

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

The baseline for analysis under CEQA is existing conditions at the time of initiation of the environmental studies for the proposed project (2016). It should be noted that, while the Traffic Study is dated October 2017, it is based upon traffic data collected from a range of sources during 2015 and 2016. As such, the year for existing conditions identified within the Traffic Study is 2015/2016.

AESTHETICS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The potential for the Build Alternatives to result in impacts related to aesthetics was assessed in the Visual Resources Technical Memorandum (July 11, 2017) and the Visual/Aesthetics section in Chapter 2. The following discussions are based on those analyses.

a, b) No Impact.

The proposed project would have no impacts on either scenic vistas or scenic resources within a state scenic highway. As discussed in the Visual/Aesthetics section in Chapter 2, the project area does not include any scenic vistas or state scenic highways.

c, d) Less Than Significant Impact.

As discussed in the Visual/Aesthetics section in Chapter 2, motorists traveling along I-605 and Katella Avenue and Coyote Creek Bikeway users would be exposed to temporary visual changes associated with construction-related activities and additional light and glare. However, views of construction-related activities from these land uses would be temporary in nature and, with adherence to identified standardized measures, would not result in impacts that would require mitigation.

The proposed widening and improvements along the I-605 on- and off-ramps and Katella Avenue would be similar to their existing condition, and would not introduce any obstructive elements, structures, or other features that would substantially alter the existing visual environment. No new soundwalls are proposed as part of the project. However, both alternatives propose a retaining wall to accommodate widening of the northbound entrance ramp. The proposed wall would be located along the right edge of shoulder. In Build Alternative 3 only, in addition to the retaining wall along the northbound entrance ramp, two retaining walls would be constructed along the left edge of shoulder of the southbound direct entrance ramp to accommodate widening of the ramp and avoid ROW impacts to the adjacent Rossmoor Flood/Retention Basin. None of the proposed retaining wall locations would be visible from surrounding sensitive receptors. At both the northbound entrance ramp and southbound direct entrance ramp locations, views towards the retaining walls from surrounding uses would be interrupted by existing landscaping/vegetation and topography.

In addition, architectural treatments for the retaining walls would be considered during the Plans, Specifications, and Estimates (PS&E) phase. As such, impacts related to visual character due to retaining walls would be less than significant.

It is anticipated that the proposed project would require limited periods of nighttime construction activities to place temporary railing (k-rail) for work areas, revise striping on the mainline, and construct pavement joints to move traffic to new ramp terminals, amongst other activities. Existing sources of light within the project area are currently limited to vehicle headlights, traffic lights, street lighting on I-605 and Katella Avenue, and nighttime lighting from the various commercial and residential uses in the project area. Light and glare from nighttime construction lighting could potentially cause a nuisance to motorists traveling on I-605 and Katella Avenue, in addition to surrounding residential uses. Incorporation of PF-VIS-1, which includes requirements related to light shielding and containment during nighttime construction, would minimize impacts in this regard. Any lighting required for nighttime construction activities would adhere to Section 2-208, Night Work, of the Caltrans Construction Manual (July 2017). This provision provides for adequate lighting for the safety of construction workers, but necessitates shielding so that lighting does not blind approaching drivers. Thus, with adherence to PF-VIS-1, impacts would be less than significant and no mitigation is required.

As discussed in Section 2.1.6, Visual/Aesthetics, of the IS/EA, the project would include removal and replacement of existing highway landscaping including mature trees, which may result in a potentially significant impact. However, a project feature has been incorporated to reduce impacts regarding tree and vegetation removal. PF-VIS-2 requires that removed trees shall be replaced using a 10:1 ratio, in addition to replacement plantings including native and non-invasive groundcover. Therefore, the project as designed would not substantially degrade the visual character and quality of the site and would have less than significant impacts to visual character with implementation of PF-VIS-2. No mitigation is required.

AGRICULTURE AND FOREST RESOURCES

<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.</p>				
<p>Would the project:</p>	<p>Significant and Unavoidable Impact</p>	<p>Less Than Significant with Mitigation Incorporated</p>	<p>Less Than Significant Impact</p>	<p>No Impact</p>
<p>a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>d) Result in the loss of forest land or conversion of forest land to non-forest use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The potential for the Build Alternatives to result in impacts to agriculture and forest resources was assessed in the No Impact section of Chapter 2. The following discussions are based on the findings of that analysis.

a, b, c, d, e) No Impact.

As discussed in the introduction to Chapter 2, according to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), there are no designated important farmlands in the project area. According to the City of Los Alamitos General Plan Land Use Element, there are no agricultural land uses or timberlands within the vicinity of the project site. In addition, there are no parcels under a Williamson Act contract within the project limits. Therefore, the project would not result in the conversion of any farmland or timberland. No impacts would occur and no mitigation measures are required.

AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The potential for the Build Alternatives to result in impacts to air quality was assessed in the Air Quality Assessment (August 2017) and the Air Quality section in Chapter 2. The following discussion is based on those analyses.

a, b, c, d, e) Less Than Significant Impact.

The proposed project is located in the South Coast Air Basin (Basin) and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The SCAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) in cooperation with SCAG, local governments, and the private sector. The AQMP provides the blueprint for meeting State and federal ambient air quality standards. As discussed in the Air Quality section of Chapter 2, the Basin is an attainment area for CO, NO₂, and SO₂ for both State and federal standards. The Basin is a nonattainment area for O₃ and PM_{2.5} under both State and federal standards. The Basin is nonattainment for PM₁₀ under State standards and serious maintenance under federal standards.

This project is not a capacity-increasing transportation project. It would have no impact on traffic volumes and would generate a less than significant amount of pollutants during construction due to the very short duration of project construction. The proposed project is included in SCAG's most recent RTP and 2017 RTIP, both of which were found to be conforming (see Section 2.2.6, Air Quality, of this IS/EA). Therefore, the proposed project would not conflict with the AQMP, violate any air quality standard, result in a net increase of any criteria pollutant. A less than significant impact would occur in this regard and no mitigation is required.

The closest sensitive receptors to the proposed project include residential uses that are along the southeastern border of the project site, parallel to I-605. Short-term impacts to sensitive receptors regarding fugitive dust resulting from construction activities would occur during demolition, grading/trenching, new pavement construction, and the restriping phase, which may result in a significant temporary air quality impact. Project features have been proposed which would reduce this potentially significant impact. PF-AQ-1 requires compliance with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. Adherence to applicable dust control measures would reduce temporary air quality impacts to sensitive receptors, and sensitive receptors would not be exposed to substantial pollutant concentrations. No mitigation is required.

The proposed project would not create objectionable odors affecting a substantial amount of people. Minor sources of odors would be present during construction. The predominant source of power for construction equipment is diesel engines and emissions associated with asphalt paving. However, because odors would be temporary and would disperse rapidly with distance from the source, construction-generated odors would not be expected to result in the frequent exposure of receptors to objectionable odorous emissions. Impacts would be less than significant and no mitigation is required.

BIOLOGICAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The potential for the Build Alternatives to result in impacts to biological resources was assessed in the Natural Environment Study - Minimal Impacts (NES-MI), (June 2017), the Jurisdictional Delineation (June 2017), and the Wetlands and Other Waters section; Animal Species section; and Invasive Species section in Chapter 2. The following discussions are based on those analyses.

a) Less Than Significant Impact.

As discussed in the No Impacts section of Chapter 2 and shown in Table 2-1: USFWS Species Effect Determination, based on the U.S. Fish and Wildlife Service (USFWS) Species List acquired for the proposed project, a total of 10 Federally listed and eight State listed threatened or endangered plant and animal species were determined to have potential to occur in the general vicinity of the biological study area (BSA). However, no Federal or

State listed threatened or endangered plant and animal species were observed in the BSA, and are not expected to occur based on lack of suitable habitat and known distributions. A “no effect” finding was determined for all species on the USFWS Species List having the potential to occur in the BSA. No impacts would occur and no mitigation is required with regard to threatened or endangered species.

