



Saddleback Community Church Expansion Project

Initial Study – Mitigated Negative Declaration

prepared by

City of Lake Forest

25550 Commercentre Drive, Suite 100

Lake Forest, California 92630

Contact: Amanda Lauffer, Associate Planner

prepared with the assistance of

Rincon Consultants, Inc.

2215 Faraday Avenue, Suite A

Carlsbad, California 92008

October 2019



RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

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Initial Study

1. Project Title

Saddleback Community Church Expansion Project (project)

2. Lead Agency Name and Address

City of Lake Forest
25550 Commercentre Drive, Suite 100
Lake Forest, California 92630

3. Contact Person and Phone Number

Amanda Lauffer, Associate Planner, (949) 461-3491

4. Project Location

The project site is located on the existing Saddleback Community Church campus, located at 1 Saddleback Parkway in the City of Lake Forest (see Figure 1 and Figure 2). The site is bounded by Saddleback Parkway and State Route (SR) 241 to the north, El Toro Road to the south, Saddleback Parkway to the east, and Portola Parkway to the west. The project is located within the Foothill Ranch planned community of the City of Lake Forest.

5. Project Sponsor's Name and Address

Saddleback Community Church, 1 Saddleback Parkway, Lake Forest, California 92630

6. General Plan Designation

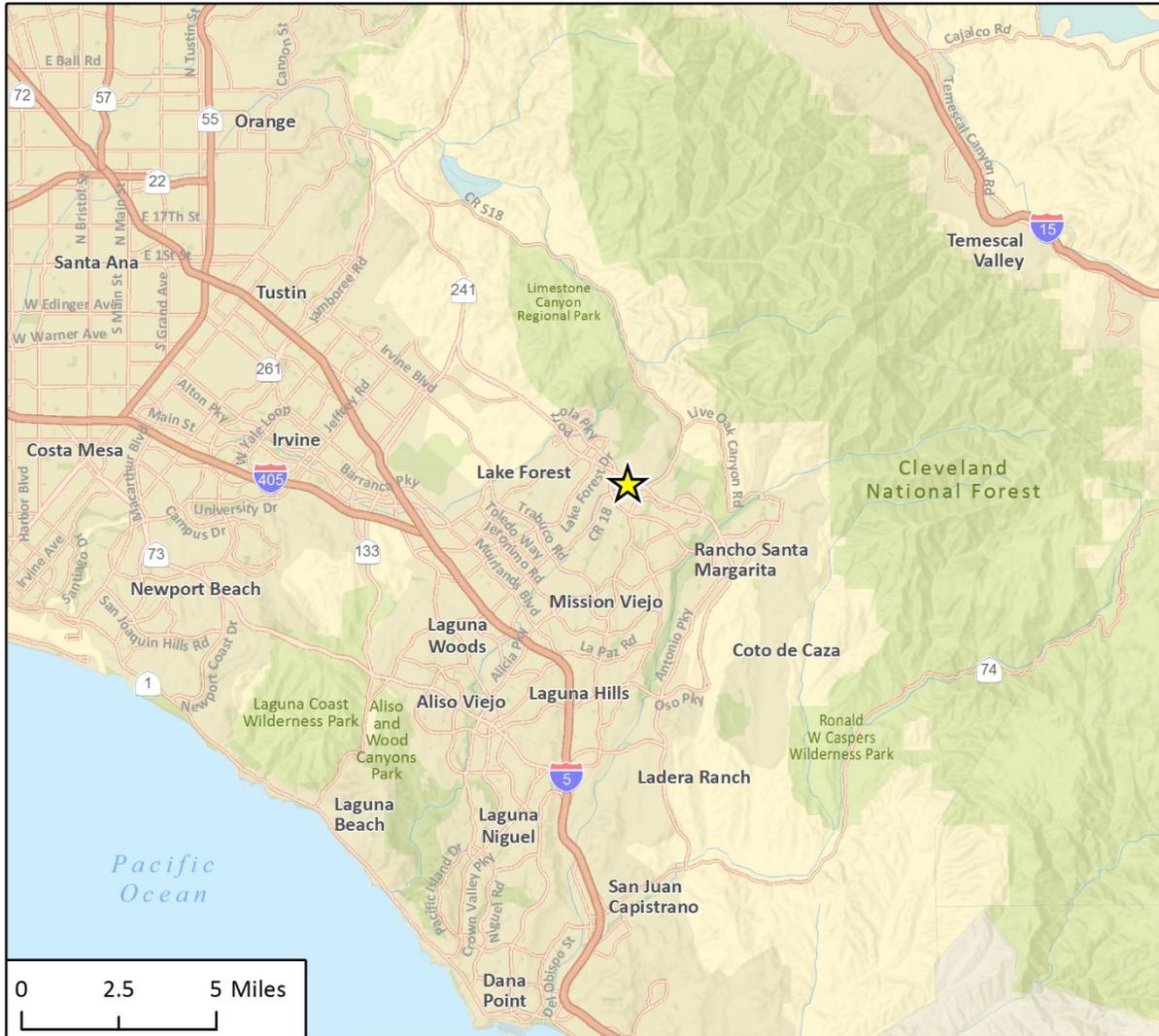
Light Industrial

7. Zoning

I (Industrial)

