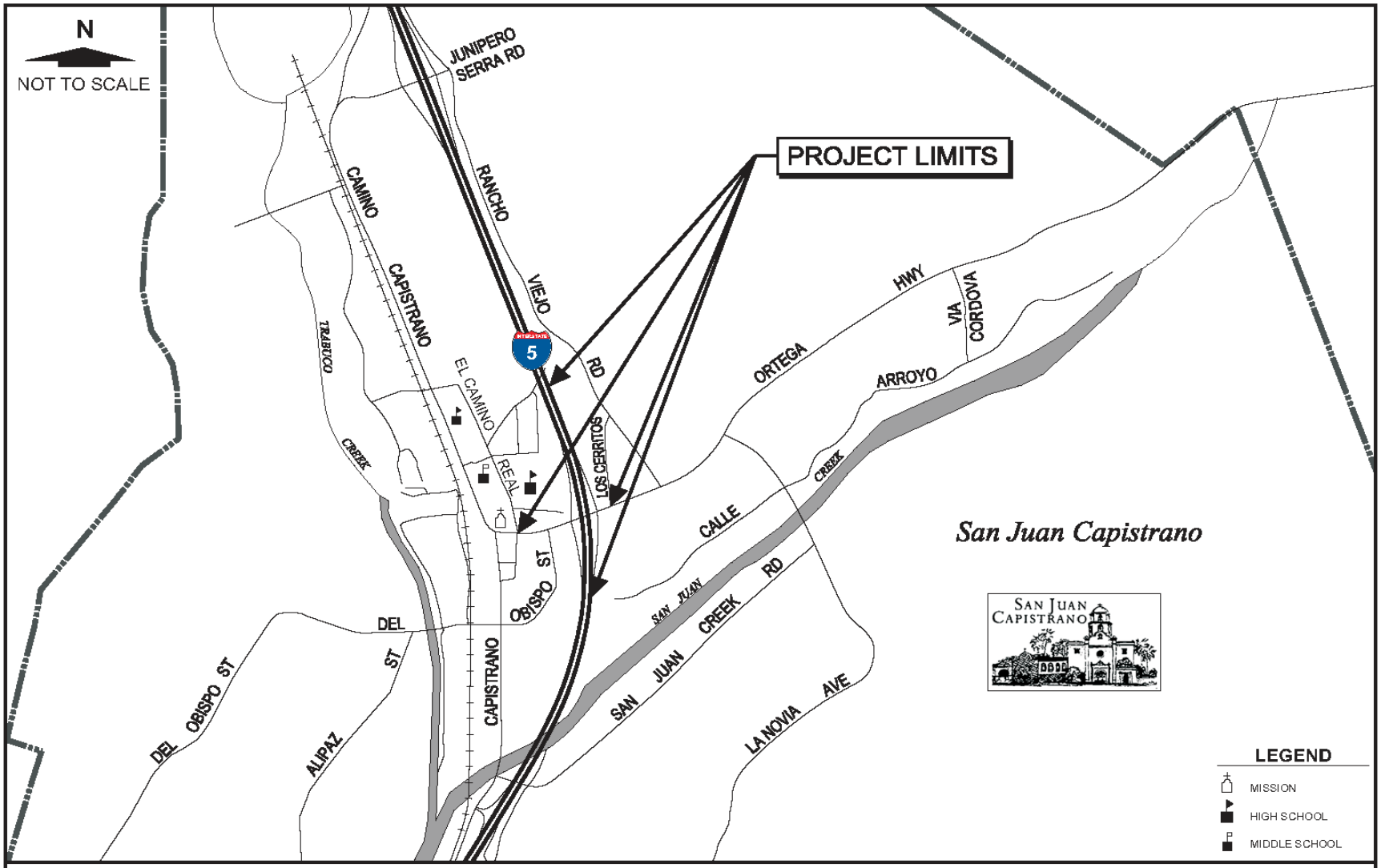

PROJECT VICINITY
I-5 / ORTEGA HIGHWAY
INTERCHANGE IMPROVEMENT PROJECT

FIGURE ES-2

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I-5 / ORTEGA HIGHWAY INTERCHANGE IMPROVEMENT PROJECT

Figure ES-3

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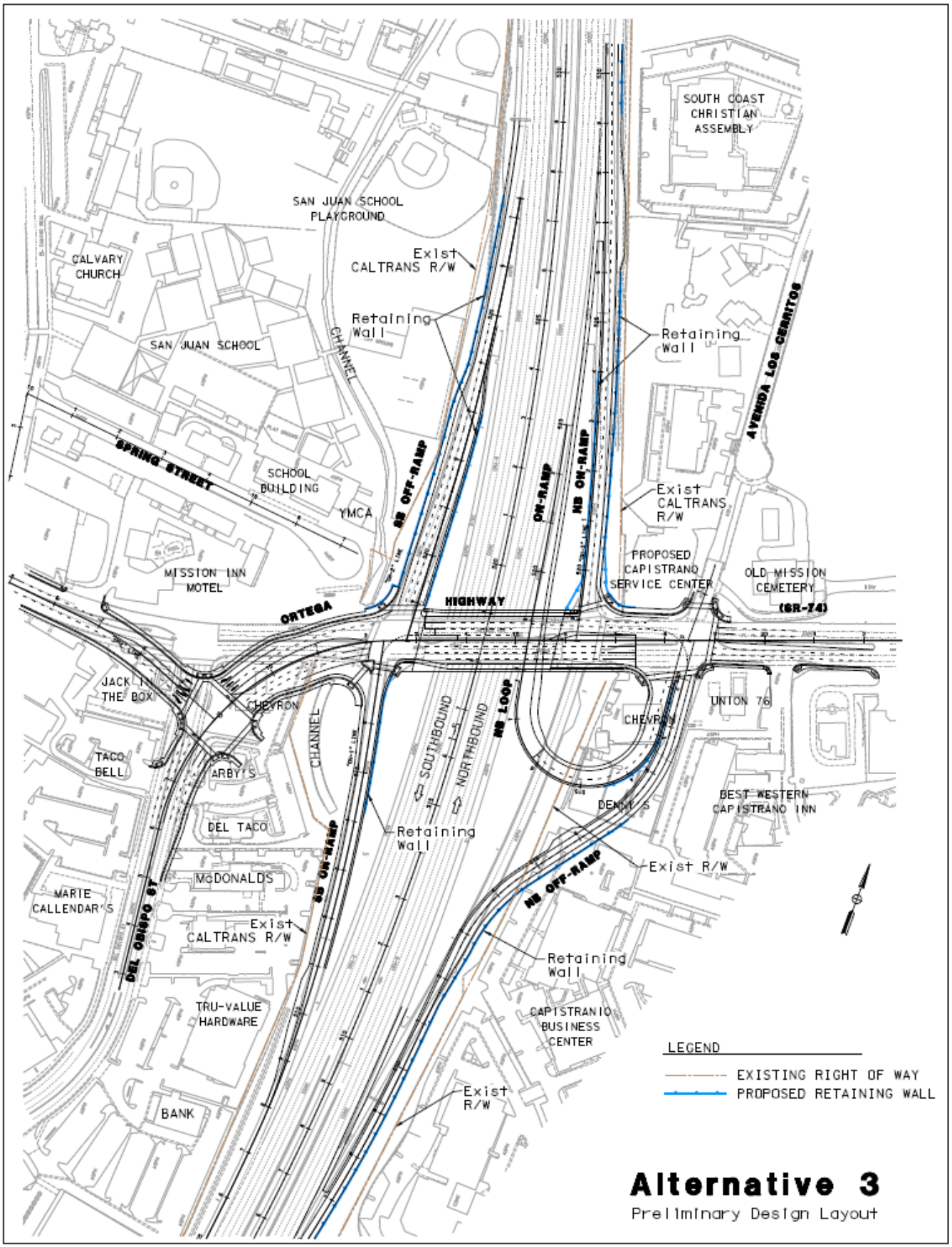
SOUTH COAST CHRISTIAN ASSEMBLY
SAN JUAN SCHOOL PLAYGROUND
CALVARY CHURCH
Exist CALTRANS R/W
Retaining Wall
Retaining Wall
SAN JUAN SCHOOL
CHANNEL
AVENIDA LOS CERRITOS
SPRING STREET
SCHOOL BUILDING
YMCA
SB OFF-RAMP
ON-RAMP
NB ON-RAMP
Exist CALTRANS R/W
MISSION INN MOTEL
PROPOSED CAPISTRANO SERVICE CENTER
OLD MISSION CEMETERY
ORTEGA
HIGHWAY
(SR-74)
JACK IN THE BOX
CHEVRON
CHANNEL
SOUTHBOUND
NORTHBOUND
NB LOOP
CHEVRON
UNION 76
TACO BELL
ARBY'S
DENNY'S
BEST WESTERN CAPISTRANO INN
DEL TACO
Retaining Wall
Exist R/W
SB ON-RAMP
NB OFF-RAMP
MCDONALDS
MARIE CALLENDAR'S
Exist CALTRANS R/W
DEL OBISPO ST
Retaining Wall
TRU-VALUE HARDWARE
CAPISTRANIO BUSINESS CENTER
LEGEND
EXISTING RIGHT OF WAY
PROPOSED RETAINING WALL
Exist R/W
BANK
Alternative 3
Preliminary Design Layout