However, as discussed in the Animal Species section of Chapter 2, the project area is located within the historic occurrence range for western pond turtle (a California Species of Special Concern and an Orange County Transportation Authority [OCTA] Natural Community Conservation Plan/Habitat Conservation Plan [NCCP/HCP] Covered Species), and the project was identified as having the potential to have indirect impacts to aquatic and upland habitats for this species. Indirect impacts identified include hydrology and water quality effects during the construction process.

Measure AS-1 has been provided, which includes requirements to minimize potential impacts to the western pond turtle, consistent with the OCTA Measure M2 NCCP/HCP. Measure AS-1 would require pre-construction surveys, and if determined present, measures to avoid or relocate western pond turtle in accordance with wildlife agency requirements; see the Animal Species section in Chapter 2 for a detailed discussion. With implementation of the Measure AS-1, potentially significant impacts to western pond turtle would be reduced to a less than significant level.

b) No Impact.

This project would not affect riparian habitat or other sensitive natural communities because riparian habitat is not supported, nor were sensitive natural communities identified within project limits. No impacts would occur and no mitigation measures are required.

c) Less Than Significant with Mitigation Incorporated.

As detailed in the Wetlands and Other Waters section in Chapter 2, the project area includes three drainage features consisting of Coyote Creek, Los Alamitos Channel, and Basin A. The only drainage feature that would be affected by construction activities would be Los Alamitos Channel. Specifically, the project would result in approximately 0.011-acre of permanent impacts to U.S. Army Corps of Engineers/Regional Water Quality Control Board (USACE/ RWQCB) jurisdiction (non-wetland waters), and approximately 0.02-acre of permanent impacts to California Department of Fish and Wildlife (CDFW) jurisdictional streambed through implementation of project features affecting Los Alamitos Channel.

There would be no temporary project impacts to jurisdictional waters beyond what has been identified immediately above regarding permanent impacts. The limits of disturbance identified within the Jurisdictional Delineation Report were conservative, and accounted for all temporary impacts that could occur as a result of construction of the Build Alternatives.

In addition, there would be no temporary or permanent impacts to jurisdictional wetlands since the proposed project would not result in any disturbance of Basin A.

Mitigation Measure WET-1 has been incorporated to mitigate impacts related to non-wetland jurisdictional impacts. The USACE has determined that project impacts can be authorized under established Letter of Permission (LOP) procedures. The LOP approval addresses all project components and demonstrates that project impacts to jurisdictional waters would be avoided and minimized to the maximum extent practicable. Mitigation sites and ratios would

be determined for both permanent and temporary impacts to “waters of the United States”. The mitigation would result in a net increase in jurisdictional waters/aquatic resource functions. The LOP procedures would establish permittee responsible mitigation sites and ratios for anticipated impacts. It is expected that this project will utilize the USACE and SWRCB approved OCTA Aliso Creek restoration project for compensatory mitigation. With implementation of Mitigation Measure WET-1, potentially significant jurisdictional impacts would be reduced to a less than significant impact.

d) No Impact.

As detailed in the Wetlands and Other Waters section in Chapter 2, no native plant communities or natural communities of special concern occur within the project area. Further, there are no known migration corridors or wildlife linkages within the project area. Although Coyote Creek (a concrete-lined drainage facility) exists to the west of the project site, the project would not encroach into the facility nor affect any existing wildlife movement within the channel. No impacts would occur and no mitigation measures are required.

e, f) No Impact.

This project would not conflict with any local policies or ordinances protecting biological resources, nor would it conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. As discussed above, the project is identified as a “Covered Project,” under Section 3.1.1, Covered Freeway Improvement Projects, of the OCTA NCCP/HCP (identified as Project M: I-605 Freeway Access Improvements and under Section 3.1.1.13 of the OCTA NCCP/HCP). No impacts would occur and no mitigation measures are required.

CULTURAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The potential for the project to result in impacts related to cultural and paleontological resources was assessed in the Historic Property Survey Report (HPSR) (September 2017); Historic Resources Evaluation Report (HRER) (September 2017); Archaeological Survey Report (ASR) (September 2017); Combined Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER) (April 2017); and Extended Phase I (XPI) Report for Shell Scatter on the Western Side of I-605/Katella Avenue Interchange Improvements Projects (September 2017), and within the Cultural Resources and Paleontological Resources sections in Chapter 2. The following discussions are based on those analyses.

a, b) Less Than Significant Impact.

As detailed in Section 2.1.7, Cultural Resources, of the IS/EA, no historic or archaeological resources are located within the project's Area of Potential Effects (APE). A disturbed shell scatter was identified within the APE on the west side of a concrete drainage ditch that runs parallel to I-605 within the unpaved shoulder; however, the results of the Extended Phase I (XPI) investigation determined that the shell scatter is not considered to be an archaeological resource. In addition, no intact subsurface cultural deposits, including shell midden, were identified. As such, the likelihood of encountering such deposits in the APE is considered to be low. Based on these findings, no further archaeological study, identification, or monitoring efforts are recommended for implementation of the Build Alternatives.

Implementation of the proposed project may result in significant construction-related impacts to undiscovered cultural resources. The possibility exists that previously unknown buried historical and archaeological deposits could be discovered during grading and excavation work associated with construction activities. Therefore, project features have been proposed to reduce potentially significant impacts to cultural resources. PF-CUL-1 requires that all earth-moving activity within and around the immediate discovery area be diverted until a qualified archaeologist can assess the nature and significance of the find. Refer to Section 2.1.7 for details regarding this project feature. Implementation of PF-CUL-1 during construction would reduce potentially significant impacts to cultural resources to a less than significant level, and no mitigation is required.

c) Less Than Significant with Mitigation Incorporated.

No fossils are known to exist within the proposed project boundaries; however, three fossil localities are present near to the project area in non-marine and marine sedimentary deposits, similar to those that occur at depth within the project boundaries. During the survey of the project APE, a concentration of marine shells and at least one mammal bone fragment was discovered in a horizon 10 centimeters (cm) thick, approximately 250 feet long, and 2 to 3 feet below ground surface on the western side of the Los Alamitos Channel drainage basin.

While there are no known recorded paleontological resources within the proposed project boundaries, earth-moving activities associated with construction of the Build Alternatives may affect paleontologically-sensitive deposits, which could result in the disturbance or loss of paleontological resources, including scientifically important fossil remains, associated fossil specimen data, and corresponding geologic and geographic locality data. Any loss of paleontological resources would be a significant impact and would most likely occur in areas underlain by areas in the proposed project boundaries mapped as Pleistocene young alluvium (see the Paleontological Resources section in Chapter 2 for a detailed discussion). Therefore, Mitigation Measure PAL-1 has been incorporated and would require preparation of a project-specific Paleontological Mitigation Plan (PMP) prepared by a qualified principal paleontologist, once adequate project design information regarding subsurface disturbance location, depth, and lateral extent is available. This measure would also require paleontological monitoring, worker training, and preparation of a Paleontological Mitigation Report, in addition to other provisions.

With implementation of the above measure, potentially significant impacts to paleontological resources are considered to be less than significant with mitigation incorporated.

d) Less Than Significant Impact.

No human remains are known to exist within the project APE. Therefore, construction of the Build Alternatives would not impact known human remains. However, if unknown human remains are exposed during construction, a significant impact could occur. Implementation of project features would reduce potentially significant impacts to a less than significant level. PF-CUL-2 requires that, in compliance with State Health and Safety Code Section 7050.5, should human remains be unearthed during project construction, all disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner shall be contacted. In addition, pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner would notify the Native American Heritage Commission, which would then notify the Most Likely Descendant (MLD). At the same time, the Caltrans District 12 Environmental Branch Chief or the District 12 Native American Coordinator would be contacted so they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC Section 5097.98 are to be followed as applicable.

