

Chapter 2 – Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

This chapter describes the current condition of resources within the project limits and identifies the potential effects of implementing the Build Alternatives. Each subsection describes the present conditions, discusses the potential impacts of building the proposed project, and indicates what measures would be taken to avoid, minimize, or mitigate those impacts.

The environmental analysis contained within the following chapter considers the potential environmental consequences associated with implementation of the three proposed alternatives (one No Build Alternative and two Build Alternatives [including Design Option B]).

The environmental impact analyses discuss potential impacts in three general categories: human environment, physical environment, and biological environment. The following discussion of potential effects is presented by environmental resource area. As part of the scoping and environmental analysis carried out for the proposed project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in the document.

- **Coastal Zone:** California's Coastal Zone generally extends 1,000 yards inland from the mean high tide line. The Study Area is outside of the Coastal Zone and is not anticipated to have any effects on coastal resources. Therefore, the Coastal Zone Management Act of 1972, the primary federal law enacted to preserve and protect coastal resources, is not applicable, and the Build Alternatives would not affect coastal resources.
- **Wild and Scenic Rivers:** According to the Federal Bureau of Land Management, there are no designated Wild and Scenic Rivers within or in proximity to the project limits. Therefore, no impacts would occur and no avoidance, minimization, and/or mitigation measures are required.
- **Farmlands/Timberlands:** The Build Alternatives are in a suburban setting. Any component of the Build Alternatives that would not occur within the existing roadway infrastructure and right-of-way would occur on lands that are currently adjacent to freeway facilities with no potential for direct or indirect irreversible conversion of protected farmlands or timberlands. Furthermore, there are no farmlands or timberlands within the project vicinity.
- **Growth:** The Build Alternatives are within a generally dense urbanized area with limited available space for future developments; therefore, the Build Alternatives would not result in any capacity enhancements and would not affect growth.
- **Hydrology and Floodplain:** Per the Location Hydraulic Study (August 2018) prepared for the Build Alternatives, detailed hydrology and floodplain analyses were not included because there would be no floodplain encroachment. In

addition, the Build Alternatives would not substantially alter the existing drainage pattern of the area. Therefore, no findings would be required pursuant to Executive Order 11988 (Floodplain Management) and Federal Highway Administration requirements outlined in 23 Code of Federal Regulations 650 Subpart A.

- **Mineral Resources:** There are no mineral resources within or adjacent to the project limits.
- **National Marine Fisheries Service:** The National Marine Fisheries Service (NMFS) Species List identified four special-status species/essential fish habitats with potential to occur in the general vicinity of the Biological Study Area (BSA). However, no special-status species/essential fish habitats occur within the BSA and they are not expected to occur within the project limits, based on lack of suitable habitat. A “no effect” finding was determined for all species and critical habitat on the NMFS Species List having the potential to occur in the BSA. No impacts would occur and no avoidance, minimization, and/or mitigation measures are required.
- **Natural Communities:** Based on the Natural Environment Study (Minimal Impacts) (NES-MI) (December 2018), no natural communities of special concern occur within the project limits. Furthermore, the Build Alternatives would not adversely affect wildlife corridors, wildlife movement, nor fish passage within the BSA. Although the NES-MI identified two plant communities of special concern (Southern Willow Cottonwood Scrub and Southern Sycamore Alder Riparian Woodland) within the BSA, they are at the outer limits of the 500-foot buffer and will not be impacted by the Build Alternatives.
- **Wetlands and Other Waters:** Based on the NES-MI, no wetlands or earthen channels occur within the project limits. Furthermore, the Orange County Transportation Authority (OCTA) Programmatic Jurisdictional Delineation (ICF, 2012) showed two drainage features within the project limits of the I-5/EI Toro Road Interchange (D- 1 and D-2). These potential jurisdictional drainages were verified during the follow-up field surveys in 2018. No other drainages or water conveyance channels with potential jurisdiction were identified or occur within the project impact limits. Under the current design for the Build Alternatives (including Design Option B), no aboveground waters (e.g., v-ditches, channels) will be affected by this interchange improvement project. If design scope changes and jurisdictional drainages within the project limits may be affected, Caltrans and OCTA will coordinate with the United States Army Corps of Engineers, the State Water Resources Control Board, and the California Department of Fish and Wildlife.
- **Plant Species:** Based on the NES-MI, a total of 11 special-status plant species (3 of which are federally listed) have the potential to occur in the BSA. The majority of the BSA is composed of highly urbanized and developed areas and no special-status species were observed, nor are they expected to occur, within the BSA. Therefore, no impacts would occur to special-status plant species and no avoidance, minimization, and/or mitigation measures are required.