Figure ES-4

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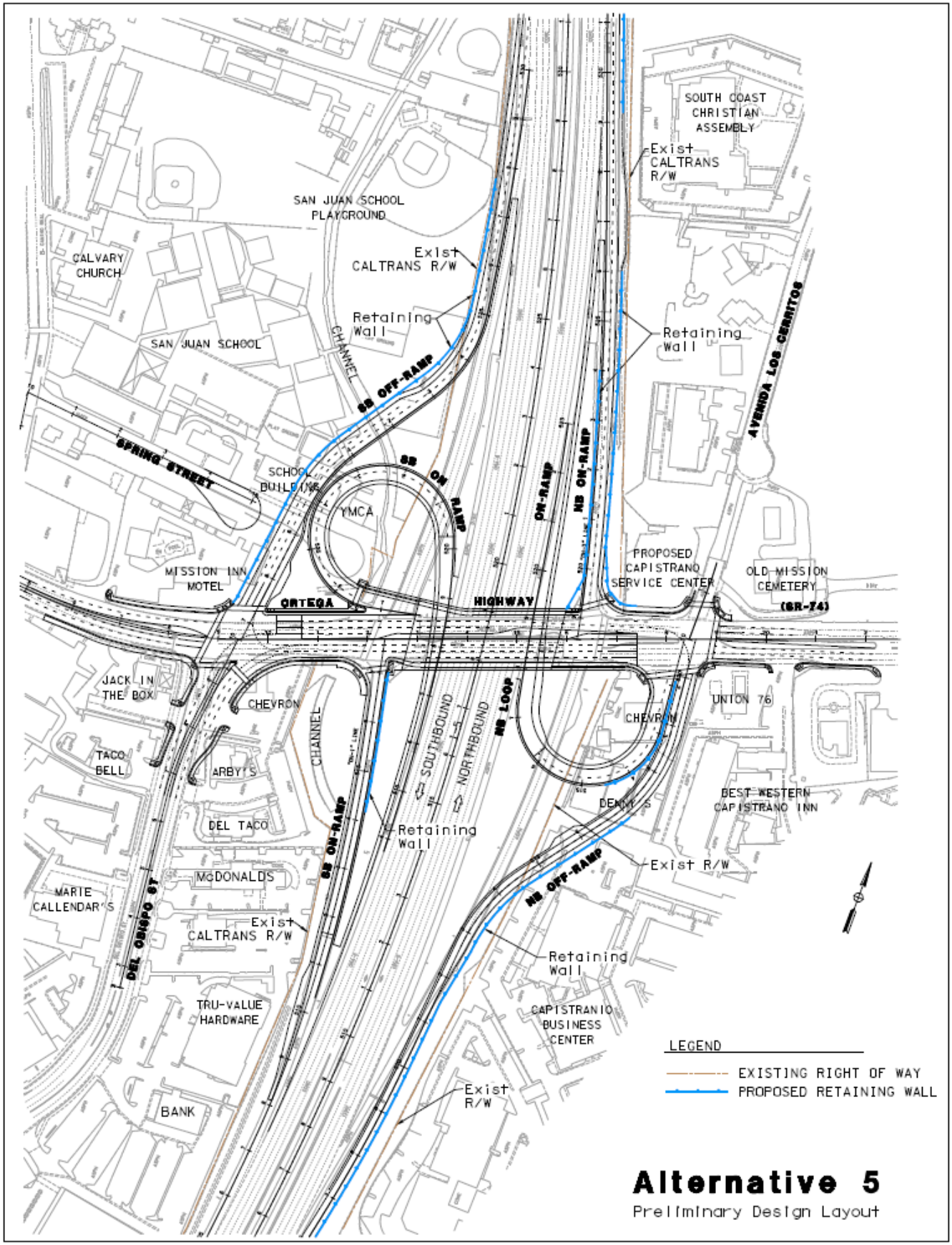
SOUTH COAST CHRISTIAN ASSEMBLY
Exist CALTRANS R/W
SAN JUAN SCHOOL PLAYGROUND
CALVARY CHURCH
Exist CALTRANS R/W
Retaining Wall
Retaining Wall
SAN JUAN SCHOOL
CHANNEL
SB OFF-RAMP
AVENIDA LOS CERRITOS
SPRING STREET
SCHOOL BUILDING
SB ON RAMP
YMCA
NB ON-RAMP
ON-RAMP
PROPOSED CAPISTRANO SERVICE CENTER
OLD MISSION CEMETERY
MISSION INN MOTEL
ORTEGA
HIGHWAY
(SR-74)
JACK IN THE BOX
CHEVRON
CHANNEL
SOUTHBOUND
NORTHBOUND
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SB ON-RAMP
Exist R/W
NB OFF-RAMP
MCDONALDS
MARIE CALLENDAR'S
Exist CALTRANS R/W
DEL OBISPO ST
Retaining Wall
TRU-VALUE HARDWARE
CAPISTRANIO BUSINESS CENTER
LEGEND
EXISTING RIGHT OF WAY
PROPOSED RETAINING WALL
Exist R/W
BANK
Alternative 5
Preliminary Design Layout

Figure ES-5

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FIGURES

APPENDICES

TECHNICAL STUDIES (Under Separate Cover)

The following technical studies are incorporated by reference into this EIR/EA, and are available for review at Caltrans, District 12 office at 3347 Michelson Drive, Suite 100, Irvine, CA 92612. Contact Scott Shelley at (949) 724-2705 for an appointment.

Community Impact Assessment

Relocation Impact Report

Traffic Impact Analysis

Supplemental Traffic Analysis (Year 2035 Horizon Year)

Visual Impact Assessment

Historic Property Survey Report

Summary Floodplain Encroachment Report

Paleontological Resources Evaluation and Mitigation Plan

Initial Site Assessment

Air Quality Technical Study

Noise Study Report

Natural Environmental Study *Minimal Impacts (MI)*