With implementation of PF-CUL-2, impacts would be reduced to a less than significant level and no mitigation is required.

GEOLOGY AND SOILS

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

The potential for the Build Alternatives to result in impacts to geology and soils was assessed in the District Preliminary Geotechnical Report (July 28, 2017), and the Geology/ Soils/Seismic/Topography section in Chapter 2. The following discussions are based on those analyses.

a, i) No Impact.

The project area is not in an Alquist-Priolo Earthquake Fault Zone, and there are no known active or potentially active faults mapped as crossing or in the immediate vicinity of the I-605/Katella Avenue interchange. Therefore, the improvements proposed under the Build Alternatives are not expected to be exposed to effects associated with fault displacement and ground rupture. No mitigation is required.

a, ii), iii) and iv) Less Than Significant Impact.

Due to its flat topography, Los Alamitos and Rossmoor are generally considered at low risk for earthquake-induced landslides. The principal seismic hazard in the vicinity of the project site is ground shaking resulting from an earthquake along one of several major active or potentially active faults that could damage the I-605/Katella Avenue interchange facilities and structures. Those faults include the Newport Inglewood Fault Zone (S. Los Angeles Basin Section – Southern) strike slip fault (approximately 3.2 miles from the project site), and the Anaheim reverse fault (approximately 4.8 miles away).

During project construction, the proposed project could expose construction workers and the traveling public to potential impacts associated with seismic ground shaking. Project features have been incorporated to reduce this potentially significant impact. PF-GEO-1 requires the project to comply with the most current Caltrans' procedures and design criteria regarding seismic design to prevent any adverse effects related to seismic ground shaking. Earthwork shall be performed in accordance with Caltrans Standard Specifications, Section 19, which require standardized measures related to compacted fill, overexcavation and recompaction, and retaining walls, among other requirements. Moreover, Caltrans Highway Design Manual (HDM) Topic 113, Geotechnical Design Report, would require that a site-specific, geotechnical field investigation is performed for the proposed project during the PS&E phase. With implementation of PF-GEO-1, temporary geological impacts would be reduced to a less than significant level, and no mitigation is required.

With regard to long-term operational impacts, moderate-to-severe seismic shaking is likely to occur in the project area during the life of the improvements provided by the Build Alternatives. As a result, the Build Alternatives would be subject to effects associated with seismic shaking/landslides that could damage the interchange ramps, road surfaces, or other structures. Project features have been recommended to reduce this potentially significant impact. Measure GEO-1 provides geotechnical design recommendations, some of which include recommendations pertinent to seismic hazards. Refer to Section 2.2.3 for detailed discussion of geotechnical recommendations. Implementation of Measure GEO-1 would reduce potentially significant geological impacts to a less than significant level and no mitigation is required.

b) Less Than Significant Impact.

As discussed in Section 2.2.3, Geology/Soils/Seismic/Topography, in this IS/EA, potential temporary impacts to the geological environment are expected to occur as a result of earthwork activities associated with the Build Alternatives, which include soil erosion and siltation. In addition, as noted in Section 2.2.2, Water Quality, in this IS/EA, the project would incorporate PF-WQ-1 through PF-WQ-4. These project features would require the project to conform to the requirements of the Caltrans statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit, Order No. 2012-0011-DWQ, NPDES No. CAS000003, adopted by the State Water Resources Control Board (SWRCB) on September 19, 2012, and any subsequent permit in effect at the time of construction. The project would also be required to comply with the requirements of the NPDES Permit for Construction Activities, Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ, NPDES No. CAS000002, as well as implementation of the BMPs specified in Caltrans' Storm Water Management Plan (Caltrans, 2016). In addition, Measure GEO-1 provides geotechnical recommendations that would reduce potentially significant impacts regarding soil erosion; refer to Section 2.2.3 for detailed discussion regarding geotechnical

recommendations. With adherence to Measure GEO-1 and PF-WQ-1 through PF-WQ-4, impacts would be less than significant and no mitigation is required.

c), d) Less Than Significant Impact.

Preliminary liquefaction analyses show the presence of potentially liquefiable soil pockets; however, these liquefiable soil pockets are localized and not continuous across the proposed project site. The maximum liquefaction-induced settlement of the proposed project site is expected to be less than two inches. In addition, shallow on-site soils within the proposed project limits are predominately clay and silt. The expansion potential of these clayey and silty soils is considered to be moderate-to-high.

Conformance with standard engineering practices and Caltrans design criteria, would reduce the effects of seismic ground shaking. Earthwork shall be performed in accordance with Caltrans Standard Specifications, Section 19, and would also adhere to the earthwork recommendations provided within the District Preliminary Geotechnical Report. Caltrans Standard Specification Section 19 would require standardized measures related to compacted fill, overexcavation and recompaction, and retaining walls, among other requirements. Moreover, Caltrans HDM Topic 113, Geotechnical Design Report, would require that a site-specific, geotechnical field investigation is performed for the proposed project during the PS&E phase. This Geotechnical Design Report would include a field investigation and project-specific geotechnical recommendations to be incorporated into final design and project specifications.

In addition, Measure GEO-1 provides geotechnical recommendations for the project that would reduce potentially significant impacts regarding on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse, and expansive soil; refer to Section 2.2.3 for detailed discussion regarding geotechnical recommendations. With adherence to Measure GEO-1, impacts related to unstable and/or expansive soils would be reduced to a less than significant level and no mitigation is required.

e) No Impact.

The Build Alternatives would not use septic tanks or alternative methods for disposal of wastewater into subsurface soils, and would not connect to existing public wastewater infrastructure. Therefore, the Build Alternatives would not result in impacts related to septic tanks or alternative wastewater disposal methods. No mitigation is required.

GREENHOUSE GAS EMISSIONS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<p>Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or GHG emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions.</p>			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

HAZARDS AND HAZARDOUS MATERIALS

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

The potential for the Build Alternatives to result in impacts regarding hazards and hazardous materials was assessed in the Phase I Initial Site Assessment (Phase I ISA) (February 2015) and the Phase I Initial Site Assessment Memorandum (January 12, 2017), and the Hazardous Waste/Materials section in Chapter 2. The following discussions are based on those analyses.

a) Less Than Significant Impact.

The Build Alternatives would not create a substantial hazard to the public or the environment through any reasonably foreseeable hazard to the public through the routine transport, use, or disposal of hazardous materials. During long-term operations, it is anticipated that any

use of hazardous materials on-site would consist of routine hazardous materials such as paint, solvents, and fuel for maintenance activities and landscaping. All such materials would be used, handled, stored, and disposed of in accordance with applicable local, State, and federal regulations. The routine transport, use, and disposal of hazardous materials under the Build Alternatives would be similar to what occurs under existing conditions. Potential hazardous material impacts in this regard are considered less than significant, and no mitigation is required.

b) Less Than Significant Impact.

As detailed in Section 2.2.5, Hazardous Waste/Materials, in this IS/EA, no regulatory properties have been reported on the project site, nor have any known corrective actions, restorations, or remediations been planned or completed. The project site had not been under investigation for violation of any environmental laws, regulations, or standards, as identified in the databases reported by EDR. However, potentially significant hazardous waste/materials impacts could occur during construction of the proposed project relative to the following: traffic striping materials; an existing petroleum pipeline and transformers located in the project area; aerially deposited lead (ADL); and unknown waste. Each of these items are discussed below.