City of Lake Forest
Saddleback Community Church Expansion Project

Figure 1 Regional Vicinity



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★ Project Location

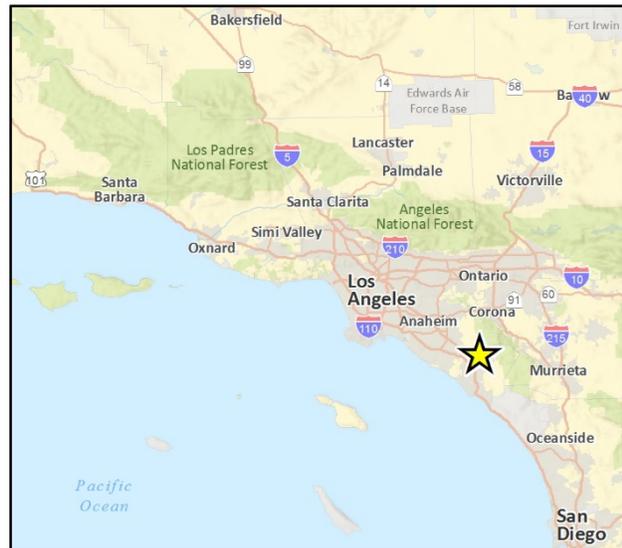
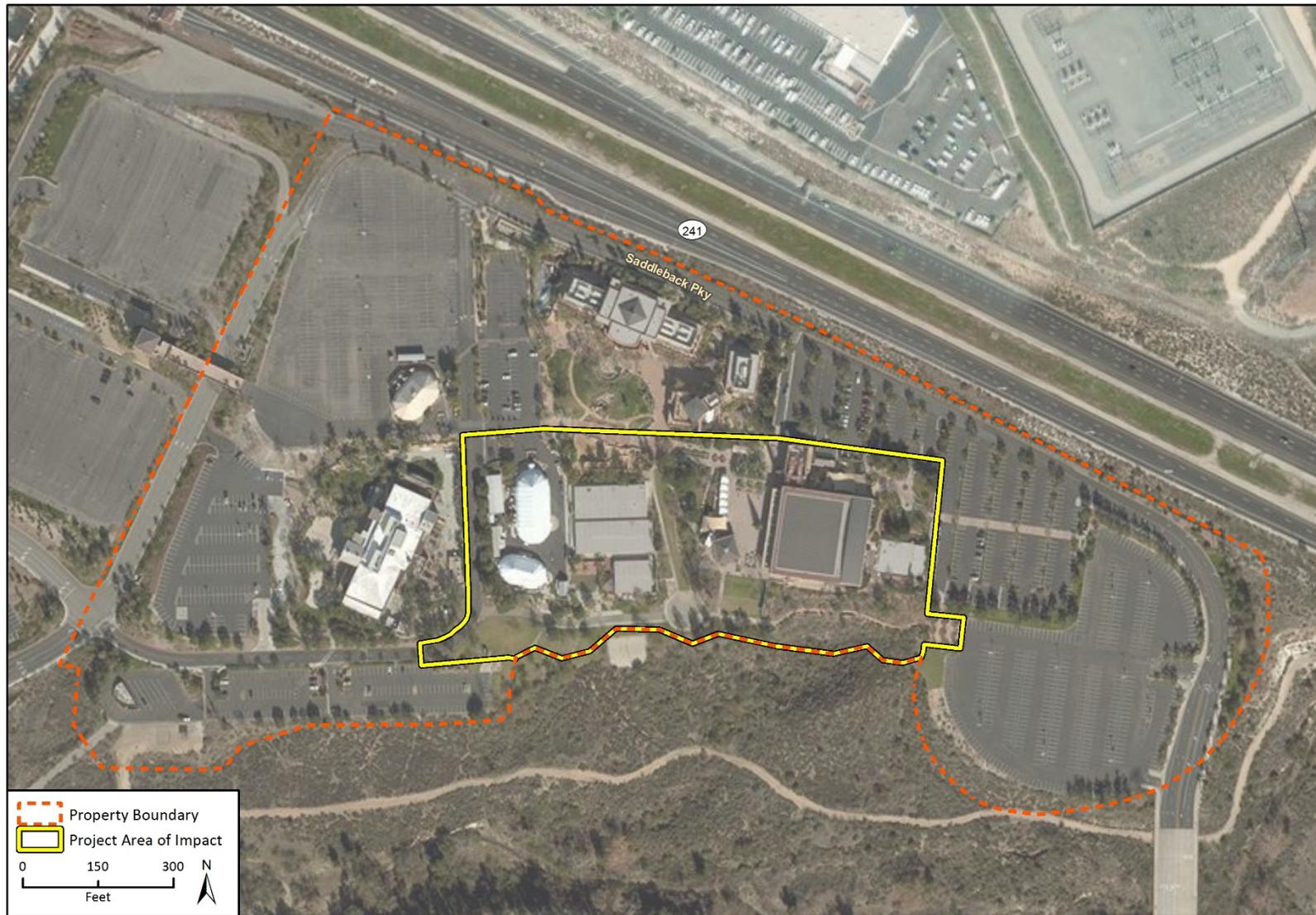


Fig 1 Vicinity Map

Figure 2 Project Location



Imagery provided by Microsoft Bing and its licensors © 2019.

Fig 2 Project Location Map

8. Description of Project

The project proposes several changes to the existing Saddleback Community Church Campus, including construction of a new Worship Center, the addition of surface parking, conversion of the existing Worship Center to an adult education center, and demolition or removal of existing modular buildings, tents, shed, and a restroom building. In addition, the project proposes to demolish an existing picnic area, existing walkways, and a pavilion, and replace them with new landscape improvements, walkways, and outdoor gathering spaces.

The project would involve the construction of a two-story 92,391 square foot (sf) Worship Center Building with a capacity of 3,219 seats and a 290 voice choir for a total assembly occupancy of 3,509, an increase from an existing occupancy of 3,153 seats at the existing Worship Center Building (see Figure 3). The first and second floors of the building would be 70,592 sf and 21,799 sf, respectively. The maximum developable height in the I (Industrial) zone is 45 feet. The majority of the Worship Center Building would be 42 feet tall or shorter; however, the applicant is requesting approval of an Alternate Development Standard to allow for a maximum allowable height of 50 feet above the Worship Center Building stage. The building would assume the function of principal assembly space for the Saddleback Community Church.

The existing one-story, 31,088 sf Worship Center Building would remain and be modified through the addition of a 26,924 sf second floor within the existing shell of the building (i.e., no height or bulk changes would occur for the existing building) for a total of 58,012 sf. The modified building would serve as an adult education center with classrooms for up to 903 students.

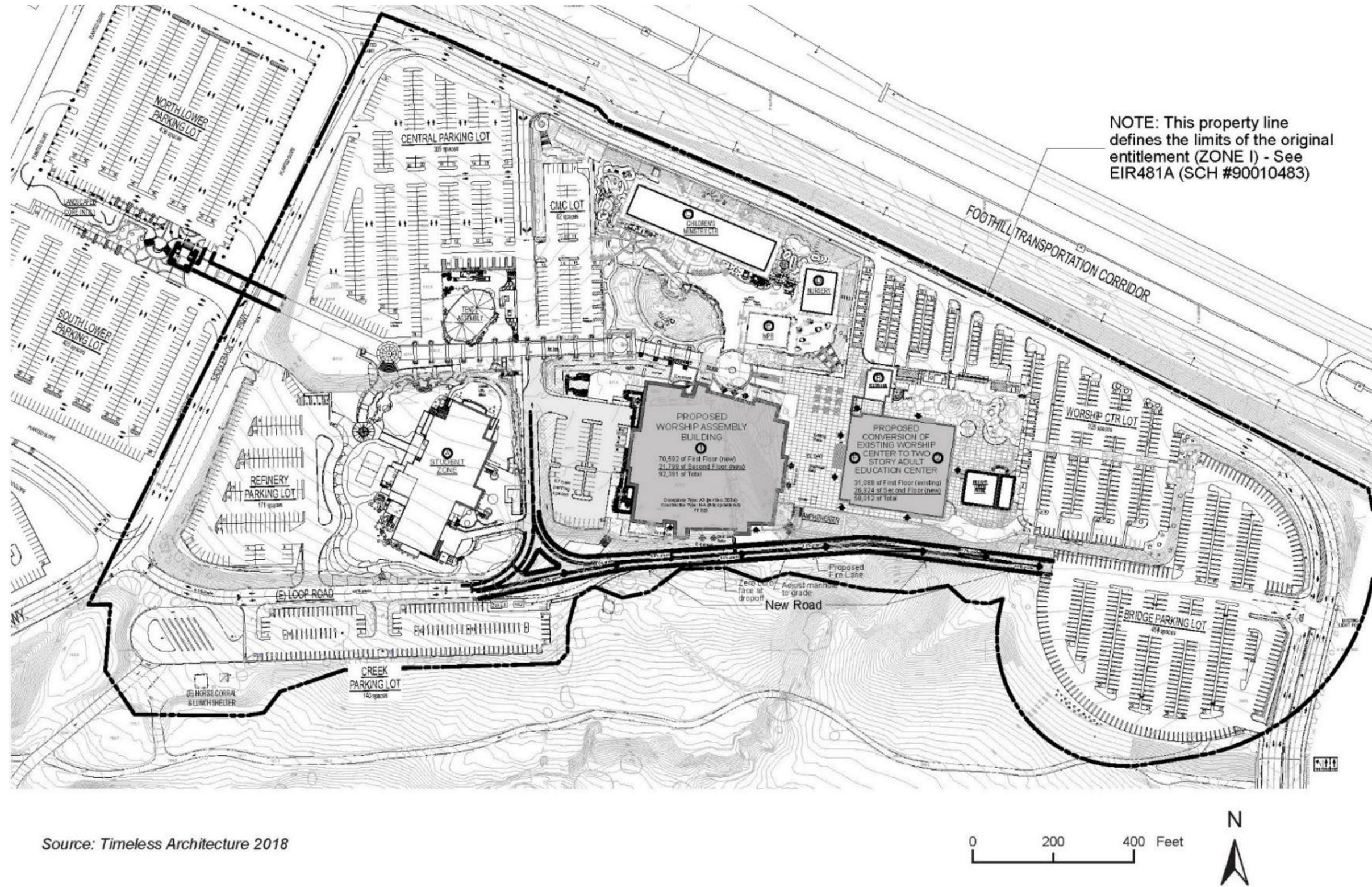
The project would add approximately 50,000 sf of new surface paving. This would include a new 57 parking space lot adjacent to the future Worship Center Building and the existing on-site connector path that meanders along the southern boundary of the site would be expanded as a proposed fire lane to connect the Bridge Parking Lot to the existing fire road off Purpose Drive. The expanded connector path would also provide drop-off access for church shuttles, delivery trucks, and emergency vehicles, and ADA access on the southern end of the new Worship Center Building; this would also mean that the existing access ramp leading up to the grass area would no longer be needed and would be removed as part of the project. In addition, approximately 18,400 sf of flatwork would be constructed (i.e., pathways, patio areas).

