# Chapter 1 Proposed Project

## 1.1 Introduction

The California Department of Transportation (Caltrans), District 12, in cooperation with the County of Orange (County), proposes to make improvements to State Route 133 (SR-133, or Laguna Canyon Road) in both directions from just south of El Toro Road to State Route 73 (SR-73) between Post Mile (PM) 3.1 and PM R4.1, in Laguna Beach, as shown on Figure 1-1. The total length of the project is approximately one mile. Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA). The County of Orange is a funding partner and a responsible agency.

California participated in the Surface Transportation Project Delivery Pilot Program (Pilot Program) pursuant to United States Code (USC) Title 23, Section 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. The Moving Ahead for Progress in the 21st Century Act (MAP-21) (P.L. 112–141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of five years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and local assistance projects off the State Highway System within the State of California, except for certain Categorical Exclusions (CEs) that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

Since this project is combining three separate projects, each of the cost constrained Transportation Improvement Programs (TIPs) is discussed here. The SR-133 Safety Project (0N060) is included in the 2015 Regional Transportation Improvement Program (RTIP). It is also included in the Southern California Association of Governments (SCAG) 2015 Federal Transportation Improvement Program (FTIP).

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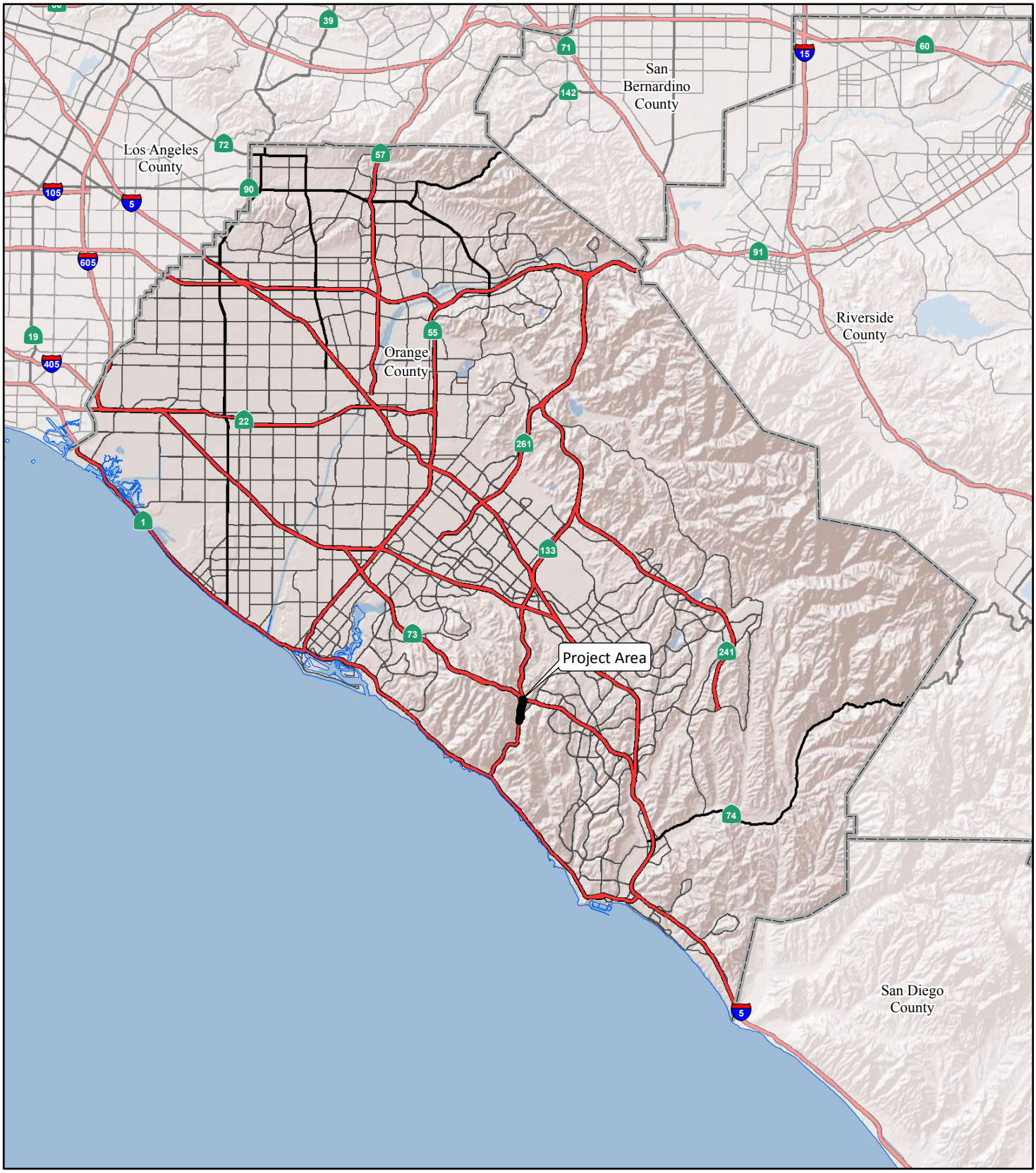


LEGEND

Project Area

FIGURE 1-1

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MILES

SOURCE: Esri (2016); Caltrans (1/19/2018)

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*SR-133 Improvement Project*

Project Vicinity

12-ORA-133 PM 3.1/R4.1

EA 0P94U

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The project is funded through the State Highway Operation and Protection Program (SHOPP), Collision Reduction, under Program Code 20.10.201.010 for the 2019/2020 fiscal year.

The proposed widening and undergrounding project is in the SCAG 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was found to be conforming by the FHWA/Federal Transit Administration (FTA) on June 1, 2016. The project is also in the 2017 FTIP, which was found to be conforming by the FHWA/FTA on December 16, 2016: "Project ID: ORA001103, Description: Grouped Projects for pavement resurfacing and/or rehabilitation." Also in the 2017 Regional Transportation Improvement Program is Project ID ORA001103, Description: Drainage Culvert, EA 0Q3600. Copies of the 2015 RTIP, 2016 RTP, and 2017 FTIP listings for the proposed project are provided in Appendix F.

## 1.2 Existing Facility

SR-133 (also known as Laguna Canyon Road) is a conventional highway, freeway, and partially tolled highway that provides access to the coastal area within Laguna Beach, residential communities, and employment centers in Irvine and residential communities in the foothills of Orange County. It is a north-south route with a length of 13.73 miles, which includes 4.21 miles of the eastern leg of the Eastern Transportation Corridor (State Route 241 [SR-241]), a tolled facility.

SR-133 was originally added to the State Highway System as Route 185 in 1933. The section between State Route 1 (SR-1) and Canyon Acres Drive was adopted as part of the State Highway System in September 1950. A freeway portion of SR-133 was added to the State Freeway and Expressway System in 1954. The Proposed Freeway Resolution, including relocation and improvements as a freeway (to Route 185), was adopted in November 1954. This resolution proposed realignment to a freeway from Canyon Acres Drive to just south of Interstate 405 (I-405).

The section of SR-133 between Proposed Route 185 and Proposed Route 1 was relinquished in January 1959 due to monetary and other constraints. The Proposed Freeway Resolution (Canyon Acres Drive to south of Route 405) was rescinded by the California Highway Commission in April 1976. Due to lack of local support, financial, and other reasons, no right-of-way was purchased.

The section of SR-133 between I-405 and Interstate 5 (I-5) was planned as a freeway in 1965. The toll road section (I-5 to SR-241) was opened in November 1998 and

adopted as part of the State Freeway and Expressway System. In 2003, Caltrans initiated a project to widen SR-133 from two-to-four lanes between I-405 and SR-73. As part of this project, SR-133 was rerouted in 2004. The southbound portion of the roadway needed to be rerouted around two lakes, which eliminated flooding during the rainy season. The project also provided for wider shoulders and a center median. Crews built four trail and wildlife crossings that promote wildlife access between open-space areas surrounding the road. Utility lines were moved underground, and a new bike lane was constructed. The project was completed in October 2006.

Today, over half of SR-133 remains "unadopted" as part of the State Freeway and Expressway System (from SR-1 to I-405). The "adopted" portion of SR-133 that is part of the State Freeway and Expressway System is from I-405 to the end of the toll road section (PM 8.08–13.64).