Traffic Striping Materials: The I-605 northbound No. 4 lane at the northbound exit ramp would be restriped under Alternatives 2 and 3. In addition, Katella Avenue would be widened and lane geometries would be modified to provide standard lanes and shoulders through the interchange and to tie in with proposed ramp improvements under Alternatives 2 and 3. Portions of the existing interchange ramps would be widened or reconstructed under Alternatives 2 and 3. Alternative 3 would include removal of the existing southbound loop on-ramp. Thus, disturbance of traffic striping materials would occur with implementation of Alternatives 2 or 3. However, Measure HAZ-1 has been proposed to reduce this potentially significant impact. Measure HAZ-1 requires the preparation and submittal of a special provision for the removal, containment, storage, and disposal of the traffic striping material; refer to Section 2.2.5 for detailed discussion regarding the work plan. As such, impacts would be reduced to a less than significant level and no mitigation is required.

Petroleum Pipeline: A petroleum pipeline trends along Coyote Creek and then extends west along East Spring Street (to the north of the project site). The potential exists to encounter the petroleum pipeline during site disturbance activities in the vicinity of Coyote Creek in the western portion of the project site, which would result in a significant impact. However, measures have been proposed to reduce this potentially significant impact. Measure HAZ-2 requires the contractor to contact Dig Alert (Underground Service Alert [USA] of Southern California) prior to construction, to confirm the location of the existing petroleum pipeline, and to coordinate with the owner of the existing petroleum pipeline to ensure that a rupture during disturbance activities does not occur. Therefore, with implementation of Measure HAZ-2, significant impacts would be reduced to a less than significant level and no mitigation is required.

Transformers: There are existing pole- and pad-mounted transformers on the project site. Construction activities associated with both Build Alternatives could involve the relocation/removal of on-site transformers. Therefore, measures have been proposed to reduce potentially significant impacts regarding the transformers. Measure HAZ-3 requires that construction/demolition of on-site transformers be conducted under the purview of the local purveyor to identify property-handling procedures regarding polychlorinated biphenyls

(PCBs). With implementation of Measure HAZ-3, impacts would be reduced to a less than significant level and no mitigation is required.

ADL: Because the I-605 was constructed in 1966 and has been utilized by a high volume of traffic, the potential for lead contamination to exist within exposed soils on-site due to ADL is likely, which would be considered a significant impact. The project includes the preparation and submittal of a special provision (Measure HAZ-4) for the removal, containment, storage, and disposal of the ADL containing material. Refer to Section 2.2.5 for detailed discussion of these measures. Therefore, with implementation of Measure HAZ-4, potentially significant impacts related to ADL would be reduced to a less than significant level. No mitigation is required.

Unknown Waste: Measure HAZ-5 has been incorporated regarding the handling of unknown waste that may be encountered during project construction. Measure HAZ-5 requires the contractor to do the following: immediately stop construction work if unknown wastes or suspect materials are discovered during site disturbance activities that may involve hazardous waste/materials; secure the area with barriers or fences and evacuate the vicinity; prohibit construction personnel from any exploratory or investigative work; notify the Project Engineer of the implementing agency; and notify the implementing agency's Hazardous Waste/Materials Coordinator. In accordance with Title 29, Part 1910.120, Hazardous Waste Operations and Emergency Response, of the Code of Federal Regulations, the project would require that no one enter the designated exclusion zones until a complete and effective "hazardous waste worker protection program" is established or until the consultant has determined no exposure danger exists. Therefore, with implementation of Measure HAZ-5, potentially significant impacts related to unknown hazardous waste and suspect materials would be reduced to a less than significant level. No mitigation is required.

c) Less Than Significant Impact.

There are two schools located within 0.25-mile of the proposed project area: Oak Middle School located in the northeast quadrant of the interchange, and Lee Elementary School located in the southeast quadrant of the interchange. However as discussed in the responses to a) and b) above, the Build Alternatives do not involve the potential for release of hazardous emissions or handling of acutely hazardous materials. Moreover, measures have been incorporated into the project to minimize impacts related to traffic striping materials; an existing petroleum pipeline and transformers located in the project area; ADL; and unknown waste. Therefore, with implementation of Measures HAZ-1 through HAZ-5, potentially significant impacts in this regard would be reduced to a less than significant level. No mitigation is required.

d) No Impact.

The proposed project site is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impacts would occur.

e) Less Than Significant Impact.

There are no public use airports located within the project vicinity. There is one federal military base, the Joint Forces Training Base (JFTB) Los Alamitos, located approximately one mile southeast of the project site. JFTB is a non-civilian facility that provides support

and training for military units and other federal, State, and local organizations. Crash hazard areas and building height restrictions are identified for JFTB in the Orange County Airport Environs Land Use Plan (AELUP).

The project site is located within the boundaries of the Airport Influence Area for JFTB. However, the project would not introduce any new sensitive land uses under the identified closed traffic pattern and flight routes for JFTB. Under operation of the Build Alternatives, the risk of safety hazards associated with JFTB would not differ within the project vicinity. The Build Alternatives do not include structures or project features that would be at a higher elevation than the existing freeway structures and facilities, nor would the improvements proposed under the Build Alternatives extend into the designated air space for JFTB. Therefore, the Build Alternatives would not result in significant aviation-related safety impacts, and no mitigation is required.

f) No Impact.

There are no private airports or airstrips in the vicinity of the project site. As a result, the Build Alternatives would not affect or be affected by aviation activities associated with private airports or airstrips. No mitigation is required.

g) Less Than Significant Impact.

As described in Section 2.1.4, Utilities/Emergency Services, in this IS/EA, construction of the Build Alternatives would result in temporary impacts to traffic circulation. During construction of the Build Alternatives, some impairment to the delivery of emergency services, including fire and police and evacuation response times, may occur as a result of lane closures along Katella Avenue, and limited ramp closures required for short periods of time (two weekends) at the interchange. Closure of the I-605 interchange ramps is expected to occur, but would be limited to approximately two weekend closures to avoid impacts during peak hours. Additionally, the southernmost eastbound lane along Katella Avenue would be closed during construction to allow for proposed arterial improvements. This lane closure would occur over a period of approximately four to six weeks, and travel in both directions on Katella Avenue would be maintained at all times. However, a Transportation Management Plan (TMP) has been included as a project feature to minimize potential traffic-related impacts during construction of the project. The TMP would include potential measures such as construction signage, measures for pedestrian protection, limitations on timing for lane closures to avoid peak hours, temporary striping plans, construction vehicle routing plans, and the need for a construction flagperson to direct traffic during heavy equipment use, among others. The Caltrans TMP Guidelines require consideration and notification of emergency service providers to provide for adequate emergency access. With implementation of PF-TR-1, potentially significant impacts related to short-term construction activities and effects on emergency response would be reduced to a less than significant impact. No mitigation is required.

h) No Impact.

Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed camp fires, cigarettes, sparks from automobiles, and other ignition sources. The project site and surrounding areas are developed with urban and suburban uses and do not include brush- and grass-covered areas typically found in areas susceptible to wildfires. As a result, the Build Alternatives

would not expose people or structures to a significant risk of loss, injury, or death associated with wildland fires. No impact would occur and no mitigation is required.

HYDROLOGY AND WATER QUALITY

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

The potential for the Build Alternatives to result in impacts regarding hydrology and water quality was assessed in the Location Hydraulic Study and Summary Floodplain Encroachment Report (LHS/SFER) (April 2017), the Water Quality Assessment Report (WQAR) (November 2017), and the Hydrology and Floodplain and Water Quality sections in Chapter 2. The following discussions are based on those analyses.

a) and f) Less Than Significant Impact.

As discussed in the Water Quality section of Chapter 2, during construction of the Build Alternatives, excavated soil would be exposed and there would be an increased potential for soil erosion compared to existing conditions. As detailed in the Water Quality section in Chapter 2, Build Alternative 2 would result in a total Disturbed Soil Area (DSA) of 5.3 acres, and Build Alternative 3 would result in a total DSA of 8.0 acres. Chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), concrete-related waste, sanitary waste, and trash and debris may be spilled or leaked during construction with the potential for those pollutants of concern to be transported via storm runoff into receiving waters.