To accommodate construction of the project, two existing large tents and a 533 sf shed would be disassembled and removed from the site. In addition, the following existing site components would be demolished: a 1,148 sf restroom building; 3,679 sf picnic and seating area; 57,180 sf of walkways and paving; a 2,500 sf pavilion, small amphitheater; and 34,139 sf of the interior stage and crowd elements of the existing assembly space.

An existing 36-inch reinforced concrete pipe (RCP) storm drain would be abandoned in place, and a new 36-inch high-density polyethylene (HDPE) storm drain would be constructed to the west of the new Worship Center Building. The drain would let out just south of the access road located to the south of the building. The project would also construct an approximately 11,557 cubic foot stormwater storage structure in the southwest corner of the project site. In addition, curbs and gutters would be installed in the new paved areas.

The area around the new Worship Center Building and parking and paved areas would be landscaped with trees, shrub, and ground cover. Irrigation would use a combination of drip and rotor irrigation systems. In addition, a Fuel Modification Zone (FMZ) would be added south of the

Figure 3 Site Plan



Source: Timeless Architecture 2018

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connector path (see Appendix A for FMZ plans). An FMZ is a strip of land where combustible vegetation has been removed and/or modified and partially or totally replaced with more adequately spaced, drought-tolerant, fire resistant plants in order to provide a reasonable level of protection to structures from wildland fires.

Project design would include windows with a Sound Transmission Class [STC] rating greater than 28.

Construction is estimated to begin in 2020 with a construction period of approximately 15 months. The project would import 40,000 cubic yards of soil to the site during the grading phase of construction, resulting in 5,000 truck hauling trips.

The project would require the following permits and approvals from the City of Lake Forest:

- Approval of Site Development Permit 06-18-5176 by the Planning Commission

The Project would also require administrative approvals from the City for issuance of grading, building, and occupancy permits as well as connection permits from utility providers.

Surrounding Land Uses and Setting

The project site is developed with the existing facilities of the Saddleback Community Church, including the Worship Center Building, student building, nursery, children’s ministry center, modular buildings, and tents. In addition, a large amount of the project site is covered with surface parking lots. Industrial land uses are located to the north of the project site across SR 241; commercial uses and the Lake Forest Sports Park are located to the west across Portola Parkway; and Aliso Creek is located directly adjacent to the south, with multi-family and single-family residences located further to the south and to the east.

9. Other Public Agencies Whose Approval is Required

- State Water Resources Control Board (SWRCB) – National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities
- California Department of Fish and Wildlife (CDFW) South Coast Region -Streambed Alteration Agreement Notification
- Natural Communities Coalition – Mitigation fees for coastal sage scrub impacts

10. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

On April 30, 2019, the City of Lake Forest distributed AB 52 consultation letters for the proposed project, including project information, map, and contact information, to six Native American tribal contacts. Native American tribes provided with an AB 52 consultation letter, via certified mail, include the following:

Saddleback Community Church Expansion Project

- Juaneño Band of Mission Indians – Acjachemen Nation
- Soboba Band of Luiseño Indians
- Torres Martinez Desert Cahuilla Indians
- United Auburn Indian Community of the Auburn Rancheria (three contacts)

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation; the 30-day consultation period ended May 30, 2019. However, the City received one letter from the Torres Martinez Desert Cahuilla Indians on June 3, 2019. The tribe stated that they wished to defer to tribes that are located closer to the project site.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Determination

Based on this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

City of Lake Forest
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- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

10/28/19

Date

Amanda Lauffer

Printed Name

Associate Planner

Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

Except as provided in Public Resources Code Section 21099, would the project:

a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. Would the project have a substantial adverse effect on a scenic vista?

The City of Lake Forest has no designated scenic vistas or corridors within its jurisdiction (City of Lake Forest 2009). However, the County of Orange Scenic Highway Plan Map identifies El Toro Road as a scenic highway. El Toro Road is a designated “landscape corridor” from I-5 to Santa Margarita/Portola Parkway and a “viewscape corridor” from Santa Margarita Parkway to the northern city limits. The portion of El Toro Road south of the portion of Aliso Creek that is adjacent to the project site is part of the “viewscape corridor,” which is a route that traverses a corridor within which unique or unusual scenic resources and aesthetic values are found. This designation is intended to minimize the impact of the highway and land development upon the significant scenic resource along the route.

Photographs of existing views of the project site from El Toro Road, looking to the north, are shown in Figure 4.

Figure 4 Area Photographs



Photograph 1. View of the existing Saddleback Community Church, looking north on El Toro Road at the entrance to the River Oaks Apartments.



Photograph 2. Zoomed in view of the existing Saddleback Community Church, looking north on El Toro Road at the entrance to the River Oaks Apartments.

While the existing Worship Center Building is visible from the roadway, the building does not dominate existing views due to its distance from the roadway and foliage in and along Aliso Creek. The height and bulk of the existing Worship Center Building would not be modified when converted to the educational training center. The future Worship Center Building would be of similar size and bulk, with a slightly increased height to 50 feet from 45 feet in a small portion of the layout, with the majority of the height being 42 feet tall or shorter. The future building would be located to the left of the existing building in the representative photographs. This particular stretch of El Toro Road with views of the church does not contain exceptional views of the Santa Ana Mountains, which are more concentrated as the roadway moves eastwards past SR-241, out of viewing range of the church. Therefore, the project would not result in a substantial adverse effect on a scenic vista, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

The project would not substantially damage scenic resources such as trees, rock outcropping, or historic buildings. The project site is not located along a state scenic highway; the nearest state scenic high way is SR-74, which is located approximately 9 miles to the southeast (California Department of Transportation [Caltrans] 2011). Therefore, no impacts to scenic resources within a scenic highway would occur.