Currently, in the southbound direction, the project segment of SR-133 consists of two general-purpose lanes in the vicinity of SR-73, narrowing to one lane after about 550 feet (ft) and continuing as one lane until approximately 300 ft before the El Toro interchange, where it widens to two lanes and a left-turn lane. The route continues as two lanes for approximately 200 ft, at which point it merges back to one lane for the remainder of the project area. In the northbound direction, from PM 3.1, SR-133 consists of one lane until about 400 ft from the El Toro Road intersection, where it widens to two lanes and a right-turn lane. It continues as two lanes for approximately 300 ft, at which point it narrows to one lane and continues as one lane for approximately 400 ft before becoming two lanes again for the remainder of the project area.

### 1.2.1 Project Background

In early 1992, the County began preliminary efforts to design and prepare environmental compliance for improvements to SR-133 between EI Toro Road and I-405. The County prepared an Environmental Impact Report (EIR No. 556) for the preferred alternative (four-lane roadway with a variable median and improved geometrics) with project limits from El Toro Road to 0.3 mile south of I-405.
The EIR was publicly circulated from April 20, 1994, to June 3, 1994, and included a public meeting on May 19, 1994. The County Board of Supervisors certified the EIR on October 18, 1994. However, project development activities were suspended for approximately two years due to uncertain local funding commitments.

Subsequently, the design of the project was modified to split the roadway in two sections. A change in the southern project limit from EI Toro Road to SR-73 was made because SR-73 did not exist when the limits of the project and the EIR were originally developed. Due to the completion of SR-73, the logical terminus was changed from El Toro Road to SR-73.

In order to continue the improvements to SR-133 from SR-73 to El Toro Road, the County initiated the Laguna Canyon Road (SR-73 to El Toro Road) Improvement Project in 2004. This project proposed to widen the existing shoulders to the eight ft standard, provide an on-road Class III bikeway, underground overhead utilities, and construct an additional northbound approach lane at the SR-73/Laguna Canyon Road intersection. The County adopted an Initial Study/Mitigated Negative Declaration (IS/MND) (IP 05-240) in September 2006. Due to funding issues, the County was able to only construct part of the project.

The segment of SR-133 at the El Toro Road intersection is experiencing a higher-than-average collision rate due to the nonstandard lane drop in both directions. As a result, in 2014, Caltrans initiated a safety project. The purpose of this project is to reduce the number of collisions by eliminating the existing lane drop in the northbound direction, extend the second lane in the southbound direction, and improve the lane assignment from El Toro Road onto SR-133. Caltrans adopted an IS/MND/CE on September 1, 2017.

In 2016, Caltrans and the County mutually agreed to combine the construction of the Caltrans Safety Project and the elements of the September 2006 County-adopted IS/MND (IP 05-240) that had not been constructed. These elements include constructing a shoulder with bicycle lanes and undergrounding utilities outside Caltrans traveled way. Caltrans also added a drainage element due to frequent flooding issues along SR-133. These four elements (referred to as “components”) are being combined as one project, as described in detail in Section 1.5, below.

The CEQA final environmental document for two components (Components 3 and 4) and the final CEQA and NEPA documents for one component (Component 2) have previously been approved. It is the intent of Caltrans to build all four components together to avoid recurring community, resource, and construction impacts. Hence, this IS/EA incorporates by reference these final environmental documents consistent with Section 15150 of the State CEQA Guidelines. Information incorporated from these reference documents has been summarized in appropriate sections of this

document. Information incorporated is limited to data and analysis conducted for these previously approved documents, but Caltrans makes its own conclusions and significance determinations for the totality of the impacts from all four components. Provided below are the names of the documents being incorporated by reference. All documents were available for review on the Caltrans website during the public circulation of the IS/EA.

- Laguna Canyon Road (SR-73 to El Toro Road) Improvement Project Initial Study/Mitigated Negative Declaration ([IS/MND] IP 05-240), adopted in September 2006 (SCH No. 2006021134)
- State Route 133 Safety Project (12-0N060) Initial Study/Mitigated Negative Declaration, September 2017 (SCH No. 2017061065)
- State Route 133 Safety Project (12-0N060) Categorical Exclusion, September 2017.

## 1.3 Purpose and Need

The project purpose is a set of objectives the project intends to meet. The project need is the transportation deficiency that the project was initiated to address.

### 1.3.1 Purpose

The purpose of the proposed action is to:

- Improve roadway deficiencies by bringing SR-133 to design standards
- Improve safety in the vicinity of the SR-133/El Toro Road intersection
- Reduce flooding by improving drainage flow

### 1.3.2 Need

Current deficiencies of SR-133 within the project limits are as follows:

- This segment of SR-133 has roadway deficiencies such as nonstandard shoulder widths throughout the corridor. Furthermore, overhead utility poles are located immediately adjacent to the nonstandard shoulder widths on both sides of the roadway.
- This segment of SR-133 is operating with higher-than-average collision rates in the vicinity of the SR-133/El Toro Road intersection.
- Laguna Canyon's specific topography and upstream watershed make the area prone to seasonal short-term flooding and debris-carrying catastrophic flooding,

which often closes the route to traffic between Pacific Coast Highway (SR-1) and SR-73.

#### 1.3.2.1 Capacity, Transportation Demand, and Safety

Transportation demand and current capacity can be estimated and described using annual average daily traffic (AADT) data for existing year (2015), contained in Table 1.1. This table also includes AADT for opening year (2023) and horizon year (2043) conditions. The peak hour usually represents an estimate of the heaviest traffic flow, which typically occurs from 5:30 a.m. to 9:00 a.m. and from 2:30 p.m. to 6:30 p.m. In urban and suburban areas, the peak hour normally occurs every weekday. On roads with seasonal changes in recreational use, the peak hour is the hour near the maximum for the year but excluding a few hours (30–50) that are exceedingly high and not typical of the frequency of the high hours occurring during the season.

**Table 1.1 Average Annual Daily Traffic**

| | Location | | | | | Back | | Ahead | |
|---|---|---|---|---|---|---|---|---|---|
| | District | Route | Co | PM | Description | Back Peak Hour | Back AADT | Ahead Peak Hour | Ahead AADT |
| 2015 | 12 | 133 | Orange | 3.416 | El Toro Road | 2,900 | 37,500 | 1,600 | 20,100 |
| 2023 | | | | | | 3,300 | 40,900 | 1,800 | 22,000 |
| 2043 | | | | | | 4,300 | 49,600 | 2,300 | 26,800 |

AADT = annual average daily traffic
Co = County
PM = Post Mile

The average daily traffic (ADT) ranges from 18,000 to 37,000 vehicle trips and 1,450 to 2,850 vehicle trips during the peak period. Travelers experience congestion during the week in the southbound direction during the morning peak period at the southern end of SR-133. Seasonal congestion occurs on the portion of SR-133 in Laguna Beach, particularly during summer months. The 2015 Annual Average Daily Truck Traffic compiled by Caltrans indicates a truck percentage of 2.46 percent on SR-133 at El Toro Road. A growth factor was applied to the ahead peak hour volume of 1,200 vehicles on the project segment to determine an estimate of future traffic volumes. For the opening year (2023), peak-hour volumes are projected to be 2,500, and for the horizon year (2043), peak-hour volumes are projected to be 3,300. However, based on the need for the project and environmental constraints, no capacity expansion is proposed for the portion of SR-133 within the project limits.

### 1.3.2.2 Accidents and Safety Along SR-133

A higher-than-average number of accidents occur along SR-133 near the El Toro Road intersection. Table 1.2 summarizes the traffic accident data within and north of the project limits from January 1, 2012, to December 31, 2014. There were a total of 93 accidents on SR-133 within the project limits (PM 3.100 to PM 3.510) in the three-year period from January 1, 2012, to December 31, 2014. As shown in Table 2.4.1 in Section 2.4, Traffic and Transportation/Pedestrian and Bicycle Facilities, this segment of SR-133 has a higher-than-average accident rate with injuries. The Traffic Accident Surveillance and Analysis System (TASAS) indicates that 55.2 percent of these accidents were rear-end, 19 percent were broadside, 13.8 percent were hit-object, 8.6 percent were sideswipe, 1.7 percent were head-on, and 1.7 percent were other types of collisions. Causes of collisions were identified as Speeding (51.7 percent), Alcohol-Related (10.7 percent), Improper Turn (10.7 percent), Failure to Yield (3.6 percent), Other than Driver (3.6 percent), Unknown (7.1 percent), and Other Violations (21.4 percent).