In order to avoid and minimize these potential construction-related water quality impacts, project features would be implemented during construction. PF-WQ-1 and PF-WQ-2 require conformance with the requirements of the Statewide NPDES Construction General Permit and development of a Storm Water Pollution Prevention Plan (SWPPP), respectively; refer to Section 2.2.2, Water Quality, of this IS/EA for detailed discussion of these project features. PF-WQ-1 and PF-WQ-2 would be implemented during construction, and would reduce temporary significant impacts related to water quality to a less than significant level. No mitigation is required.

Operation of the Build Alternatives would result in an increase in impervious surface area, which would result in an increase in stormwater runoff. Potential pollutants associated with the operation of transportation facilities include sediment from natural erosion; nutrients, such as phosphorus and nitrogen, associated with freeway landscaping; mineralized organic matter in soils; nitrite discharges from automobile exhausts and atmospheric fallout; litter; and metals from the combustion of fossil fuels, the wearing of brake pads, and corrosion of galvanized structures. According to the WQAR prepared for the project, Build Alternative 2 would result in a total impervious area of 2.37 acres, and Build Alternative 3 would result in a total impervious area of 2.54 acres.

The project would incorporate project features to reduce potentially significant permanent impacts to water quality. PF-WQ-3 requires implementation of Design Pollution Prevention BMPs to minimize potential pollution discharges generated during the operational phase. PF-WQ-4 requires implementation of Treatment and Maintenance BMPs, as required under the Caltrans MS4 Permit. Refer to Section 2.2.2, Water Quality, of this IS/EA for detailed discussion of these project features. Permanent water quality impacts would be reduced to a less than significant level with implementation of PF-WQ-3 and PF-WQ-4, and no mitigation is required.

b) No Impact.

As discussed in the Water Quality section of Chapter 2, there are no groundwater resources located within the proposed project boundaries. The groundwater level in the project area is approximately 100 feet below sea level, and there were no identified groundwater plumes in the vicinity of the project area. Therefore, the Build Alternatives would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. No mitigation is required.

c), d) and e) Less Than Significant Impact.

Construction activities associated with the Build Alternatives would result in temporary impacts related to hydrology and floodplains, as an extension of an existing culvert over Los Alamitos Channel would be required to allow for project implementation. Implementation of project features during construction would reduce these impacts. PF-HYD-1 requires the preparation of a work plan and adherence to measures from the Caltrans Construction Manual (July 2017). Refer to Section 2.2.1, Hydrology and Floodplain, of this IS/EA for detailed discussion of these project features. Implementation of these project features would reduce potentially significant temporary hydrological impacts to a less than significant level, and no mitigation is required.

Operation of either of the Build Alternatives may impact the hydraulic performance of Los Alamitos (Build Alternatives 2 and 3), or Katella Storm Drain Channel (Build Alternative 3 only) and may increase the flood risk, which would result in a potentially significant impact.

For Los Alamitos Channel, Build Alternative 2 would result in a 7-foot extension of the upstream end, and an 8.5-foot extension of the downstream end. The freeboard requirement for this section of channel is a minimum of 0.5-foot. The freeboard in the existing channel is less than 0.5-foot. The extension of the channel under Build Alternative 2 would result in the reduction of the freeboard, resulting in no freeboard at the downstream end of the culvert. Under Build Alternative 3, the reinforced concrete box would be extended by a total of approximately 20.5 feet. Build Alternative 3 would result in a 14-foot extension of the upstream end, and a 6.5-foot extension of the downstream end. The extension of the channel under Build Alternative 3 would result in the reduction of the freeboard as well, resulting in no freeboard at the downstream end of the culvert.

For Katella Storm Drain Channel, the proposed improvements under Build Alternative 2 would not require modifications to the channel. Under Build Alternative 3, the reinforced concrete box would be extended by a total of approximately 58 feet. Build Alternative 3 would result in a 25-foot extension of the downstream end at the West Katella Avenue crossing, and a 33-foot extension of the downstream end at the southern southbound I-605 ramp. The freeboard requirement for this section of channel is a minimum of 0.5-foot. The freeboard in the existing channel is less than 0.2-foot at the West Katella Avenue crossing and less than 0.3-foot at the southern southbound I-605 ramp. The extension of the channel under Build Alternative 3 would result in no change to the water surface elevation; however, the channel does not meet the minimum requirements.

Therefore, project features have been proposed to reduce potentially significant impacts. PF-HYD-2 requires that additional analysis be conducted during the PS&E phase of the project to determine necessary improvements to allow for an extension of the reinforced concrete box culvert while meeting OCFCD minimum criteria for freeboard. In addition, consistent with Chapter 810, Hydrology, of the Caltrans HDM, detailed analyses of drainage characteristics for both Los Alamitos Channel and Katella Storm Drain Channel would be conducted during the PS&E phase of the project. With implementation of PF-HYD-2, the potential risk of flooding would be reduced and operational hydrological impacts would be less than significant. No mitigation is required.

g), h) and i) Less Than Significant Impact.

As discussed in the Hydrology and Floodplain section of Chapter 2, a “significant encroachment,” as defined in 23 CFR 650.105, would not occur under the Build Alternatives.

Since the floodplains associated with the proposed channel improvements are Zone X areas protected by levees from a 1% Annual Chance Flood, the proposed improvements associated with the Build Alternatives are classified as minimal risk. In addition, there is no longitudinal encroachment associated with the Build Alternatives.

The potential risk to life and property would remain unchanged as a result of the improvements that would occur under the Build Alternatives. Because the Build Alternatives would not alter the existing flooding source, there would be no substantial increase in the potential for impacts related to flooding. The Build Alternatives would result in minimal increases in water surface elevation and would continue to be contained in the channels. Therefore, the potential for flooding hazards due to the influences of the project on the hydraulics is determined to be nominal.

Although the Build Alternatives consist of permanent improvements within the floodplain boundary, the project improvements that would occur within the Special Flood Hazard Area (SFHA) Zone A do not pose potential risk to natural and beneficial floodplain values for any of the channels. In addition, the improvements that would occur to the roadway under the Build Alternatives would not support incompatible floodplain development.

Impacts relative to hydrology associated with project implementation would not be significant, and no mitigation is required.

j) No Impact.

The project area is located approximately 4 miles from the Pacific Ocean. Based on the distance from the project site to the Pacific Ocean, there is no anticipated risk of inundation from a tsunami under the Build Alternatives.

A seiche is a tsunami-like condition in an enclosed body of water like a lake or reservoir. The nearest enclosed bodies of water to the project site are Upper Newport Bay, located approximately 15 miles to the southeast, and Prado Dam, located approximately 26 miles to the east. Based on the distances of the project site to these two bodies of water, there is no anticipated risk of inundation from a seiche under the Build Alternatives.

Mudflows occur when soil is saturated and flows downhill. There are no hills adjacent to or in the vicinity of the project site. Therefore, there is no anticipated risk to the Build Alternatives as a result of a mudflow.

LAND USE AND PLANNING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The potential for the Build Alternatives to result in impacts to land use and planning was assessed in the Land Use section in Chapter 2. The following discussions are based on the findings of that analysis.

a) No Impact.

As discussed in the Land Use section of Chapter 2, the project would not physically divide any existing neighborhoods or separate residences from community facilities because it involves improvements to an existing transportation facility. No new roadway alignments would be constructed. In addition, the project would result in beneficial community impacts since it would provide bicycle and pedestrian facilities providing improved connectivity through the interchange. No impacts would occur and no mitigation measures are required.

b) Less Than Significant Impact.