NO IMPACT

- c. *Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

According to the City of Lake Forest's California Environmental Quality Act (CEQA) Significance Thresholds Guide (City of Lake Forest 2009), a project would substantially degrade the existing visual character or quality of the site and its surroundings where:

- The project exceeds the allowed height or bulk regulations, or exceeds the prevailing height and bulk of existing structures;
- The project is proposed to have an architectural style or to use building materials that will be in vivid contrast to an adjacent development where that development had been constructed adhering to a common architectural style or theme;
- The project is located on a visually prominent site and, due to its height, bulk, architecture or signage, will be in vivid contrast to the surrounding development or environment degrading the visual unity of the area;
- A project would include unscreened outdoor uses or materials (e.g., junk yards or other unusual uses); or
- A project would result in the introduction of an architectural feature or building mass that conflicts with the character of the surrounding development.

Public views of the project site include: views from El Toro Road, discussed above under Item b; views from SR-241; views from the Aliso Creek Bike Trail, located adjacent to the south of the creek;

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and views from the public dirt trail, located adjacent to the north of the creek and south of the project site.

Regarding the project exceeding allowed height or bulk regulations, the project includes 3,908 sf area of the total 70,592 sf footprint of the new Worship Center Building to be at 50 feet instead of the maximum allowed 45 feet (the majority of the building would be at 42 feet or lower). The 50-foot height is necessary to accommodate future stage productions within the building. A similar request for an Alternate Development Standard was previously approved in 2001 for the 50-foot elevator tower as part of the otherwise 45-foot Children's Ministry Center Multi-Purpose Building. In addition, the central portion of the Children's Ministry Center Pre-School Elementary Building, also approved in 2001, was constructed with a maximum height of 56.25 foot. Therefore, while a building at this height would be slightly taller than the existing Worship Center Building (as seen in Figure 4 from public views on El Toro Road), it would be consistent with existing height and bulk of development on site and, as discussed above, would not significantly affect public views on nearby roadways and the trails located around Aliso Creek. Therefore, the project would not substantially affect the existing visual character or quality of public views through increased height or bulk.

The architectural style and building materials for the project site would be similar to the style of existing buildings on the project site. The project is designed to be visually in-character with the major buildings on site, including the existing Worship Center Building and the Children's Ministry Center Multi-Purpose Building. As described above, of the height and bulk of the new Worship Center Building would be similar to the height and bulk of these buildings. Therefore, the project would not be in vivid contrast to adjacent development where that development had been constructed adhering to a common architectural style or theme, or would not have architectural features or building mass that conflicts with the character of the surrounding development.

The project site is may be considered visually prominent from locations such as SR-241 due to the existing buildings (e.g., the existing Worship Center Building and the Children's Ministry Center Multi-Purpose Building). As described above, the new Worship Center Building would be similar to these existing buildings in terms of height, bulk, and design, and would not result in a vivid contrast to the surrounding development or environment degrading the visual unity of the area.

Project landscaping is designed to provide visual continuity of landscape design with existing landscaping on the project site. The landscaping would complement the architecture where possible (e.g., soften walls with trees, shrubs, and vines) and be used as natural screening for outdoor areas and potentially unsightly building features, such as mechanical equipment boxes or maintenance storage areas. In addition, the project would not contain uses considered by the City to be unsightly outdoor uses or materials (e.g., a junk yard or other unusual use). Therefore, the project's outdoor areas would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Given the aforementioned, the proposed project would not substantially affect the existing visual character or quality of public views due to: increased bulk or height; architectural or building materials in vivid contrast with adjacent development; unscreened outdoor uses or materials; or through introduction of a building feature that conflicts with the character of surrounding development. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

The City of Lake Forest's CEQA Significance Thresholds Guide specifies impacts from substantial night lighting that would result in "sky glow" (i.e., illumination of the night sky in urban areas) or "spill light" (i.e., light that falls outside of the area intended to be lighted).

Existing sources of glare and nighttime lighting include interior and exterior building lighting from development in the area, and roadway lighting and car headlights along El Toro Road, and SR-241. Lighting for the new Worship Center Building would include interior and exterior lighting typical of a religious use, and similar to the existing Worship Center Building. While lighting from the project, including interior lighting through windows, would be visible to off-site uses, due to the distance from the project site to the nearest residences (approximately 650 feet), the light would not be a new source of substantial light. In addition, project design would comply with Lake Forest Municipal Code Section 9.72.085.A.3, which states that outdoor lighting shall be designed and installed so that lighting is confined to the site, and adjacent properties are protected from glare." Therefore, given compliance with the Lake Forest Municipal Code lighting standards and similarity in design to existing uses on site and in the area, project lighting would not result in substantial sky glow or spill light, and lighting impacts would be less than significant.

Regarding glare, building materials would be of non-reflective materials and are not anticipated to create glare, and would project adjacent properties from glare per Lake Forest Municipal Code Section 9.72.085.A.3. Therefore, the proposed project would not result in a substantial glare that would adversely affect daytime visibility and/or views in the area. Impacts from glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

This page intentionally left blank.

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Conflict with existing zoning for agricultural use or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

-
- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- c. *Would the project 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))?*
- d. *Result in the loss of forest land or conversion of forest land to non-forest use?*

Saddleback Community Church Expansion Project

- e. *Would the project 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?*

The project site has a General Plan land use designation of Light Industrial and is zoned Industrial. The project site is currently developed with an existing worship center, parking lot, and landscaping. Therefore, the project would not conflict with existing agricultural land uses or zoning for future agricultural use. There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or agriculturally zoned land on or adjacent to the project site. The project site is designated Urban and Built-Up Land on the 2016 Orange County Important Farmland Map developed under the Farmland Mapping and Monitoring Program (California Department of Conservation 2018a). The project does not involve any development that would convert agricultural land to a non-agricultural use, and would not conflict with existing zoning of forest land or timberland, result in the loss or conversion of forest land to non-forest uses, interrupt ongoing agricultural activity, or conflict with a Williamson Act contract. Therefore, the project would not adversely affect agricultural, forest land, or timberland resources. There would be no impact.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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. 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Air Quality and Greenhouse Gas Impact Study was completed by RK Engineering Group, Inc. and is included as Appendix B (RK Engineering Group, Inc. 2019a). The study’s findings are discussed below.

Air Quality Standards and Attainment

The project site is located in the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the local air quality management agency, the SCAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether or not the standards are met or exceeded, the SCAB is classified as being in “attainment” or “nonattainment.” Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The SCAQMD is in non-attainment for the federal standards for ozone and particulate matter 2.5 microns or less (PM_{2.5}) and the state standards for ozone, particulate matter 10 microns or less (PM₁₀) and PM_{2.5}. The SCAB is designated unclassifiable or in attainment for all other federal and state standards. Characteristics of ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), PM₁₀, and PM_{2.5} are described in Table 1.

Table 1 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) Aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO ₂)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO ₂)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM ₁₀)	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma). ^a
Suspended particulate matter (PM _{2.5})	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma. ¹

¹ More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: Office of Environmental Health Hazard Assessment, Particulate Matter Health Effects and Standard Recommendations, www.oehha.ca.gov/air/toxic_contaminants/PM10notice.html#may, May 9, 2002; and EPA, Air Quality Criteria for Particulate Matter, October 2004.