**Table 1.2 Study Area Accident Data**

| Location | Number of Accidents | | | | Accident Rate | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Actual | | | Average | | |
| | Tot | Fat | Inj | F+I | Fat | F+I | Tot | Fat | F+I | Tot |
| PM 3.100/3.510 | 29 | 0 | 13 | 13 | 0.00 | 0.87 | 1.93 | 0.013 | 0.54 | 1.29 |
| PM 3.511/3.943 | 5 | 1 | 3 | 4 | 0.105 | 0.42 | 0.53 | 0.013 | 0.61 | 1.57 |
| PM 3.944/4.176 | 14 | 0 | 6 | 6 | 0.00 | 1.12 | 2.60 | 0.010 | 0.60 | 1.45 |
| PM 4.177/4.299 | 10 | 0 | 4 | 4 | 0.00 | 1.37 | 3.43 | 0.009 | 0.55 | 1.31 |
| PM 3.416 (El Toro Road) | 16 | 0 | 8 | 8 | 0.00 | 0.20 | 0.40 | 0.001 | 0.09 | 0.21 |
| PM 4.003 (Ramp from SB-73) | 7 | 0 | 3 | 3 | 0.00 | 0.13 | 0.30 | 0.001 | 0.09 | 0.21 |
| PM 4.173 (On-/Off-Ramps @ SR-73) | 12 | 0 | 4 | 4 | 0.00 | 0.17 | 0.51 | 0.001 | 0.09 | 0.21 |

F&I = Fatal + Injury
Fat = Fatal
Inj = Injury
PM = Post Mile
SR = State Route
Tot = Total

Additionally, 67.9 percent of these accidents occurred during the daylight hours, while 28.6 percent occurred during dark hours with street lighting. The majority of these accidents (96.4 percent) occurred during dry conditions; only 3.6 percent accidents took place during wet roadway conditions.

### 1.3.2.3 Roadway Deficiencies

Roadway deficiencies within the project limits include nonstandard lane drops north and south of the El Toro Road intersection, nonstandard shoulder widths in both directions on SR-133, absence of a bike lane, and inadequate drainage. Providing

standard shoulders will improve roadway safety for motorists, bicyclists, and pedestrians by creating more distance between them and providing an emergency stop area for vehicles. Undergrounding overhead utilities will remove fixed objects adjacent to the roadway and be an aesthetic improvement.

#### 1.3.2.4 Social Demands or Economic Development

The segment of SR-133 within the limits of the proposed project is within Laguna Beach and is surrounded by land uses designated almost entirely as Open Space (City of Laguna Beach GIS Map). According to the *SR-133 Transportation Concept Report* (Caltrans, June 2014), SR-133 has experienced increased traffic from regional growth and recreational travel. However, no significant growth or development is anticipated in the rural areas served by SR-133 due to the terrain and open space preserves on both sides of the roadway. As a result, capacity enhancement will be limited and the primary focus includes safety spot improvements, limitation and separation of left-turn movements, reduction of driveways and access points (typically done with redevelopment), right-turn pockets, bus turnouts, signal synchronization, and other Transportation System Management (TSM) improvements.

#### 1.3.2.5 Legislation

There are no known federal, State, or local government mandates that relate to the project. All projects located on the State Highway System are subject to the requirements of NEPA and CEQA.

#### 1.3.2.6 Modal Interrelationships and System Linkages

SR-133 connects with SR-1 (Pacific Coast Highway) in Laguna Beach through the San Joaquin Hills with several freeways in Irvine, ending at the SR-241 toll road in the latter city. It is built as an expressway from SR-73 to Laguna Canyon Road (just south of I-405 in Irvine). SR-133 is a freeway (Laguna Freeway) connecting to I-5 and a tollway (part of the Eastern Toll Road) connecting to SR-241 near the Santa Ana Mountains.

SR-133 was constructed as a County road by the 1910s; the portion of SR-133 from I-405 to I-5 was upgraded to a freeway four decades later. Plans to extend the freeway south were canceled by the State, and the southern part of the road remains an undivided highway. In 1998, the majority of the Eastern Transportation Corridor opened, and the connector between I-5 and SR-241 was designated as a tolled extension of SR-133.

SR-133 is part of the California Freeway and Expressway System north of SR-73, and is part of the National Highway System, a network of highways that are considered essential to the country's economy, defense, and mobility by the FHWA.

The Orange County Transportation Authority (OCTA) provides bus service (Bus 89) from the Laguna Beach Bus Station (Broadway) to El Toro Road.

To encourage the alternative modes of transportation, the City of Laguna Beach (City), in cooperation with OCTA, provides a bus service from I-405 into Laguna Beach in the summer months. The City also operates a trolley service to and from the Canyon of the Arts.

#### 1.3.2.7 Air Quality Improvements

This project does not increase the highway capacity; therefore, it does not contribute additional air pollutants, and per 40 Code of Federal Regulations (CFR) Title 40, Part 93.126, the project is exempt from all conformity requirements. The addition of the Class II bike lanes should encourage the use of bicycles along the route.

#### 1.3.2.8 Independent Utility and Logical Termini

The proposed project has four components, with one of its components intended to improve safety for motorists and bicyclists and the other components intended to implement highway improvements. The proposed project is independent of other Caltrans projects on SR-133 and its purpose and need cannot be fulfilled by any other Caltrans project. Furthermore, the proposed project is in no way dependent on the implementation of other Caltrans projects on SR-133 prior or subsequent to this proposed undertaking. Lastly, the proposed project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. Based on the aforementioned, and pursuant to 23 CFR 771.11(f), this project has independent utility and logical termini.

## 1.4 Project Description

This section describes the proposed Build Alternative (proposed project) and the No Build (No Action) Alternative that were developed to meet the identified purpose and need of the project while avoiding or minimizing environmental impacts. The alternatives are designated as Alternative 1 (the Build Alternative) and Alternative 2 (the No Build Alternative).

## 1.5 Project Alternatives

Alternatives may be developed to avoid or substantially lessen impacts to resources such as wetlands, floodplains, Section 4(f) properties, endangered species, and cultural sites, or to be consistent with federal, state, and departmental directives such as DD-64-R2 Complete Streets – Integrating the Transportation System. Caltrans has made an *only practicable alternative finding* for Wetlands (see Section 2.14, Wetlands and Other Waters).

### 1.5.1 Alternative 1 (Build Alternative)

The Build Alternative includes improvements to SR-133 (Laguna Canyon Road) in both directions from approximately 1,700 ft south of El Toro Road to the SR-133/ SR-73 interchange between PM 3.1 and PM R4.1 in Laguna Beach, as shown on Figure 1-1. The scope of this alternative includes the four components shown on Figure 1-2 and described below. As discussed earlier, the CEQA final environmental document for Components 3 and 4 and the CEQA and NEPA for Component 2 have been approved. It is the intent of Caltrans to build all four components together to avoid repeated community, resource, and construction impacts. Hence, this IS/EA incorporates by reference the Final Environmental Documents (FEDs) (incorporates only the data and analysis, but Caltrans makes its own conclusions and significance determinations) previously approved (as discussed above) and analyzes the totality of the impacts from all four components. As such, when combining the projects, there are some overlap areas between the four components, which are discussed below and have been addressed in the respective sections of Chapter 2 of this document. Please refer to the Project Plans as shown in Appendix H.

- **Component 1—Drainage Improvements (in the Area of the Southbound SR-133 Loop On-Ramp to Southbound SR-73):** Construct a concrete check dam with approximate dimensions of 20 ft (width) x 10 ft (height) x 200 ft (length) in the area of the southbound SR-133 loop on-ramp to the southbound SR-73.

- **Component 2—Safety Component (from 1,700 ft south to 1,200 ft north of El Toro Road):** This component was previously evaluated for potential environmental impacts in the SR-133 Safety Project IS/MND/CE that was finalized on September 1, 2017, for which Caltrans is the Lead Agency.