The Build Alternatives are consistent with State, regional, and local plans and programs as discussed in the Land Use section of Chapter 2, including the California Transportation Plan (CTP) 2040, Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), SCAG 2017 Federal Transportation Improvement Program (FTIP), Orange County Transportation Authority (OCTA) Measure M Renewal Ordinance, and OCTA Long Range Transportation Plan (LRTP). As noted, a General Plan Amendment to the to the Mobility and Circulation Element is anticipated. However, with implementation of the amendment, the project would be consistent with the City's General Plan. No amendments to the City's Land Use element would be required, and no land use conflicts would occur with existing or planned land uses. Impacts would be less than significant and no mitigation is required.

c) Less Than Significant Impact.

As discussed in the Biological Environment sections of Chapter 2, the proposed project is identified as a "Covered Project," under Section 3.1.1, Covered Freeway Improvement

Projects, of the OCTA NCCP/HCP. The project would not conflict with any applicable habitat conservation plan or natural community conservation plan and a less than significant impact would occur. No mitigation is required.

MINERAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) and b) No Impact.

Neither the Los Alamitos General Plan nor the State of California has identified the project site or environs as a potential mineral resource of Statewide or regional significance. No mineral resources are known to exist either on the site or in the project environs; therefore, project implementation would not result in any significant impacts to mineral resources or the loss of any locally important mineral resource site and no mitigation measures are required.

NOISE

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

The potential for the Build Alternatives to result in impacts regarding noise was assessed in the Noise Study Report (September 22, 2017), and the Noise section in Chapter 2. The following discussions are based on those analyses.

a) b) and d) Less Than Significant Impact.

The closest sensitive receptors to the project area are the single-family residential uses to the east of I-605 and south of Katella Avenue. Construction noise associated with Alternatives 2 or 3 could subject these residences to short-term noise levels between approximately 80 to 95 dBA Lmax. Construction-related impacts would be short-term and would cease upon project completion. In addition, implementation of a project feature (PF-NOI-1) during construction, described in Section 2.2.7, Noise, of this IS/EA, would reduce potentially significant noise impacts, and no mitigation is required.

c) Less Than Significant Impact.

Traffic noise modeling results for existing conditions and design year (2055) conditions under Alternative 2 and Alternative 3 were conducted as part of the noise analysis for the project. To determine whether a traffic noise impact would occur, predicted design-year traffic noise levels with the project (Build Alternatives) are compared to existing conditions and to design-year (2055) conditions with the project. As noted in the *Noise Study Report*,

the Build Alternatives do not involve the installation of soundwalls nor the removal of the existing soundwalls between the I-605 and residential uses to the east. Further, Alternatives 2 and 3 would not substantially affect the existing location or elevations of I-605 or Katella Avenue, and would not affect any of the traffic volumes. As concluded within the Noise Study Report, noise levels would not result in a substantial increase in noise. No noise abatement would be required. Therefore, permanent noise impacts resulting from the project would be less than significant and no mitigation is required.

e) and f) Less Than Significant Impact.

There are no public use airports or private airstrips located within the project vicinity. There is one federal military base, the Joint Forces Training Base (JFTB) Los Alamitos, located approximately one mile southeast of the project site. JFTB is a non-civilian facility that provides support and training for military units and other federal, State, and local organizations. The project site is located within the boundaries of the Airport Influence Area for JFTB. However, as noted above, the project would not result significant temporary construction noise impacts. In addition, the project would not result in significant permanent noise impacts. No mitigation is required.

POPULATION AND HOUSING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The potential for the Build Alternatives to result in impacts related to population and housing was assessed in the Growth section in Chapter 2. The following discussion is based on that analysis.

a) and b) No Impact.

As discussed in the Growth section of Chapter 2, the Build Alternatives would improve existing transportation infrastructure in the project area, and therefore, would enhance access within the project area. However, the change in accessibility resulting from the project is not anticipated to affect the location, rate, type, or amount of growth projected in the cities of Los Alamitos and Long Beach because the project is located in an area that is entirely built out and urbanized. Rather, the project would improve the operational efficiency of the interchange and provide for enhanced bicycle and pedestrian facilities. In addition, growth projections within the cities of Los Alamitos and Long Beach are forecast to be very minor, and project implementation would not affect or alter projected growth. No impacts relative to growth are anticipated and no mitigation is required.

c) No Impact.

The Build Alternatives would not result in the acquisition of any residential units, displacement of any residents, or the need for replacement housing and, therefore, would not result in impacts related to population and housing. No mitigation is required.

PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The potential for the Build Alternatives to result in impacts related to public services was assessed in the Utilities and Emergency Services section in Chapter 2. The following discussion is based on that analysis.

a, i) and ii) Less Than Significant Impact.

Fire protection and emergency medical/paramedic services in the City of Los Alamitos and community of Rossmoor are provided by the Orange County Fire Authority under contract. Police protection services in the City of Los Alamitos are provided by the Los Alamitos Police Department; Rossmoor is served by the Orange County Sheriff's Department (OCS) and the California Highway Patrol (CHP). As described earlier in the response "g" in the Hazards and Hazardous Materials section of Chapter 3, construction of the Build Alternatives would result in temporary significant impacts to traffic circulation that could affect fire and police response times. However, these impacts would be temporary in nature and traffic in both directions on both I-605 and Katella Avenue would remain open at all times. In addition, a Transportation Management Plan (TMP) has been included as a project feature (PF-TR-1) to reduce potentially significant traffic-related impacts to emergency service providers during construction of the project. The TMP would include potential measures such as construction signage, measures for pedestrian protection, limitations on timing for lane closures to avoid peak hours, temporary striping plans, construction vehicle routing plans, and the need for a construction flagperson to direct traffic during heavy equipment use, among others. The TMP Guidelines require consideration and notification of emergency service providers to provide for adequate emergency access.

With implementation of PF-TR-1, temporary significant impacts related to short-term construction activities and effects on the provision of emergency services would be reduced to a less than significant level. No mitigation is required.

a, iii), iv) and v) No Impact.

As a roadway infrastructure improvement, the project would not result in the generation of new residents or populations capable of requiring additional services for schools, parks, or other public facilities. As such, no impacts would occur in this regard.

RECREATION

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The potential for the Build Alternatives to result in impacts to recreation resources was assessed in the Land Use section in Chapter 2. The following discussions are based on the findings of that analysis.

a) No Impact.

The Build Alternatives propose modifications to the existing I-605/Katella Avenue interchange. The Build Alternatives would not result in the construction of residential or other land uses that would attract visitors to parks in the cities adjacent to the project site or to regional parks and other recreation facilities. As a result, the Build Alternatives would not result in increased demand for those resources and, therefore, would not contribute to substantial or accelerated deterioration of those facilities. No mitigation is required.

b) Less Than Significant Impact.

The Build Alternatives do not include the construction of new recreational facilities or expansion of existing recreational facilities. However, as discussed in Section 2.1.1, Land Use, of the IS/EA, construction-related impacts may occur to Coyote Creek Trail, a paved bike path that runs along the easterly side of Coyote Creek within the project limits. Access to the trail within the project area is provided via Katella Avenue, with access points on both the northern and southern sides of the roadway. The proposed project would not affect the existing trail alignment, but would result in temporary construction impacts to the two trail access points along Katella Avenue. In order to construct and extend sidewalks on both sides of Katella Avenue through the project limits, construction activities would be required within the existing ramps that extend from the Katella Avenue ROW, and lead downhill towards the Coyote Creek Trail.