Source: US EPA 2016

Air Quality Management

Under state law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. The latest Air Quality Management Plan (AQMP) from 2016 was adopted on March 3, 2017. It incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2012 AQMP, including the approval of the new federal 8-hour ozone standard of 0.070 parts per million (ppm) that was finalized in 2015. The Final 2016 AQMP addresses several state and federal planning requirements and incorporates new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and meteorological air quality models. The Southern California Association of Government’s (SCAG) projections for socio-economic data (e.g., population, housing, employment by industry) and transportation activities from the 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) are integrated into the 2016 AQMP. This plan builds upon the

approaches taken in the 2012 AQMP for the attainment of federal PM and ozone standards and highlights the significant amount of reductions to be achieved. It emphasizes the need for interagency planning to identify additional strategies to achieve reductions within the timeframes allowed under the federal Clean Air Act, especially in the area of mobile sources. The 2016 AQMP also includes a discussion of emerging issues and opportunities, such as fugitive toxic particulate emissions, zero-emission mobile source control strategies, and the interacting dynamics among climate, energy, and air pollution. The plan also demonstrates strategies for attainment of the new federal 8-hour ozone standard and vehicle miles traveled (VMT) emissions offsets, pursuant to recent U.S. Environmental Protection Agency (EPA) requirements.

Air Pollutant Emission Thresholds

The SCAQMD recommends quantitative regional significance thresholds for temporary construction activities and long-term project operation in the SCAB, shown in Table 2.

Table 2 SCAQMD Regional Significance Thresholds

Construction Thresholds	Operational Thresholds
75 pounds per day of ROG	55 pounds per day of ROG
100 pounds per day of NO _x	55 pounds per day of NO _x
550 pounds per day of CO	550 pounds per day of CO
150 pounds per day of SO _x	150 pounds per day of SO _x
150 pounds per day of PM ₁₀	150 pounds per day of PM ₁₀
55 pounds per day of PM _{2.5}	55 pounds per day of PM _{2.5}

Source: SCAQMD 2015

Localized Significance Thresholds

In addition to the above regional thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board’s Environmental Justice Enhancement Initiative (1-4), which was prepared to update the *CEQA Air Quality Handbook* (1993). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_x, CO, PM₁₀, and PM_{2.5}. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each Source Receptor Area (SRA), distance to the sensitive receptor, and project size. LSTs have been developed for emissions within construction areas up to five acres in size. However, LSTs only apply to emissions in a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2008). As such, LSTs are typically applied only to construction emissions because the majority of operational emissions are associated with project-generated vehicle trips.

The appropriate SRA for the site is SRA 19, Saddleback Valley. Construction activity would occur approximately 650 feet from the nearest residential units south of the project site; therefore, the project’s impacts were analyzed using the LSTs for 656 feet. In addition, the LSTs for a 5-acre site were used, and are shown in Table 3.

Table 3 SCAQMD LSTs for SRA 19

Pollutant	Construction (lbs/day)	Operation (lbs/day)
Gradual conversion of NO _x to NO ₂	222	222
CO	4,384	4,384
PM ₁₀	74	18
PM _{2.5}	30	8

Source: SCAQMD 2009

Methodology

Emissions were estimated using the California Emissions Estimator Model Version 2016.3.2 (CalEEMod). The analysis reflects the construction of the project structures as described in the Project Description. Construction was assumed to begin in January 2019 and anticipated to last approximately 14 months. The project’s construction schedule and equipment were based on default CalEEMod estimates. Construction equipment emissions become lessened for each subsequent year due to the model’s assumption of more efficient and cleaner equipment; therefore, although this Initial Study-Mitigated Negative Declaration is being prepared after this start date, maintaining the earlier model date for construction is more conservative. It was assumed that 40,000 cubic yards of soil would be imported to the site during the grading phase of construction, resulting in 5,000 truck hauling trips.

Operational emissions are generated from mobile sources, energy sources and area sources. Mobile source emissions are from motor vehicles; the trip generation rates are based on the project’s Traffic Impact Analysis (TIA; RK Engineering Group, Inc. 2018). Emissions are also generated from area sources such as the consumption of natural gas for heating, hearths, landscaping equipment, consumer product usage, and architectural coatings (painting).

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The 2016 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local city general plans and the SCAG’s 2016 RTP/SCS socioeconomic forecast projections of regional population, housing, and employment growth.

The employment growth forecasts in SCAG’s 2016 RTP/SCS for the City estimate that the total number of employment would increase from 39,200 in 2012 to 49,000 in 2040, for an increase of 9,800 jobs. Because the project would result in only a minor increase in the capacity of the existing Worship Center Building, a relatively minor increase, if any, in employment would be anticipated from the project; therefore, any increase in employment would be within SCAG’s projected 2040 employment increase of 9,800 from 2012, and the project would not cause the City to exceed official regional employment projections. As the project’s employment would be within SCAG 2016 forecasts, impacts would be less than significant.

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- b. *Would the project 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?*

If the mass regional emissions calculated for a project exceed the applicable SCAQMD daily significance thresholds that are designed to assist the region in attaining the applicable state and national ambient air quality standards, that project can be considered cumulatively considerable.

Construction

Table 4 summarizes the estimated maximum daily emissions (lbs) of pollutants associated with construction of the project. As shown below, CO, SO₂, PM₁₀, and PM_{2.5} emissions would not exceed SCAQMD regional thresholds. Emissions of reactive organic gases (ROG) and NO_x would exceed regional thresholds; therefore, emissions may result in a cumulatively considerable net increase of a criteria pollutant and impacts would be potentially significant. Project construction emissions would not exceed LST thresholds.

Table 4 Construction Criteria Pollutant Emissions

	Maximum Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction	83	104	36	<0.1	10	6
SCAQMD Regional Thresholds	75	100	550	150	150	55
Threshold Exceeded?	Yes	Yes	No	No	No	No
Maximum On-site Emissions	N/A	46	22	N/A	9	6
SCAQMD Localized Significance Thresholds (LSTs)	N/A	222	4,384	N/A	74	30
Threshold Exceeded?	N/A	No	No	N/A	No	No

Notes: Some numbers may not add up due to rounding.

Source: RK Engineering Group, Inc. 2019a (Appendix B)

Operational

Table 5 summarizes the project's operational emissions by emission source (area, energy, and mobile). As shown below, the emissions generated by operation of the project would not exceed SCAQMD regional thresholds and LSTs for criteria pollutants. Therefore, the project would not contribute substantially to an existing or projected air quality violation and impacts would be less than significant. In addition, because criteria pollutant emissions and regional thresholds are cumulative in nature, the project would not result in a cumulatively considerable net increase of criteria pollutants.

Table 5 Operational Criteria Pollutant Emissions

Emission Source	Maximum Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area	3	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	1	1	<0.1	<0.1	<0.1
Mobile	9	32	95	0.3	30	8
Maximum Emissions	12	33	97	0.3	30	8
SCAQMD Regional Thresholds	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Maximum On-site Emissions	N/A	2	6	N/A	2	0.5
SCAQMD Localized Significance Thresholds (LSTs)	N/A	222	4,384	N/A	8	18
Threshold Exceeded?	N/A	No	No	N/A	No	No

Notes: Some numbers may not add up due to rounding.
Source: RK Engineering Group, Inc. 2019a (Appendix B)

Mitigation

Although the project does not exceed the SCAQMD thresholds for PM₁₀ and PM_{2.5}, the project would comply with SCAQMD rules and requirements for fugitive dust control during construction through mitigation measure AQ-1:

AQ-1 Fugitive Dust Control

During construction, the project shall comply with SCAQMD rules and requirements for fugitive dust control during construction. The following requirements shall be applicable to this project.