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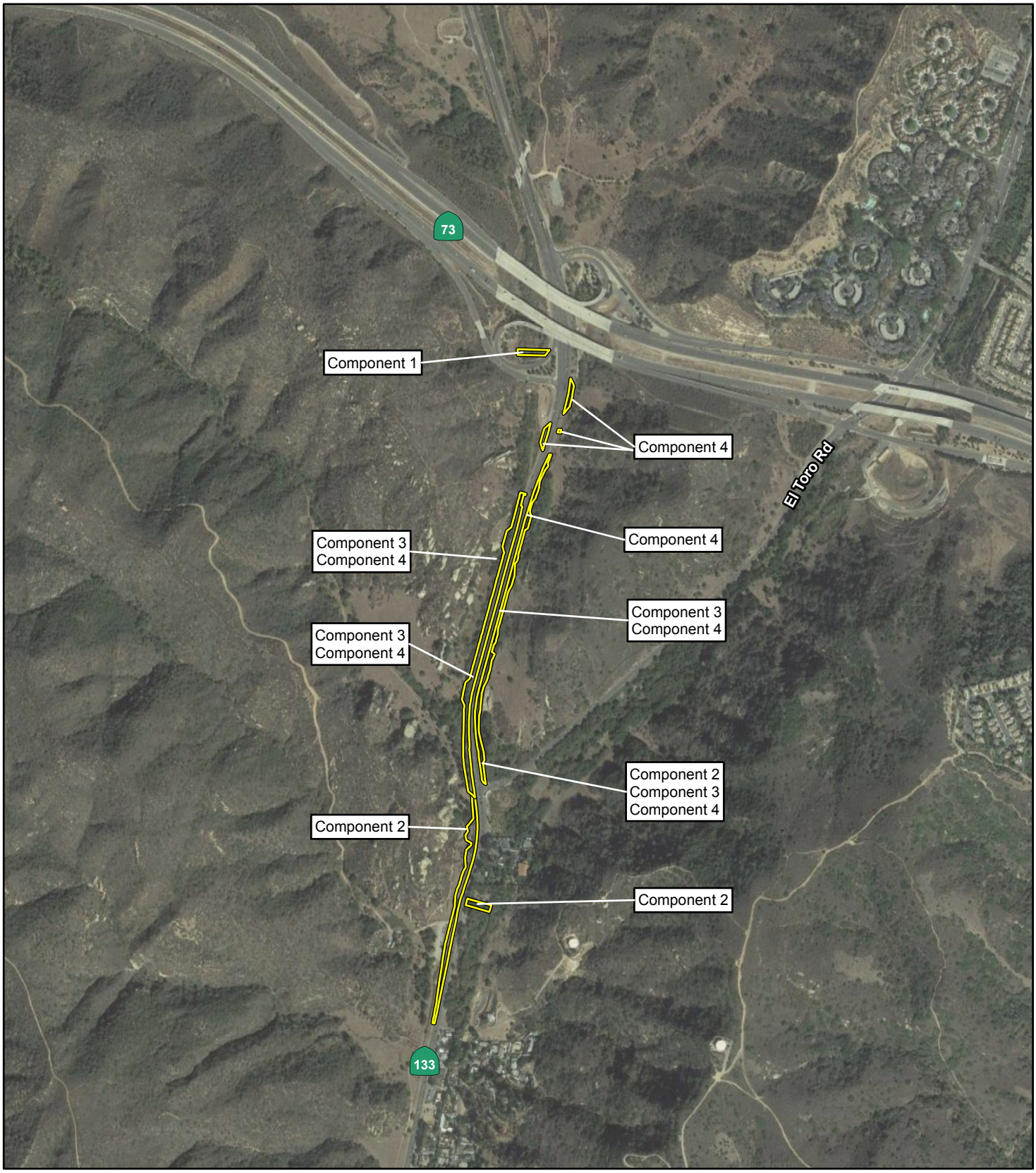


LEGEND

Project Location

FIGURE 1-2

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SOURCE: Esri (2016); Caltrans (9/14/2018)

*SR-133 Improvement Project*

Project Location

12-ORA-133 PM 3.1/R4.1

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A revalidation was prepared and approved in June 2018 to document the modifications to the scope. Additional minor scope changes at the entrance of the Willow Staging Area (included below) and a possible option to the slope at El Toro Road are being proposed.

To accommodate these changes a revalidation was approved in September 2018. The elements of this component are as follows:

- Construct additional pavement along the northbound roadbed to provide an eight ft shoulder and one 12 ft travel lane from the El Toro Road intersection for approximately 1,200 ft.
- Construct additional pavement along the southbound roadbed to provide an eight ft shoulder and one 12 ft travel lane from the El Toro Road intersection for approximately 900 ft. The two lanes will then taper to one lane to the end of the project limits.
- Remove and restripe all lanes throughout the project limits.
- In lieu of the retaining wall, as requested by Orange County Parks, the slope along the southbound roadbed just south of the El Toro Road intersection will be contoured at a 1½:1 ratio to provide one additional 12 ft travel lane and a 10 ft shoulder.[1]
- Extend the five ft by three ft reinforced concrete box (RCB) by four to five ft on northbound SR-133 approximately 300 ft north of the El Toro Road intersection.
- Install a Midwest Guardrail System (MGS) with end treatments along the northbound shoulder in front of the three ft by five ft RCB.
- Construct storm drain inlets along the newly contoured slope at a 1½:1 ratio.
- Construct a culvert and an articulated concrete block-lined channel on the northbound side of SR-133 approximately 1,000 ft south of the El Toro Road intersection.

[1] Subsequent to circulation of the IS/EA, coordination between Caltrans, the County of Orange, and stakeholders identified the potential for a hybrid retaining wall/contoured slope concept (hybrid option). Caltrans will continue to evaluate the feasibility of this hybrid option during final design. If the hybrid option is found to be feasible and acceptable to the stakeholders and is incorporated into the project design, it would result in less slope grading and substantially reduced impacts to oak trees and other native vegetation at this location.

- Reassign the exclusive right-turn lane to an optional right-/left-turn lane from westbound El Toro Road onto northbound/southbound SR-133.
- Remove/replace all detector loops at the SR-133/El Toro Road intersection.
- Relocate 13 utility poles south of El Toro Road.
- Construct a "Keep Clear Zone" and the associated hot mix asphalt (HMA) apron at the Willow Staging Area access.
- Relocate the Willow Staging Area entrance monument.

- **Component 3—Shoulder Widening, Class II Bike Lane (Between SR-73 and El Toro Road):** Component 3 was evaluated in the Laguna Canyon Road Improvement Project EIR (556) completed in October 1994 and the Laguna Canyon Road Improvement Project IS/MND completed in February 2006. An Addendum was prepared and approved in June 2018 by the County to update the MND. An EA/Finding of No Significant Impact (FONSI) is being prepared to comply with NEPA and Caltrans is the NEPA Lead Agency.

  - Construct additional pavement to provide eight ft shoulders and a Class II bike lane in both the northbound and southbound directions from the SR-133/ SR-73 interchange to the El Toro Road intersection (except that the safety component would extend the second travel lane and build eight ft shoulders on SR-133 northbound for 1,200 ft from the El Toro Road intersection).
  - Install MGS with end treatments along the southbound shoulder from just north of the El Toro Road intersection to approximately 1,200 ft south of the SR-73 interchange.
  - Install MGS with end treatments along the northbound shoulder and in front of the three ft by five ft RCB.
  - Relocate the existing flashing beacon overhead sign in the southbound direction south of the SR-73 interchange to accommodate the widening. Overhead sign locations will be determined during the design phase to avoid any design and utility conflicts.
  - Reconstruct and relocate the existing three ft by five ft earthen trapezoidal channel with an articulated block channel along southbound SR-133 from south of the SR-73 interchange to just north of the El Toro Road intersection.
  - Extend the existing three ft by five ft RCB and construct the drainage transition structure from the articulated block channel to the reinforced block culvert on the southbound side of SR-133 just north of the El Toro Road intersection.

- Install Transportation Management Center (TMC) detector stations in the northbound and southbound directions under the pavement.

- **Component 4—Underground Overhead Utilities (Between SR-73 and El Toro Road):** Component 4 was evaluated in the Laguna Canyon Road Improvement Project EIR (556) completed in October 1994 and the Laguna Canyon Road Improvement Project IS/MND completed in February 2006. An Addendum was prepared and approved by the County in June 2018 to update the MND. An EA/FONSI is being prepared to comply with NEPA and Caltrans is the NEPA Lead Agency.