- Threatened and Endangered Species:** Based on the United States Fish and Wildlife Service (USFWS) Species List and the species listed under the California Endangered Species Act, a total of nine federal and three State-listed species could potentially occur within the BSA; refer to Table 2.1, Federal Species Effect Determination, below. However, according to the NES-MI, no federal or State listed species were observed within the BSA, nor are they expected to occur within the project limits due to the highly developed area, lack of suitable habitat, and known species distributions. Furthermore, there are no designated critical habitats within the BSA. A “no effect” determination has been made for all federally listed species occurring on both the NMFS and USFWS Species Lists (Table 2.1). Therefore, no impacts would occur, and no avoidance, minimization, and/or mitigation measures are required.

Table 2.1: Federal Species Effect Determinations

Scientific Name	Common Name	Status		General Habitat Description	Effect Determination
		USFWS	CDFW		
BIRDS					
<i>Sternula antillarum browni</i>	California Least tern (nesting)	FE	SE	Nests along the coast from San Francisco Bay south to northern Baja California. Forages in shallow water. Colonial breeder on bare or sparsely vegetated, flat substrates, sand beaches, alkali flats, landfills, or paved areas.	No effect
<i>Polioptila californica</i>	Coastal California gnatcatcher	FT	SSC	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 ft) in elevation in cismontane southwestern California and in Baja California.	No effect
<i>Vireo bellii pusillus</i>	Least Bell's vireo (nesting)	FE	SE	Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 ft (0.6–3.0 meters) above ground.	No effect
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher (nesting)	FE	SE	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and possibly extreme northwestern Mexico. Winters in Central and South America. Below 6,000 ft in elevation.	No effect
AMPHIBIANS					
<i>Anaxyrus californicus</i>	Arroyo toad	FE	SSC	Inhabits creeks and arroyos with sandy banks and lightly covered vegetation. Adults estivate during the drier months and breed in shallow pools or slower moving water.	No effect
CRUSTACEANS					
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE	None	Inhabit vernal pools	No effect
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE	None	Inhabit vernal pools	No effect
FISHES					
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE	SSC	Inhabits estuaries, brackish waters near ocean inlets within mud burrows.	No effect
<i>Oncorhynchus mykiss</i>	Southern California steelhead	FE	None	Adults inhabit open ocean and streams, creeks, and/or rivers that connect to oceans. Juveniles inhabit natal streams and rivers.	No effect
FLOWERING PLANTS					
<i>Verbesina dissita</i>	Big-leaved crownbeard	FT	ST	Perennial herb. Occurs in southern maritime chaparral (90% of time) and coastal scrub (10% of time) from 135 to 615 ft in elevation along the immediate coast.	No effect

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Scientific Name	Common Name	Status		General Habitat Description	Effect Determination
		USFWS	CDFW		
<i>Dudleya stolonifera</i>	Laguna beach dudleya (liveforever)	FT	ST	Perennial stoloniferous herb. Occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands, often in thin soil on north-facing sandstone cliffs, from 30 to 780 ft in elevation.	No effect
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT	SE	Perennial herb. Occurs in grasslands, alkali playa, vernal pools, and occasionally associated with coastal sage scrub.	No effect
MAMMALS					
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE	SSC	Historically occupied open habitats on sandy soils along the coast from Los Angeles to the Mexican border.	No effect

CDFW = California Department of Fish and Wildlife
FE= Federally Endangered
ft = foot/feet
FT= Federally Threatened

SE= State Endangered
SSC= Species of Special Concern
ST= State Threatened
USFWS = United States Fish and Wildlife Service