- Suspend operations on any unpaved surface shall be suspended if winds exceed 15 mph.
- Require minimum soil moisture of 12 percent for earthmoving by use of a moveable sprinkler system or a water truck. Moisture content can be verified by lab sample or moisture probe.
- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Cover haul trucks and maintain at least 12 inches of freeboard height.
- Use a gravel apron, 25 feet long by road width, to reduce mud/dirt trackout from unpaved truck exit routes.
- Limit on-site vehicle speed on unpaved roads 15 mph or less by radar enforcement.
- Sweep or wash visible dirt on public roadways and access points within 30 minutes.
- Cover or enclose on-site stockpiles of debris, dirt or other dusty material on three sides.
- Replace ground cover on exposed surfaces as quickly as possible

Due to the project’s exceedances of the construction thresholds for ROG, mitigation measure AQ-2 would be implemented to reduce potentially significant construction ROG emissions to less than significant:

AQ-2 SCAQMD Rule 1113

Project construction shall comply with SCAQMD Rule 1113 regarding VOC content in coatings and paint by limiting the VOC content of paint to a maximum of 50 grams per liter.

Due to the project’s exceedances of the construction thresholds for NO_x, mitigation measure AQ-3 would be implemented to reduce potentially significant construction NO_x emissions to less than significant:

AQ-3 Soil Hauling Trips Limitation

During material import activities during construction, the number of soil hauling trips shall be limited to a maximum of 100 truckloads per day.

Construction Emissions with Mitigation

As shown in Table 6, with implementation of mitigation measures AQ-1 through 3, emissions from all criteria pollutants, including ROG and NO_x, would be below SCAQMD regional thresholds. Therefore, project construction emissions would be less than significant with mitigation.

Table 6 Construction Criteria Pollutant Emissions with Mitigation

	Maximum Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction with Mitigation	42	89	32	0.2	10	6
SCAQMD Regional Thresholds	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: Some numbers may not add up due to rounding.
 Source: RK Engineering Group, Inc. 2019a (Appendix B)

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c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Toxic Air Contaminants

Generation of diesel particulate matter (DPM) from construction projects typically occurs in a single area for a temporary period. Project-related construction DPM emissions would occur over an approximately 12-month period during which demolition, grading, structural and site work, and paving phases would occur. The dose a receptor is exposed to is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of

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Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, if the duration of proposed construction activities near any specific sensitive receptor was one year, the exposure would be approximately 3 percent of the total exposure period used for health risk calculation.

Because project construction would not persist for multiple years, DPM generated by project construction would not create conditions where the probability is greater than 10 in 1 million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic toxic air contaminants (TACs) that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Additionally, with ongoing implementation of U.S. EPA and California Air Resources Board (CARB) requirements for cleaner fuels, off-road diesel engine retrofits, and new low-emission diesel engine types, the DPM emissions of individual equipment would be substantially reduced over the years as the project construction continues. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

CO Hot Spots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal one-hour standard of 35.0 ppm or the federal and state eight-hour standard of 9.0 ppm (CARB 2016).

A detailed CO analysis was conducted during the preparation of SCAQMD’s 2003 AQMP. The locations selected for microscale modeling in the 2003 AQMP included high average daily trips (ADT) intersections in the SCAB, those which would be expected to experience the highest CO concentrations. The highest CO concentration observed was at the intersection of Wilshire Boulevard and Veteran Avenue on the west side of Los Angeles near the I-405 Freeway. The concentration of CO at this intersection was 4.6 ppm, which is well below the state and federal standards. The Wilshire Boulevard/Veteran Avenue intersection has an ADT of approximately 100,000 vehicles per day.

The major intersection nearest to the project site, Saddleback Parkway/Portola Parkway, has a daily traffic volume of 32,000 ADT (Orange County Transit Authority 2018), which is less than the 100,000 vehicle count on the Wilshire Boulevard/Veteran Avenue intersection that was already well below the standards. The proposed project would add approximately 320 ADT on Saturdays and 659 ADT on Sundays (RK Engineering Group, Inc. 2018). Due to stricter vehicle emissions standards in newer cars and new technology that increases fuel economy, CO emission factors under future land use conditions would be lower than those under existing conditions. Thus, even though there would be more vehicle trips under the proposed project than under existing conditions, project-generated local mobile-source CO emissions would not result in or substantially contribute to concentrations that exceed the one-hour or eight-hour CO standard. Therefore, impacts would be less than significant.

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- d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

For construction activities, odors would be short-term in nature and are subject to SCAQMD Rule 402 Nuisance and may be reported to the AQMD. Construction activities would be temporary and transitory and associated odors would cease upon construction completion. Accordingly, the project would not create objectionable odors affecting a substantial number of people during construction.

Common sources of operational odor complaints include sewage treatment plants, landfills, recycling facilities, and agricultural uses. The proposed project would not include any of these uses that are known to generate odors. In addition, solid waste generated by the proposed on-site uses would be collected by a contracted waste hauler, ensuring that odors resulting from on-site waste would be managed and collected in a manner to prevent the proliferation of odors. Therefore, the project would have a less than significant impact with respect to operational odors.

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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The Biological Resources Assessment Report (BRA) is included as Appendix C (Environmental Intelligence, LLC 2019a). The study's findings are discussed below.

The report performed a review of previously identified biological resources in the area through the Orange County Central/Coastal Natural Community Conservation Plans (NCCP)/Habitat Conservation Plan (HCP), resource databases (e.g., California Natural Diversity Database [CNDDDB], U.S. Fish and Wildlife [USFWS], Consortium of California Herbaria [CCH]), and previous biological documents from other projects in the project vicinity identified. Through this research, four sensitive vegetation communities, eight special-status plant species, and 15 special-status wildlife species with the potential to occur within a three-mile radius of the project site were identified (see Appendix C for species list). The project site is outside the Critical Habitat boundaries for any federally listed threatened or endangered species.

In addition, a habitat assessment was conducted by an Environmental Intelligence, LLC biologist on January 8, 2018. The survey area included the project impact area and an approximately 500-foot buffer around the proposed road extension. The habitat assessment included a general pedestrian survey to identify plant and wildlife species present and identify areas that provide suitable habitat for any special-status species. All vegetation communities and land cover were assessed and mapped within the survey area as seen in Figure 5 below.

A Jurisdictional Delineation (JD) Report was also prepared for the project and included as Appendix D (Environmental Intelligence, LLC 2019b). On April 29 and May 3, 2019, an Environmental Intelligence, LLC biologist conducted a general field reconnaissance of the survey area to identify areas (including the limits) supporting potential federal and state jurisdictional waters (including wetlands). The report included a review of the environmental setting to conduct the jurisdictional delineation methodology and determine if there are jurisdictional features that would be impacted by the project.