Although construction activities would be required in these areas, the project would incorporate a stage construction approach, where only half of the access improvements would occur at a single time. While half of the access ramp is being modified to accommodate project improvements, the other half would remain open for recreational access. As such, trail access to and from Katella Avenue would be maintained at all times on both sides of Katella Avenue. In addition, the construction duration of the improvements to the access ramps would be minimal (up to four weeks in duration). The trail access points would be restored to pre-project conditions upon completion of the construction process, and the provision of sidewalks through the interchange is anticipated to result in beneficial

recreational impacts over the long-term. Short-term impacts to trail operations are considered minimal and would not impair existing activities, features, or attributes of the existing trail. Measure REC-1 requires that the trail access points be restored to pre-project conditions upon completion of the construction process. In addition, the provision of sidewalks through the interchange is anticipated to result in beneficial recreational impacts over the long-term. With implementation of Measure REC-1, temporary impacts to parks and recreational facilities would be less than significant.

TRANSPORTATION/TRAFFIC

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

The potential for the Build Alternatives to result in transportation/traffic impacts was assessed in the Traffic Study (May 23, 2017) and the Traffic and Transportation/Pedestrian and Bicycle Facilities section in Chapter 2. The following discussion is based on those analyses.

a) Less Than Significant Impact.

As discussed in Section 2.1.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, of this IS/EA, Build Alternatives 2 and 3 include modifications to I-605 interchange ramps and Katella Avenue. The existing I-605 mainline would not be modified, with the exception of the northbound No. 4 lane at the northbound exit ramp. It would be restriped from a through lane to a through lane/ramp exit option. Katella Avenue would be widened and lane geometries would be modified to provide full standard lanes and shoulders through the interchange and to tie in with proposed ramp improvements. Proposed modifications to the northbound ramps and Katella Avenue east of the northbound ramps are similar in both Build Alternatives. These improvements would result in improvement in the long-term operation of the Build Alternatives and no significant impacts are anticipated.

The construction of the Alternatives 2 and 3 would result in temporary impacts to traffic circulation and pedestrian and bicycle access, both on and within the vicinity of, the project site. Those impacts could include short-term lane closures on I-605 interchange ramps and Katella Avenue as a result of modifications to the existing facilities. These temporary construction impacts would be similar for both Build Alternatives.

Construction activities expected to require temporary closures of the I-605 interchange ramps and Katella Avenue may include, but are not limited to:

- Installation of temporary railing (K-rail).
- Pavement restriping.
- Placement of concrete pavement using rapid set concrete, such as at ramp termini.
- Asphalt and concrete pavement construction and overlay operations.
- Utility work/traffic signal modifications.

Construction is anticipated to begin in 2033. The total duration of construction activities under the Build Alternatives would last between 12 to 18 months, depending on which Build Alternative is selected. However, any ramp and lane closures would be limited to a substantially shorter duration. Closure of the I-605 interchange ramps is expected to occur, but would be limited to approximately two weekend closures to avoid impacts during peak hours. Additionally, the southernmost eastbound lane along Katella Avenue would be closed during construction to allow for proposed arterial improvements. This lane closure would occur over a period of approximately four to six weeks, and travel in both directions on Katella Avenue would be maintained at all times.

Construction of the project could result in temporary significant traffic impacts. Therefore, a Transportation Management Plan (TMP) has been included as a project feature (PF-TR-1), to minimize these potential traffic-related impacts during construction of the project. Refer to Section 2.1.5 for detailed discussion of the provisions of PF-TR-1. With implementation of PF-TR-1, potentially significant temporary traffic impacts would be reduced to a less than significant level and no mitigation is required.

b) Less Than Significant Impact.

Based on the Orange County Transportation Authority's (OCTA) 2015 Congestion Management Plan (CMP), the only CMP facility identified within the traffic study area is the I-605/Katella Avenue northbound ramps. As discussed in the Traffic and Transportation/Pedestrian and Bicycle Facilities section in Chapter 2, the opening year and future year analysis forecasts basic freeway LOS as LOS C or D for all segments. Similar to existing conditions, the I-605/Katella Avenue northbound off-ramp to eastbound Katella Avenue has the highest segment density with the southbound off-ramp to eastbound Katella Avenue showing high density in the PM peak hour. Travel time improvements along Katella Avenue, at the southbound off-ramp to eastbound Katella Avenue and westbound Katella Avenue to the southbound on-ramp are significant due to additional lanes to improve weaving conditions in the project area.

Since the Build Alternative condition would result in improvements in both peak hours, no significant impact would occur to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. No mitigation is required.

c) No Impact.

As discussed earlier, the project site is located within the boundaries of the Airport Influence Area for JFTB. However, the project would not introduce any new sensitive land uses under the identified closed traffic pattern and flight routes for JFTB. The Build Alternatives do not include any structures or project features that would be at a substantially higher elevation than the existing freeway structures and facilities. The improvements in the Build Alternatives would not extend into the designated air space for JFTB and, therefore, would not result in changes in air traffic patterns or flight paths at JFTB. Therefore, the Build Alternatives would not result in safety risks associated with aviation operations at JFTB. No mitigation is required.

d) Less Than Significant Impact.

The Build Alternatives would be designed, constructed, and operated consistent with the Caltrans HDM and other applicable standards and specifications for freeways, ramps, arterial intersections, retaining walls, drainage features, and utility relocations/modifications.

During short-term construction, the project could result in hazards due to temporary lane and ramp closures (duration of approximately two weekends) required for project implementation. However, as noted above, these impacts would be temporary in nature and PF-TR-1 (preparation and implementation of a TMP during the PS&E phase, described above and in Section 2.1.5) would reduce potentially significant temporary traffic impacts in this regard. No mitigation is required.

The Build Alternatives would not include hazardous design features. Therefore, the Build Alternatives would not include any hazardous design features or incompatible uses. A less than significant impact would occur in this regard and no mitigation is required.

e) Less Than Significant Impact.

Refer to responses “a) i” and “a) ii” in the Public Services section of Chapter 3, above, for a description of potential impacts during the short-term construction process. Impacts in this regard would be reduced to a less than significant level with implementation of PF-TR-1, described above and in Section 2.1.5.

In the long term, the Build Alternatives would improve operational efficiency of the interchange. The improvements in the Build Alternatives are likely to improve emergency response times. Therefore, the Build Alternatives would not result in significant impacts on the delivery of emergency services in the long term and no mitigation is required.

f) Less Than Significant Impact.

The Build Alternatives would not conflict with adopted policies, plans, or programs supporting alternative transportation modes. The design of the improvements in the Build Alternatives would accommodate public and private buses, as well as transit vehicles, pedestrians, and bicyclists. The improvements would also include features consistent with Americans with Disabilities Act requirements. As a result, the Build Alternatives would not conflict with alternative transportation modes. A less than significant impact would occur and no mitigation is required.

TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project may affect or cause a substantial significant change in the significance of a tribal cultural resource would require a lead agency to “begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project.” Section 21074 of AB 52 also defines a new category of resources under CEQA called “tribal cultural resources.” Tribal cultural resources are defined as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

The potential for the project to result in significant impacts related to tribal cultural resources was assessed in the Historic Property Survey Report (HPSR) (September 2017), which includes the AB 52 correspondence documentation in Attachment C of the HPSR. In compliance with AB 52, a Sacred Lands File search was requested from the Native American Heritage Commission (NAHC) on January 24, 2017. The NAHC responded on January 26, 2017 that there are no known sacred lands within the APE. The NAHC recommended that eight representatives from local Native American tribal organizations be contacted for further information regarding the general project vicinity. Letters were sent via certified mail to the eight contacts within the Gabrielino-Tongva Tribe and the Juaneno Band of Mission Indians Acjachemen Nation on August 11, 2017, requesting information related to cultural resources or heritage sites within the APE. An additional attempt at contact was made by email or phone call on August 23, 2017. To date, no responses have been received. The following discussions are based on those analyses.

a) and b) Less Than Significant Impact.