  Per the County and Southern California Edison's (SCE) agreement, all the overhead utilities that are proposed to be undergrounded as discussed below, from El Toro Road to SR-73, will be outside the traveled way and shoulders. As a result, the drainage channel that runs parallel to SR-133 will be relocated. During final design, Caltrans will refine the project plans and optimize the undergrounding location, given engineering constraints discovered during the design phase and project purpose and need.

  - Underground approximately 19 utility poles from El Toro Road to the SR-133/SR-73 interchange. All poles north of the El Toro intersection are along the northbound lanes.
  - Construct joint trench and conduits outside the traveled way and shoulder pavement in the northbound and southbound directions from south of the El Toro Road intersection to the SR-133/SR-73 interchange. Construction would be undertaken by SCE.
  - Construct underground transmission vaults outside the traveled way and shoulder pavement in the southbound direction from the SR-133/SR-73 interchange to just south of the El Toro Road intersection. Construction would be undertaken by SCE.
  - Construct underground distribution vaults outside the traveled way and shoulder pavement in the northbound direction from the El Toro Road intersection to the SR-133/SR-73 interchange. Construction would be undertaken by SCE and multiple owners.
  - Construct a total of 11 Utility Company Access Point (UCAP) areas within the project limits. One UCAP was eliminated at Station 121+00 (southbound direction just south of El Toro Road) subsequent to circulation of the IS/EA.

In addition, the overall sizes of the UCAPs were also reduced by approximately 25 percent as a result of coordination with SCE.

No temporary construction easements (TCE) would be required for this project because all construction activities called temporary impact areas would be through the permanent acquisitions. The Build Alternative includes, as applicable, the following standardized features that are included as part of the Project Description (http://www.dot.ca.gov/des/oe/construction-contract-standards.html). Standardized features (such as Best Management Practices [BMPs]) are those features that are generally applied to most or all Caltrans projects. These standardized or pre-existing features allow little discretion regarding their implementation and are not specific to the circumstances of a particular project. More information on applicable project features can be found in the applicable environmental consequences subsections of Chapter 2 of this environmental document. In addition, for the purposes of consistency, these are referenced in the Environmental Commitments Record (ECR) and other sections of the environmental document, as applicable, as "Project Feature, Title of the subsection, and Number" (e.g., PF-WQ-1).

#### 1.5.1.1 Project Costs

The roadway, structure, right-of-way, and total capital costs are described below in Table 1.3.

**Table 1.3 Project Cost Estimates**[1]

| | Current Year Cost | Escalated Cost |
|---|---|---|
| Total Roadway Cost | $12,170,500 | $14,055,472 |
| Total Structures Cost | $1,132,149 | $1,307,497 |
| **Subtotal Construction Costs** | **$13,302,649** | **$15,362,969** |
| Total Right-of-Way Cost | $6,076,225 | $6,165,000 |
| **Total Project Capital Cost** | **$19,380,000** | **$21,530,000** |

[1] Estimates shown reflect the construction costs of the project.

#### 1.5.1.2 Construction Schedule

Design of the proposed project is anticipated to be completed in June 2020. Construction of the proposed project is anticipated to take 26 months, beginning in Early 2021, with completion of the project in Mid 2023. The proposed work may require long-term partial closures. Partial closures would leave one travel lane open for use in both northbound and southbound directions of travel. In addition, construction activities would be limited within the coastal zone areas of the project

between Memorial Day weekend and Labor Day, to the extent feasible. A Preliminary Transportation Management Plan (TMP) was prepared in 2017 and will be finalized during the design phase. This TMP will be a project feature (PF-TR-1; refer to Section 2.4, Traffic and Transportation/Pedestrian and Bicycle Facilities, for further information) to help facilitate motorists through work zones quickly and safely..

Specific staging locations as well as fill-and-borrow sites will be determined by the construction contractor during the construction phase, but all locations would remain within the project limits. Please refer to the TMP as shown in Appendix J.

### 1.5.2 Alternative 2 (No Build Alternative)

Under the No Build Alternative, no improvements would be made to the SR-133 within the project limits. For the purposes of analysis, the assumption is that all four components would not be constructed as one project. For this document, the No Build Alternative would maintain the existing conditions of the roadway and the SR-133/El Toro Road intersection.

However, Caltrans has previously evaluated and adopted on September 1, 2017, an IS/MND/CE for the SR-133 Safety Project (Component 2, as discussed in Section 1.3). Caltrans may choose to pursue “Component 2” as a separate Project due to its safety element. Effects pertaining to Component 2 are discussed in the SR-133 Safety Project IS/MND/CE.

The project purpose and need would not be entirely met by the No Build Alternative and there would be limited improvements for the motoring public.

## 1.6 Comparison of Alternatives

Table 1.4 provides information for comparison between the Build and No Build Alternatives.

After the public circulation period, all comments were considered, and Caltrans decided to implement the Build Alternative and made the final determination of the project’s effect on the environment. Under CEQA, no immitigable significant adverse impacts were identified; therefore, Caltrans prepared a MND.

Caltrans, as assigned by the FHWA, determined the NEPA action does not significantly impact the environment, hence Caltrans issued a FONSI.