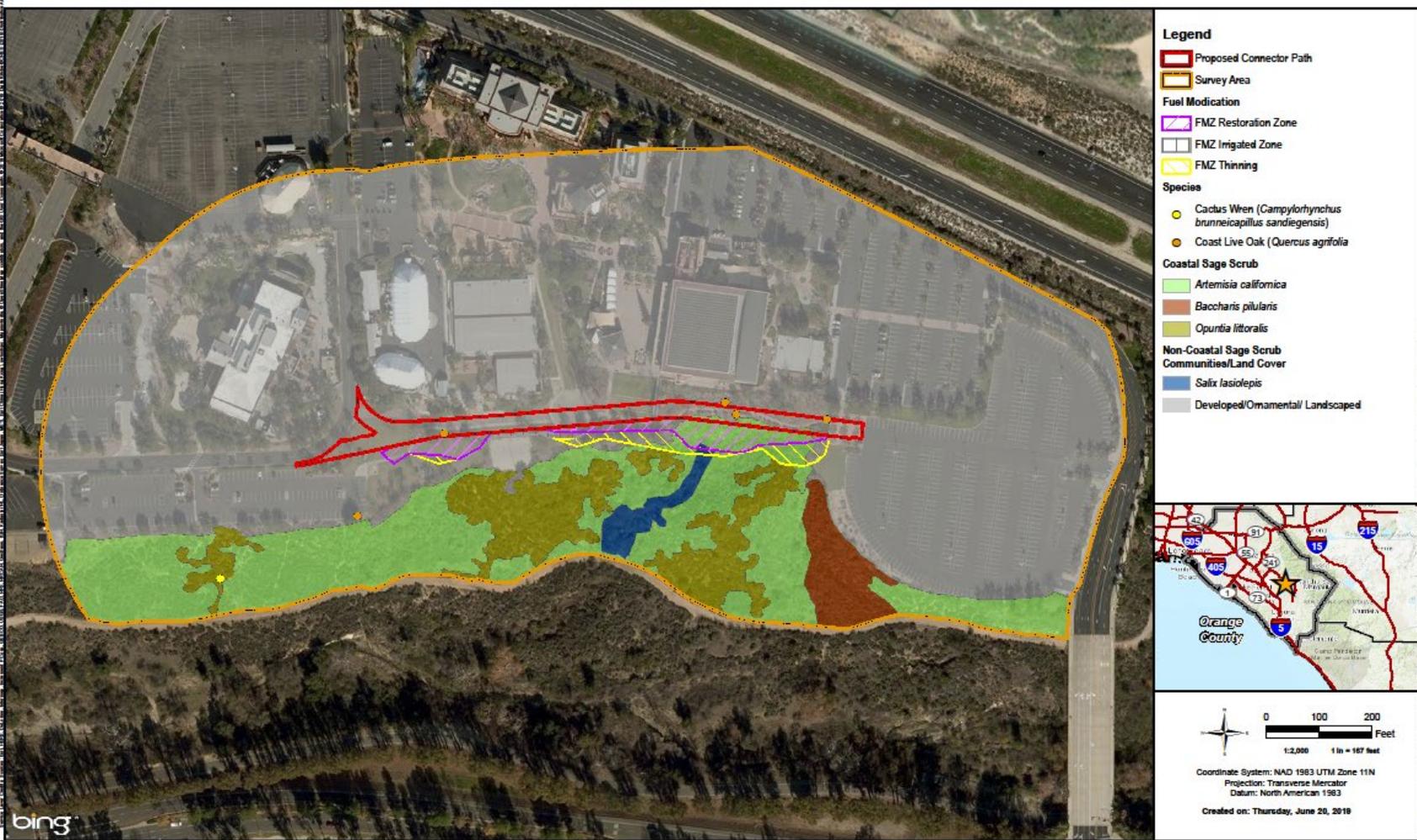
- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The BRA states that eight special-status plant species and 15 special-status wildlife species have the potential to occur within a three-mile radius of the project site. Based on the literature search and habitat assessment completed for the BRA, six of the eight plant species do not occur or are unlikely to occur on the project site based on the absence of suitable habitat and/or the project site being outside the species' geographic or elevation range.

One special-status plant species, the thread-leaved brodiaea (*Brodiaea filifolia*), is likely to occur in the BRA survey area, based on the presence of suitable soils, vegetation alliances, and/or documented collections. Potentially suitable habitat includes the Aliso Creek floodplain and open areas with clay soils south of the proposed connector path. However, no thread-leaved brodiaea individuals were observed in the survey area during the habitat assessment and the project impact area does not contain habitat or soils identified as suitable for the thread-leaved brodiaea. Therefore, there would be no impact to this plant species.

Five coast live oaks (*Quercus agrifolia*) were identified in the survey area. Four of the oaks are located in potential impact areas for the project and would likely need to be removed (see Figure 5). However, approximately 21 coast live oak trees would be planted along the proposed connector

Figure 5 Vegetation Map and Habitat Assessment



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path as part of the project to replace the four oak trees to be removed. Therefore, no impacts to sensitive plant species would occur.

Of the 15 special-status wildlife species with potential to occur within a three-mile radius of the project site, only two special-status wildlife species, the coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) and coyote (*Canis latrans*), were observed during the habitat assessment survey, though both observations were outside of the anticipated project impact areas. An additional four special-status wildlife species have potential to occur in the BRA survey area based on the presence of suitable habitat and/or documented observations: the coastal California gnatcatcher (*Poliophtila californica californica*), western spadefoot toad (*Spea hammondi*), orange-throated whiptail (*Aspidoscelis hyperythra*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). None of these four wildlife species were identified during the habitat assessment survey. Direct and indirect project impacts to coyote, western spadefoot toad, and orange-throated whiptail would be less than significant, as discussed below. Direct and indirect project impacts to coastal cactus wren, coastal California gnatcatcher, and southern California rufous-crowned sparrow would be less than significant with mitigation incorporated, as discussed below.

The coyote is not federally or state listed, but it is an “Identified” species in the Orange County Central/Coastal NCCP/HCP. Coyote scat was observed in the BRA survey area during the habitat assessment survey in the Aliso Creek corridor, which is likely used by coyotes as a movement corridor and located outside of the project impact area. Coyotes are known to utilize urban development for shelter and food sources and they are likely to occur within the project site. However, because the project would not inhibit the ability for coyotes to move throughout the area, direct impacts would be less than significant.

The western spadefoot toad is a state SSC and an “Identified” species in the Orange County Central/Coastal NCCP/HCP. Historical records noting presence of the western spadefoot occur along the Aliso Creek corridor (Appendix A, Exhibit 3C of Appendix C), which is outside of the project site. Suitable habitat is present in the coastal sage scrub (CSS) communities in the BRA survey area and the riparian habitat associated with Aliso Creek, though both areas are outside the project site. Therefore, project direct impacts to the western spadefoot would be less than significant.

The orange-throated whiptail is a state watch list species and a “Target” species in the Orange County Central/Coastal NCCP/HCP. Historical records note occurrence of the orange-throated whiptail near the project impact area (Appendix A, Exhibit 3C of Appendix C). Suitable habitat for the orange-throated whiptail is present in the CSS communities located to the south of the project site, though no suitable habitat occurs on the project site. Therefore, direct impacts to the orange-throated whiptail would be less than significant.

Indirect impacts (e.g., from construction noise) would not occur to the non-bird species (i.e., the coyote, western spadefoot toad, and orange-throated whiptail) that may be present in the vicinity of the project site. Project construction would not occur within or disturb their habitat, which is outside of the project site. Therefore, indirect impacts to these species would be less than significant.

The coastal cactus wren is a California Species of Special Concern (SSC) and a “Target” species in the Orange County Central/Coastal NCCP/HCP. Numerous historical records note the presence of the coastal cactus wren on the project site and vicinity (Appendix A, Exhibit 3C of Appendix C). Suitable foraging and breeding habitat occur in the CSS communities, specifically the *Opuntia littoralis* communities, located on the slope to the south of the proposed connector path. The BRA states

that a pair of cactus wren was observed in the BRA survey area, approximately 300 feet southwest of the project site during the habitat assessment survey (Appendix A, Exhibit 4 of Appendix C), which is outside of the project impact area. No coastal cactus wrens are likely to occur on the project site and impact area since there are no CSS habitats on the project site boundary. However, coastal cactus wren may occur adjacent to the project site and could be indirectly impacted by construction activities such as construction noise. Therefore, Mitigation Measure BIO-1 would be required to reduce indirect impacts to a less than significant impact for coastal cactus wren.