In compliance with AB 52, Caltrans distributed letters to applicable Native American tribes informing them of the project in August 2017. No responses were received from any of the tribes. Given the level of previous disturbance within the project site, it is not expected that any tribal cultural resources as defined in Public Resources Code Section 21074 would occur within the project area. Therefore, the proposed project would not have a significant impact to a historical resource, as defined in PRC Section 5020.1(k). Thus, impacts to a listed or eligible resource under the California Register of Historical Resources or a local register as defined under Public Resources Code section 5020.1(k) are anticipated to be less than significant.

UTILITIES AND SERVICE SYSTEMS

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

The potential for the Build Alternatives to result in utilities and service systems impacts was assessed in the Utilities/Emergency Services section in Chapter 2. The following discussion is based on those analyses

a), b) and e) Less Than Significant Impact.

The Build Alternatives would not generate wastewater or discharge wastewater to the area sewer system. As a result, the Build Alternatives would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities, or result in the need for a determination by a wastewater treatment provider that it has adequate capacity to serve the project. A less than significant impact would occur and no mitigation is required.

c) Less Than Significant Impact.

Refer to responses "c)," "d)," and "e)" in the Hydrology and Water Quality section in Chapter 3, for discussion of the existing storm water drainage facilities that would be extended or modified to accommodate the improvements proposed under the Build Alternatives. Those modifications would not require the construction of new storm water drain facilities or

substantial increases in the capacity of the existing storm drain facilities. A less than significant impact would occur and no mitigation is required.

d) Less Than Significant Impact.

The use of water during project construction would be limited to water trucked to the site for dust control. The amount of water used during construction would be minimal. The use of water during project operations would be limited to areas in which new landscaping requires short-term watering while the plant material becomes established and areas in which limited use of water for landscaping requires permanent watering. The amount of landscaping provided in the Build Alternatives would not differ substantially from the existing amount of landscaping in the project limits, and therefore, the amount of water needed for landscaping would be approximately the same as the existing demand. As a result, the Build Alternatives would not require the water districts serving the project area to provide new or expanded entitlements to meet the need for water during construction and operation of the Build Alternatives. A less than significant impact would occur and no mitigation is required.

f) Less Than Significant Impact.

During project construction, two types of waste materials would be collected: vegetation, other plant material, and some excess soils; and solid waste such as concrete, asphalt, and wood. The waste collected during construction would be properly disposed of at an existing landfill or recycled. The amount of waste that would be generated during the construction of the Build Alternatives would be limited and would occur only during the construction period. That amount of waste would be only a very small amount of the total waste disposed of or recycled at area recycling facilities and landfills, on both a daily and annual basis. Therefore, the amount of waste generated during construction of the Build Alternatives is anticipated to be accommodated by the existing recycling and landfill facilities in Orange County.

The waste collected during operation of the Build Alternatives would be properly disposed of at an existing landfill or recycled. The amount of waste that would be generated during the operation of the Build Alternatives would be only a very small amount of the total waste disposed of, or recycled at area recycling facilities and landfills, on both a daily and annual basis. Therefore, the amount of waste generated during operation of the Build Alternatives is anticipated to be accommodated by the existing recycling and landfill facilities in Orange County.

Because the amount of waste generated during construction and operation of the Build Alternatives is anticipated to be accommodated by the existing recycling and landfill facilities in Orange County, a less than significant impact would occur and no mitigation is required.

g) Less Than Significant Impact.

Any hazardous waste generated during construction of the Build Alternatives, collected during normal waste collection activities, or collected as a result of an accidental release on the I-605 freeway or ramp facilities would be collected, handled, transported, and disposed of consistent with applicable federal, State, regional, and local regulations. Hazardous wastes would not be commingled with greenwaste nonhazardous trash. No mitigation is required.

Waste materials generated during construction and operation of the Build Alternatives would be disposed of in accordance with federal, State, and local regulations related to recycling,

which would minimize the amount of waste material entering local landfills. A less than significant impact would occur and no mitigation is required.

MANDATORY FINDINGS OF SIGNIFICANCE

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

a) Less Than Significant with Mitigation Incorporated.

The potential for the Build Alternatives to result in significant impacts to biological or cultural resources, specifically, is discussed in Sections 2.1.7, 2.2.4, 2.3.1, 2.3.2, and 2.3.3 in the IS/EA.

The Build Alternatives would not degrade the quality of the environment or impact any animal or plant species or associated habitat. As discussed in Section 2.3.2, Animal Species, the project area is located within the historic occurrence range for western pond turtle (a California Species of Special Concern and an OCTA NCCP/HCP Covered Species), and the project was identified as having the potential to have indirect impacts to aquatic and upland habitats for this species. Indirect impacts identified include hydrology and water quality effects, and increasing dispersal barriers during the construction process. Measure AS-1 has been included to mitigate potential impacts to western pond turtle; refer to the Animal Species section in Chapter 2 for a detailed discussion. With implementation of Measure AS-1, potentially significant impacts to western pond turtle would be reduced to a less than significant level.

The Build Alternatives would result in approximately 0.011-acre of impacts to USACE/RWQCB jurisdiction (non-wetland waters), and approximately 0.02-acre of CDFW jurisdictional streambed through implementation of project features affecting Los Alamitos Channel. The proposed project is identified as a “Covered Project,” under Section 3.1.1, Covered Freeway Improvement Projects, of the OCTA NCCP/HCP (identified as Project M: I-605 Freeway Access Improvements and under Section 3.1.1.13 of the OCTA NCCP/HCP).

The project would be required to implement Mitigation Measure WET-1 (see the Wetlands and Other Waters section in Chapter 2 for a detailed discussion). Based on the proposed project being a NCCP/HCP Covered Project and with implementation of Mitigation Measure WET-1, the potentially significant impacts to federally-protected wetlands are less than significant.

Based on the results of the HPSR and the attachments to that report, it was determined that there are no cultural resources within the APE which appear to be eligible for inclusion in the National Register, qualify as historical resources pursuant to CEQA, or are exempt per the Section 106 PA. In addition, it has been determined that a finding of no impact is appropriate because there are no historical resources within the project limits or there are no impacts to historical resources pursuant to CEQA Guidelines Section 15064.5(b)(3). However, in the unlikely event that buried deposits are encountered within the project disturbance limits during construction of the Build Alternatives, implementation of project features (PF-CUL-1 and PF-CUL-2) during construction, described in Section 2.1.7, Cultural Resources, of this IS/EA, would reduce potentially significant impacts to cultural resources, and no mitigation is required. Therefore, the proposed project's impact related to the elimination of important examples of the major periods of California history or prehistory would be less than significant.

To avoid impacts to paleontological resources that may be present where excavation may occur in areas of undisturbed soils, a PMP, detailed in Mitigation Measure PAL-1, provided in Section 2.2.4, Paleontology, of this IS/EA, would be developed during the PS&E phase of the project and implemented during the construction phase of the project. The potentially significant impacts to subsurface paleontological resources would be reduced to a less than significant level with implementation of Mitigation Measure PAL-1.

b) Less Than Significant Impact.

As discussed in Section 2.4, Cumulative Impacts, in the IS/EA, several development projects may be under construction and operation at the same time as the Build Alternatives. However, the Build Alternatives would result in improved operational efficiency at the interchange and would not contribute to cumulative significant effects. Therefore, the impacts of the Build Alternatives are not considered cumulatively considerable and are less than significant.

c) Less Than Significant Impact.

As discussed in Sections 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.6, 2.1.9, 2.2.1, 2.2.2, 2.2.3, 2.2.5, 2.2.6, and 2.2.7, in this IS/EA, the Build Alternatives would result in less than significant environmental impacts with implementation of project features and mitigation measures. Therefore, the proposed project would not result in environmental impacts that would cause substantial significant effects on human beings, either directly or indirectly.