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| **Land Use** | **Land Use Conversion**<br>• No impacts<br><br>**Land Use Consistency**<br>• No impacts<br><br>**Coastal Zone**<br>• Water quality effects would continue to occur in the coastal zone, since the proposed BMPs would not be implemented to improve the quality of stormwater runoff to the Pacific Ocean from the project area.<br><br>**Parks and Recreational Effects and Section 4(f) Use**<br>• No impacts | **Land Use Conversion**<br>• Permanent easement (will also be considered as temporary impacted area) approximately 0.75 acre of existing open space and recreation land uses at Laguna Coast Wilderness Park, and approximately 0.44 acre of existing vacant land uses (owned by the County) during construction.<br>• Permanent conversion, through acquisition, of approximately 0.93 acre of land on existing open space and recreation land within Laguna Coast Wilderness Park and approximately 1.59 acres of vacant land (owned by the County)<br><br>**Land Use Consistency**<br>• No temporary impacts.<br>• Permanent conversion, through acquisition, of approximately 0.93 acre of approximately 7,000-acre park. This small permanent acquisition along the existing SR-133 ROW would not conflict with the County's ability to establish an integrated regional recreation network that meets the region's recreation needs.<br><br>**Coastal Zone**<br>• Temporary impact of approximately 0.73 acre within the Coastal Zone, approximately 0.67 acre of which is in the Laguna Coast LCP and approximately 0.05 acre of which is within the Newport Coast LCP.<br>• Permanent impact of approximately 1.89 acres within the Coastal Zone, approximately 1.65 acres of which is in the Laguna Coast LCP and approximately 0.24 acre of which is within the Newport Coast LCP.<br><br>**Parks and Recreational Effects and Section 4(f) Use**<br>*Laguna Coast Wilderness Park*<br>• Permanent acquisition: approximately 0.93 acre (preliminary *de minimis* finding for the use).<br>• Permanent easement (will also be considered as temporary impacted area): approximately 0.75 acres (preliminary *de minimis* finding for the use).<br>• Temporary minimal visual, dust, and noise proximity effects. |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| | | *Stagecoach South Trail (within Laguna Coast Wilderness Park)*<br>• No temporary or permanent use.<br>• Temporary minimal visual, dust, and noise proximity effects.<br><br>*Laguna Canyon Trail (within Laguna Coast Wilderness Park)*<br>• No temporary or permanent use.<br>• Temporary minimal visual, dust, and noise proximity effects.<br><br>*Laguna Laurel Ecological Reserve*<br>• No temporary or permanent use.<br>• Temporary minimal visual, dust, and noise proximity effects.<br><br>*Willow Canyon Road Trail (within Laguna Coast Wilderness Park)*<br>• No temporary or permanent use.<br>• No Impacts.<br><br>*Black Jack Trail (within Laguna Coast Wilderness Park)*<br>• No temporary or permanent use.<br>• No Impacts.<br><br>*Canyon Trail (within Laguna Coast Wilderness Park)*<br>• No temporary or permanent use.<br>• No Impacts.<br><br>*Ridge Top Trial (within Laguna Coast Wilderness Park)*<br>• No temporary or permanent use.<br>• No Impacts.<br><br>*Aliso and Wood Canyon Wilderness Park*<br>• No temporary or permanent use.<br>• No Impacts.<br><br>*West Ridge Trail (within Aliso and Wood Canyons Wilderness Park)*<br>• No temporary or permanent use.<br>• No Impacts. |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| | **Community Character and Cohesion**<br>• No Impacts.<br>• No permanent impacts | **Community Character and Cohesion**<br>*Temporary Impacts*<br>• Minimal impacts due to construction noise and dust.<br>• Traffic operations along SR-133 may be affected by partial road closures associated with the construction of the proposed project that would occur over approximately 26 months (see temporary impacts under Utilities/Emergency Services).<br>*Permanent Impacts*<br>• Permanent conversion, through acquisition, of approximately 2.52 acres of land, 1.59 acres of which are publicly owned vacant land and 0.93 acre of land designated as the Laguna Coast Wilderness Park. In addition, construction of the proposed project would require a total of 0.75 acre of land for permanent easements at the edges of the Laguna Coast Wilderness Park; drainage work and potential temporary impacts would occur within these permanent easements. |
| **Community Impacts** | **Relocations and Real Property Acquisition**<br>• No Impacts | **Relocations and Real Property Acquisition**<br>*Temporary Impacts*<br>• No impacts.<br>*Permanent Impacts*<br>• No displacement or relocation of any residents or businesses. |
| | **Environmental Justice**<br>• No Impacts | **Environmental Justice**<br>*Temporary Impacts*<br>• With implementation of Project Features PF-TR-1 and PF-UES-1, construction of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice populations. Therefore, the Build Alternative would not cause disproportionately high and adverse temporary effects on minority or low-income populations, as listed above.<br>*Permanent Impacts*<br>• No Impacts. |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| **Utilities and Emergency Services** | **Utilities**<br>• No impacts<br><br>**Emergency Services**<br>• No impacts | **Utilities**<br>*Temporary Impacts*<br>• Temporary service disruptions could occur.<br>*Permanent Impacts*<br>• No impacts.<br><br>**Emergency Services**<br>*Temporary Impacts*<br>• Delay in response time for emergency services.<br>*Permanent Impacts*<br>• No impacts. |
| **Traffic and Transportation** | Temporary Impacts<br>• No impacts<br><br>Permanent Impacts<br>• No impacts | *Temporary Impacts*<br>• Detours and short-term full and partial closures are expected to result in some delays to the traveling public.<br>*Permanent Impacts*<br>• No impacts. |
| **Visual and Aesthetics** | No impacts | *Temporary Impacts*<br>• Sensitive viewers, including highway neighbors and users, would be exposed to views of vegetation removal, staging activities, truck hauling, dust control, and excavation activity.<br>• Temporally disturbed native shrubs and grasses during construction.<br>*Permanent Impacts*<br>• The visual quality would be changed slightly or not at all due to undergrounding of utilities and vegetation removal. |
| **Cultural Resources** | No impacts | *Temporary Impacts*<br>• Not applicable.<br>*Permanent Impacts*<br>• No impacts to known archaeological or historic resources.<br>• Potential for impacts to previously unknown buried cultural materials or human remains. |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| **Water Quality and Storm Water Runoff** | No impacts | *Temporary Impacts*<br>• Potential for soil erosion, sediment transport, release of hazardous materials, and increased pollutants in runoff.<br>*Permanent Impacts*<br>• Increase in impervious surface by approximately 1.6 acres.<br>• Typical pollutants generated during operation of the project include sediment/turbidity, nutrients, trash and debris, bacteria and viruses, oxygen demanding substances, organic compounds, oil and grease, pesticides, and metals. |
| **Paleontology** | No impacts | *Temporary Impacts*<br>• Not applicable.<br>*Permanent Impacts*<br>• Potential to impact sensitive paleontological resources.[1] |
| **Hazardous Wastes and Materials** | No impacts | *Temporary Impacts*<br>• Potential to encounter aerially deposited lead (ADL) at unpaved areas.<br>• Potential to disturb the existing pipelines that contains asbestos-containing materials (ACMs).<br>• Potential to encounter any petroleum pipeline that may contain residual material that would need disposal.<br>• Potential to encounter unknown hazardous waste during construction.<br>*Permanent Impacts*<br>• No impacts other than routine use of hazardous materials associated with maintenance of a transportation facility. |
| **Air Quality** | No impacts | *Temporary Impacts*<br>• Short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other construction activities.<br>*Permanent Impacts*<br>• No new regional vehicular emission impacts. |
| **Noise** | No impacts | *Temporary Impacts*<br>• Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. However, construction noise would be short-term, intermittent, and overshadowed by local traffic noise.<br>*Permanent Impacts*<br>No impacts. |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| **Natural Communities** | No impacts | *Temporary Impacts*<br>• Impacts to 0.22 acre of coastal sage scrub vegetation communities of which 0.004 acre is within the NCCP/HCP Reserve.<br>• Impacts to 0.03 acre of rock outcrops.<br>• Impacts to 0.06 acre of coast live oak woodland.<br>• Impacts to 0.87 acre of riparian habitats<br>*Permanent Impacts*<br>• Impacts to 0.38 acre of coastal sage scrub communities, none of which occurs within the NCCP/HCP Reserve.<br>• No permanent impact to rock outcrops.<br>• Impacts to 0.06 acre of coast live oak woodland.<br>• Impacts to 2.59 acres of riparian habitats. All direct permanent impacts to sycamore riparian woodland (approximately 0.10 acre) are solely associated with the proposed concrete check dam in the area of the southbound SR-133 loop on-ramp to the eastbound SR-73. |
| **Wetlands and Other Waters** | No impacts | *Temporary Impacts*<br>• Potential temporary direct Impacts to 0.008 acre of delineated USACE non-wetland waters and 0.025 acre of delineated USACE wetland waters. The areas subject to RWQCB jurisdiction coincide with those subject to USACE jurisdiction (0.033 acre).<br>• Potential temporary direct Impacts to 0.001 acre of unvegetated streambed and 0.68 acre of associated riparian habitat under delineated CDFW jurisdiction.<br>*Permanent Impacts*<br>• Potential permanent direct impacts to would result in permanent direct effects to 0.205 acre of delineated USACE non-wetland waters and 0.07 acre of delineated USACE wetland waters. As noted earlier, the areas subject to RWQCB jurisdiction coincide with those subject to USACE jurisdiction (0.275 acre).<br>• Potential permanent indirect impacts to permanent direct effects to 0.089 acre of unvegetated streambed and 2.07 acres of associated riparian habitat under delineated CDFW jurisdiction. |
| **Plant Species** | No impacts | *Temporary Impacts*<br>• Potential direct temporary impacts involving tree trimming, to individual southern California black walnut trees.<br>• Potential indirect temporary impacts to the non-listed species if presented in the BSA during construction. |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| | | *Permanent Impacts*<br>• Potential direct impacts to southern California black walnut trees associated with the removal of individual trees within the Build Alternative direct effect limits.<br>• Potential indirect impacts to paniculate tarplant and southwestern spiny rush. |
| **Animal Species** | No impacts | *Temporary Impacts*<br>• Potential indirect temporary impacts to special-status riparian species due to noise, lighting, and vibration during construction.<br>• Low potential direct temporary impacts to fledglings due to ground disturbance during construction.<br>• Although these species would be expected to vacate the area during project construction. Potential direct temporary impacts to special-status riparian species may include injury from collisions with construction equipment.<br>• Potential indirect temporary impacts to special-status grassland and open habitat species due to noise, vibration, and lighting during construction.<br>• Potential direct temporary impacts to coast horned lizard and Dulzura Kangaroo rat, if present in the direct disturbance limits during construction, may include injury from ground disturbance. Such impacts may become permanent if the species is unable to recover from the injury (also discussed under Permanent Impacts below).<br>• Potential indirect temporary impacts to special-status grassland and open habitat species due to noise, vibration, and lighting during construction.<br>• Potential direct temporary impacts to the other non-listed special-status CSS and chaparral species, if presented in the direct disturbance limits during construction, may include injury from ground disturbance during construction. Such impacts may become permanent if the species is unable to recover from the injury (also discussed under Permanent Impacts below).<br>• Potential indirect temporary impacts to western spadefoot toad and red-diamond rattlesnake due to noise, vibration, and lighting during construction.<br>• Potential direct temporary impacts to suitable breeding habitat for western spadefoot toad, if presented within the project limits during construction, could occur in the form of injury during construction. Such impacts may become permanent if the species is unable to recover from the injury (also discussed under Permanent Impacts below).<br>• Potential indirect temporary impacts to bat species due to noise, vibration, dust, night lighting, and human encroachment when construction activities near suitable tree and crevice roosting and foraging habitats presented in the BSA. |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| | | *Permanent Impacts*<br>• Potential direct permanent impacts to fledglings, including mortality from ground disturbance associated with construction activities or habitat modification, if conducted during the avian breeding season.<br>• Although these species would expected to vacate the area during construction, Potential direct permanent impacts to the two striped garter snakes, if present in the project limits during construction may include mortality from ground disturbance associated with construction activities or habitat modifications.<br>• Potential direct permanent impacts to special-status grassland and open habitat animal species due to work proposed within these habitats within the BSA.<br>• Although these species would expected to vacate the area during construction, Potential direct permanent impacts to coast horned lizard and Dulzura kangaroo rat may include mortality from ground disturbance associated with construction activities or habitat modifications if present in the build alternative area.<br>• Direct potential impacts to special-status CSS and chaparral animal species due to work proposed within these habitats within the BSA.<br>• Although these species would expected to vacate the area during construction, potential direct impacts to the other non-listed special-status CSS and chaparral species may include mortality from ground disturbance associated with construction activities or habitat modifications if the species present in the project footprint during construction.<br>• Although these species would be expected to vacate the area during construction, potential direct impacts to western spadefoot toad and red-diamond rattlesnake may occur due to work proposed within suitable habitats for these species. Impacts may include mortality from ground disturbance associated with construction activities or habitat modifications if the species is present in the project footprint during construction.<br>• Potential direct permanent impacts to bats include loss of roosting sites, particularly with regard to the removal of existing trees and modification of potentially suitable roosting habitats (e.g., culverts). |

## Table 1.4 Summary of Impacts

| Resource Impacts | No Build Alternative | Build Alternative |
|---|---|---|
| **Threatened and Endangered Species** | No impacts | *Temporary Impacts*<br>• Potential indirect temporary impacts to potentially suitable habitat for thread-leaved brodiaea and Laguna Beach dudleya through increase dust, erosion/runoff during construction or the introduction of invasive species within the direct disturbance limits of the Build Alternative.<br>• Potential indirect temporary impacts to least Bell's vireo, if presented in the BSA, due to increased noise, vibration, dust and lighting during construction.<br>• Potential indirect temporary impacts to coastal California Gnatcatcher, if presented in the BSA during construction, due to increase noise, vibration, dust, and lighting during construction.<br>*Permanent Impacts*<br>• No impacts |
| **Invasive Species** | No impacts | *Temporary Impacts*<br>• Potential to spread invasive species within the direct soil disturbance limits through the entering and exiting of contaminated construction equipment and through the improper removal and disposal of invasive species during construction.<br>*Permanent Impacts*<br>Potential effects from invasive species associated with construction are considered permanent when the introduction of invasive species into previously undisturbed areas would result from permanent effects to native habitats. |
| **Cumulative Impacts** | No impacts | The Build Alternative, when considered with other cumulative projects as stated in Table 2.19.1, would not contribute any cumulative impacts during construction or operation of the Build Alternative. |
| **Climate Change** | No impacts | • Only slight increase in greenhouse gas (GHG) emissions during construction due to idling vehicles along local roads during peak travel times.<br>• The project may help reducing GHG emissions by reducing automobile trips during operation.<br>• No sea-level rise (SLR) projection concern related to the project. |

[1] This impact is less than significant with mitigation under CEQA.

### 1.6.1 Identification of a Preferred Alternative

A Preferred Alternative was identified after considering all information in the IS/EA and technical studies. It was also based on input from the Project Development Team (PDT) members, public stakeholders, federal, State, and local agencies during the project development process. Public outreach and coordination resulted in comments from the public and governmental agencies; all of which were carefully considered during the Preferred Alternative identification process. In addition, consideration was given to all issues raised during the public circulation period. After comparing and weighing the benefits and impacts of the Build Alternative and the No Build Alternative, the PDT has identified the Build Alternative as the Preferred Alternative. The project was initiated to address safety and drainage concerns on SR-133. In addition, the project proposes to incorporate a County project to improve the roadway by adding Class II Bike lanes and to underground a portion of the utilities within the project limits.

The Build Alternative minimizes environmental acquisitions to the extent possible, and is consistent with regional plans, while addressing the primary safety needs of the project by bringing the merge lanes at El Toro Road and SR-133 up to American Association of State Highway and Transportation Officials (AASHTO) and Caltrans standards.

### 1.6.2 Alternatives Considered but Eliminated from Further Discussion

The proposed project which includes all four components, would extend the lanes north and south of El Toro Road (Component 2), widen the existing highway to include shoulders and bicycle lanes (Component 3), underground utilities (Component 4), and improve the drainage system (Components 1 and 3). The only variable to the impacts is the degree of encroachment. Component 2 (both CEQA and NEPA), and Components 3 and 4 (CEQA only) have been previously approved and environmentally cleared (see Section 1.2.1), and as a result, various alternatives were studied and eliminated and are discussed below. In addition, as part of this process, additional options were considered/and or evaluated and then later eliminated, and are also discussed below.

As Component 2 is a safety project, only the Build Alternative was analyzed. However, the approved MND/CE has been revised to eliminate the retaining wall (due to visual impacts and opposition from the interest groups and OC Parks) and replace it with a contoured slope. This has been analyzed in the 2018 Revalidation. During the public review period, there were a lot of public concerns pertaining to the

contoured slope due to the loss of oak trees. Subsequently, OC Parks recommended a hybrid option (retaining wall/contoured slope concept). Caltrans has evaluated this option; however, pending design feasibility studies, one of the options will be eliminated. This has been analyzed in the September 2018 Revalidation, and discussed in Section 1.5.

Components 3 and 4 were evaluated in the Laguna Canyon Road Improvement Project EIR (556) completed in October 1994 and the Laguna Canyon Road Improvement Project IS/MND completed in February 2006. Since the project was not constructed due to funding issues, Caltrans is now combining those components with its safety and drainage project. Since Caltrans is implementing the same project as approved by the County, no other alternatives were necessary, as other alternatives were considered and eliminated as part of the approval process by the County. However, there are minor changes to those components, as discussed in Section 1.5 (Components 3 and 4).

For Component 1, the construction of the check dam is being proposed in the southbound SR-133 loop on-ramp to southbound SR-73. Two design options—a concrete check dam and an earthen check dam—have been taken into consideration. The dimensions of concrete check dam are 20 ft (width) x 10 ft (height) x 200 ft (length). The earthen check dam needs to be about 50 ft wide to achieve the same height and length. The earthen check dam takes more area for footing, has more impact to the natural and beneficial floodplain values, and leaves less space for storm mitigation. Thus, the concrete check dam is selected for the Build Alternative. Four design options have been taken into consideration for the channel along southbound SR-133 from south of SR-73 interchange to just north of the El Toro Road intersection. The four options include: (1) an earthen trapezoidal channel, (2) a concrete trapezoidal channel, (3) an articulated concrete block channel, and (4) an RCB. The earthen trapezoidal channel has higher roughness coefficient and would not improve the current drainage problem. The concrete trapezoidal channel would impact the natural floodplain value. The RCB option requires a large cross-section and the space along the roadway is not enough. The articulated concrete block channel is chosen because it has a lower roughness coefficient than the earthen channel, and the impact to natural and beneficial floodplain values is minimal.

Also evaluated but eliminated was a possibility of a RCB culvert under the proposed 8 ft shoulder with Class II bike lanes. It would not have enough capacity to convey

on-site and off-site storm runoff, nor would it have enough carrying capacity, nor would it be efficient to intercept on-site and off-site water.

These options as discussed above were evaluated and eliminated as part of the Location Hydraulic Study and Floodplain Evaluation Report.

During the public review period, some options/alternatives were raised for the various components. These options/alternatives were considered by Caltrans, but they were eliminated from further studies for the reasons below.

- **Roundabout/Park and Ride**. Commenters suggest construction of a roundabout or creation of a park-and-ride within the project limits. Both of these improvements would result in significant additional property acquisitions within the project area, resulting in greater temporary and permanent impacts resulting from the Build Alternative.
- **El Toro Road.** Commenters suggest closure of El Toro Road or conversion of El Toro Road to a one-way road between SR-133 and SR-73. El Toro Road is a local roadway not under Caltrans jurisdiction. Modifications to El Toro Road need to be undertaken by local agencies, such as the City of Laguna Beach, the City of Aliso Viejo, or the County of Orange. Closure or modification to the operation of El Toro Road is beyond the scope of this project.
- **Using SR-73 to Bypass El Toro Road.** Commenters suggest redirecting traffic to use the northbound SR-73 bypass road, in conjunction with closure or directional closure of El Toro Road, to eliminate left-turn movements from southbound El Toro Road to southbound SR-133 and southbound left-turn movements from SR-133 to northbound El Toro Road. Diversion of traffic from El Toro Road to the SR-73 bypass road will result in additional congestion at the SR-133/SR-73 interchange intersections. This change would significantly increase travel time and distance, increase southbound traffic collisions, increase the traffic queue lengths and the bypass road, intersection delay, and increase vehicle emissions and waste fuel. These degradations negatively affect the California economy and quality of life – they are in direct opposition to Caltrans' mission. Additionally, the SR-73 bypass road does not have enough capacity to accommodate the traffic being diverted. There will also be significant weaving issues between traffic trying to merge on to SR-73 from El Toro Road, El Toro Road traffic being diverted to SR-133 using the bypass road and SR-73 off-ramp traffic traveling to SR-133. Northbound traffic bound for El Toro Road heading south on SR-73 would need to U-turn at the SR-73 northbound off-ramp/SR-133 intersection and

pay a toll on SR-73. A new southbound on-ramp alignment for right turns may be infeasible due to environmental impacts and costs.

- **Reduce SR-133 to One Lane.** Commenters suggest reducing southbound SR-133 to a single lane from SR-73 to Canyon Acres Drive. SR-133 is currently one travel lane in each direction from Canyon Acres Drive to SR-73, with the exception of two lane flares at the intersection of Canyon Acres Drive and El Toro Road, at the northbound segment from 850 ft north of El Toro Road to SR-73, a distance of about 2,500 ft. The flares help process more traffic through signalized intersections while reducing or avoiding congestion and delay. Additionally, the segment between Canyon Acres Drive and El Toro Road has a two-way-left-turn center lane to facilitate left turns at driveways and local streets. As such, SR-133 operates as a two-lane conventional highway between Canyon Acres Drive and El Toro Road and as a three-lane highway (two lanes northbound, one lane southbound) between El Toro Road and SR-73. The primary safety and congestion issues occur along the single southbound lane. A second southbound through lane is preferred but is not a part of the Build Alternative. The project extension of the merge lane southward is an operational improvement with a safety mandate. Therefore, for the sake of safety and operations, it is infeasible to reduce roadway traffic to single-lane operations.
- **Traffic Signal at Willow Canyon Staging Area.** Willow Canyon Road serves as access to the Willow Staging Area. Observers recorded nominal traffic volumes during the weekday morning peak hour. Only nine cars entered and two cars left the Willow Staging Area during a typical weekday peak hour. The outbound cars did not make a left turn to travel north along SR-133. A signal is not warranted at this intersection due to very low driveway traffic volumes per California Manual for Uniform Traffic Control Devices (MUTCD). Additionally, Caltrans prepared a traffic simulation to determine the delay and safety of ingress/egress traffic from this driveway. Caltrans produced a “Synchro” simulation, which illustrated that vehicles accessing this driveway would not encounter enough significant delay to justify a traffic signal. There is insufficient traffic collision history to trigger a traffic and engineering safety study at this location. Anecdotal reports state that on some weekends and during special events, the Willow Staging Area parking area fills to capacity (about 50 spaces). Others report operational problems (delay) and elevated safety risks involving left-turning exit movements from the Willow Staging Area onto SR-133. This is a consequence of heavy through traffic on single traffic lanes with insufficient gaps. This situation occurs with regularity within the entire corridor where single-lane

capacity exists. Caltrans routinely responds to public complaints of operational and safety impacts by conducting traffic investigations, recording conditions, and recommending incremental safety and operational improvement projects. Given the above-known information, a traffic and engineering study is not justified. OCTA and the City of Laguna Beach should consider improving safety and capacity by adding lanes. Four lanes would provide more gaps, reduce collisions, reduce delay, and reduce the air pollution associated with delay. The Build Alternative would improve operations at the Willow Staging Area with right-in, right-out maneuvers using the new eight ft shoulders and a passing lane. The Build Alternative would pave an apron across the Willow Staging Area entrance to cure the dirt and gravel degradation area caused by vehicle acceleration and braking and surface water erosion. Left-in and left-out movements are preserved with assistance of a two-way left-turn center lane that serves as a left-turn pocket for northbound left-in turning traffic and as an acceleration/refuge lane for left-out maneuvers.

- **Tunnel.** Commenters suggested a study of a four-lane tunnel connecting Philips Street to El Toro Road at SR-73 with closure of the current SR-133 alignment from El Toro Road to SR-73. A tunnel alternative is infeasible due to its high cost, significant environmental and technical challenges (e.g., high groundwater table, existing flooding conditions during storm events, and exhaust venting), and the existing available surface transportation alternatives.

### 1.6.3 Reversible Lanes

Assembly Bill 2542 amended the California Streets and Highways Code to require, effective January 1, 2017, that Caltrans or a regional transportation planning agency demonstrate that reversible lanes were considered when submitting a capacity-increasing project or a major street or highway lane realignment project to the California Transportation Commission for approval (California Streets and Highways Code, Section 100.015). This project is not a capacity enhancement or a major realignment project; hence, reversible lanes are not applicable.

### 1.6.4 Transportation System Demand and Transportation Demand Management Alternatives

TSM strategies consist of actions that would increase the efficiency of existing facilities by increasing the number of through trips a facility can carry without increasing the number of through lanes. Component 3 incorporates the establishment of Class II bike lanes, which will encourage bicycle travel.

Transportation Demand Management (TDM) focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy.

TDM strategies were not considered and discussed as part of this project because they were determined to be not relevant to the purpose of the project.

Although TSM measures alone could not satisfy the purpose and need of the project, TSM measures have been incorporated into the Build Alternative. These include bicycle lanes and Intelligent Transportation System (ITS) elements such as fiber-optic and other communication systems for improved connectivity and remote management.

### 1.6.5 Permits and Approvals Needed

Table 1.5 lists the permits, reviews, and approvals that would be required for project construction.

## Table 1.5 Permits, Reviews, and Approvals

| Agency | Permit/Approval | Time to Acquire |
|---|---|---|
| Regional Water Quality Control Board (RWQCB) | Section 401 Water Quality Certification | Six months during PS&E |
| United States Army Corps of Engineers (USACE) | Section 404 Permit | Six months during PS&E |
| United States Fish and Wildlife Service (USFWS) | Section 7 Consultation | Complete, August 2018 |
| California Department of Fish and Wildlife (CDFW) | Section 1602 Streambed Alteration Agreement | Six months during PS&E |
| City of Laguna Beach | Coastal Development Permit | Two months to one year during PS&E |
| California Coastal Commission (CCC) | Federal Coastal Consistency Certification | Consistency Certification was initiated with the circulation of the DED but the approval will be received during the application of the permits. |
| Orange County Flood Control District | Permit | During PS&E |
| State Water Resources Control Board | Caltrans Statewide NPDES Permit | Acquired |
| Orange County Public Works Flood Division and FEMA | Conditional Letter of Map Revision (CLOMR) | During construction |
| Orange County Public Works Flood Division and FEMA | Letter of Map Revision (LOMR) | After construction |
| State Historic Preservation Office (OHP) | Section 106 Concurrence | Concurrence received in July 2018 |
| Orange County Parks (OC Parks) | Section 4(f) Concurrence | Concurrence received in September 2018 |
| State Water Resources Control Board (SWRCB) | NPDES Construction General Permit | Acquired |
| California Transportation Commission (CTC) | CTC will vote to approve funds | Following the approval of the FED, the CTC will be required to vote to approve funding for the project. |
| Public Utilities Commission (PUC) | Compliance with PUC General Code 131D | During final design, if needed, for undergrounding of overhead utilities. |

Caltrans = California Department of Transportation
DED = Draft Environmental Document
FED = Final Environmental Document
FEMA = Federal Emergency Management Agency
NPDES = National Pollutant Discharge Elimination System
PS&E = Plans, Specifications, and Estimates

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