The coastal California gnatcatcher (CAGN) is a federally and state listed species. Suitable CSS habitat for foraging and breeding is located to the south of the proposed connector path, though CSS habitat does not occur on the project site itself. However, no CAGN were observed in the BRA survey area (Appendix C). CAGN may occur adjacent to the project impact area for the proposed connector pathway and CAGN may be impacted from indirect impacts from construction (e.g., from construction noise). Therefore, Mitigation Measure BIO-1 would be required to reduce indirect impacts to CAGN during project construction to a less than significant level.

The southern California rufous-crowned sparrow is a state watch list species and an "Identified" species in the Orange County Central/Coastal NCCP/HCP. Historical records note occurrence of the southern California rufous-crowned sparrow near the project impact area (Appendix A, Exhibit 3C of Appendix C). The southern California rufous-crowned sparrows are likely to occur where suitable habitat is present in the CSS communities located to the south of the project site, though no suitable habitat occurs in the project impact area. Regardless, potential indirect impacts may occur during project construction (e.g., from construction noise). Therefore, Mitigation Measure BIO-1 would be required to reduce indirect impacts to southern California rufous-crowned sparrows to less than significant level.

The project site contains ornamental and native vegetation that provides potentially suitable nesting habitat for migratory birds and raptors which are protected under the federal Migratory Bird Treaty Act (MBTA) and Sections 3503 and 3503.5 of the California Fish and Game Code, which prohibits the take or destruction of migratory birds and raptors and their nests. The project would require removal of existing vegetation and trees from the site and, therefore, would potentially impact nesting birds protected by the MBTA and provisions of the Fish and Game Code if work is conducted during the avian breeding season. Implementation of Mitigation Measure BIO-2 would be required to reduce potential impacts to nesting birds with the potential to occur on-site to a less than significant level.

Mitigation Measures

The following mitigation measure for CAGN, rufous-crowned sparrow, and coastal cactus wren shall be implemented:

BIO-1 California Coastal Gnatcatcher, Rufous-crowned Sparrow, and Coastal Cactus Wren

1. All vegetation clearing and earthwork shall be conducted between September 2 through February 14, outside of the breeding season for CAGN, rufous-crowned sparrow, and coastal cactus wren.
 - a. No more than three (3) days prior to the removal of vegetation on the project site, the project applicant will have a qualified biologist conduct one pre-construction survey for CAGN, rufous-crowned sparrow, and coastal cactus wren to ensure that the on-site CSS is

not occupied by these species. If the pre-construction survey identifies the presence of CAGN, rufous-crowned sparrow, and/or coastal cactus wren, the project biologist shall use appropriate techniques to flush the bird(s) from the project area or delay the removal of vegetation until CAGN, rufous-crowned sparrow, and/or coastal cactus wren has left the project area on their own volition.

2. As construction is on-going and the vegetation in the project area has already been cleared, the project applicant shall conduct surveys within a 500-foot buffer around the project area for nesting birds after February 14 to determine if there are nesting CAGN, rufous-crowned sparrow, and/or coastal cactus wren that could be indirectly affected by construction activities. The results of the surveys shall be submitted to the USFWS. If CAGN, rufous-crowned sparrow, and/or coastal cactus wren are found to be nesting in the open space, the following avoidance and minimization measures will be implemented:
 - a. Construction activity will cease within 500 feet of the nest until such time as the nest is no longer active.
 - b. To reduce potential noise impacts to nesting CAGN, rufous-crowned sparrow, and/or coastal cactus wren, a qualified acoustician will monitor the project area on a weekly basis to determine if any nests are within a distance potentially affected by noise from construction activities. If nesting birds are located adjacent to the project area with the potential to be affected by construction activity noise above 60 dBA L_{eq} ,¹ at the edge of the 500-foot buffer, a noise barrier will be erected. This noise barrier will consist of a 10-foot-high continuous plywood fence supported by posts or an earthen berm located at the site boundary that abuts potential off-site habitat. If 60 dBA L_{eq} is exceeded the acoustician will require the construction contractor to make operational and barrier changes to reduce noise levels to 60 dBA L_{eq} during the breeding season (February 15 through September 1). Noise monitoring will occur during operational changes and installation of barriers, as needed, to ensure their effectiveness.
 - c. The applicant shall designate a USFWS-approved qualified biologist who would be responsible for overseeing compliance with protective measures (e.g., buffers, noise mitigation) for the listed species during construction. The biologist will have the authority to halt all associated project activities that may be in violation of the buffers or activity noise above 60 dBA L_{eq} .

The following mitigation measure for nesting birds and raptors shall be implemented:

BIO-2 Nesting Birds and Raptors Survey and Avoidance

All vegetation clearing shall be conducted between September 2 and February 14. No more than three (3) days prior to the start of site clearing activities, a qualified biologist shall conduct a nesting bird survey to identify nesting birds within a 250-foot buffer around the project site. If any nests are found, their locations shall be flagged and an appropriate avoidance buffer, ranging in size from 25 to 50 feet for song birds, and up to 250 feet for raptors depending upon the species and the proposed work activity, shall be determined and demarcated by a qualified biologist with bright orange construction fencing or other suitable flagging. Active nests shall be monitored at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults. No disturbance shall occur within this buffer until the qualified biologist

¹ The standard level typically requested by the USFWS.

confirms that the breeding/nesting is completed, and all the young have fledged. If project activities must occur within the buffer, they shall be conducted at the discretion of the qualified biologist and with monitoring and management to ensure that nesting success is not jeopardized. If no nesting birds are observed during the survey, then no further actions shall be necessary.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Six vegetation communities/land cover types were documented and mapped during the habitat assessment: coast prickly pear scrub (*Opuntia littoralis*), California sycamore woodlands (*Platanus racemosa*), red willow thickets (*Salix laevigata*), California sagebrush scrub (*Artemisia californica*), coyote brush scrub (*Baccharis pilularis*), and developed/ornamental/landscaped. California sagebrush scrub and coyote brush scrub are considered coastal sage scrub communities, which are protected in the NCCP/HCP and are therefore considered sensitive natural communities.

The majority of the project impact area would occur in the existing developed, ornamental, or landscaped areas of the site. However, construction of the connector path and vegetation management within the FMZ (e.g., removing combustible vegetation and replacing it with fire resistant plants) would impact 0.39 acres of coastal sage scrub habitat (see Figure 6), which would result in a potentially significant impact. In order to mitigate impacts to coastal sage scrub, the project can implement avoidance measures, consult with state and federal wildlife agencies, or pay a Mitigation Fee to offset direct impacts. Since the project cannot implement avoidance measures to reduce direct impacts to coastal sage scrub, the payment of a Mitigation Fee would be required to reduce impacts to less than significant.

Mitigation Measures

BIO-3 Mitigation Fee

To mitigate direct impacts to 0.39 acres of CSS, prior to removal of the CSS, the project applicant will pay a one-time fee under the NCCP/HCP to provide off-site restoration/conservation of CSS at a ratio of no less than 1:1. The project applicant shall consult with the City and/or non-profit management corporation (i.e., Natural Communities Coalition) to determine the exact fees.

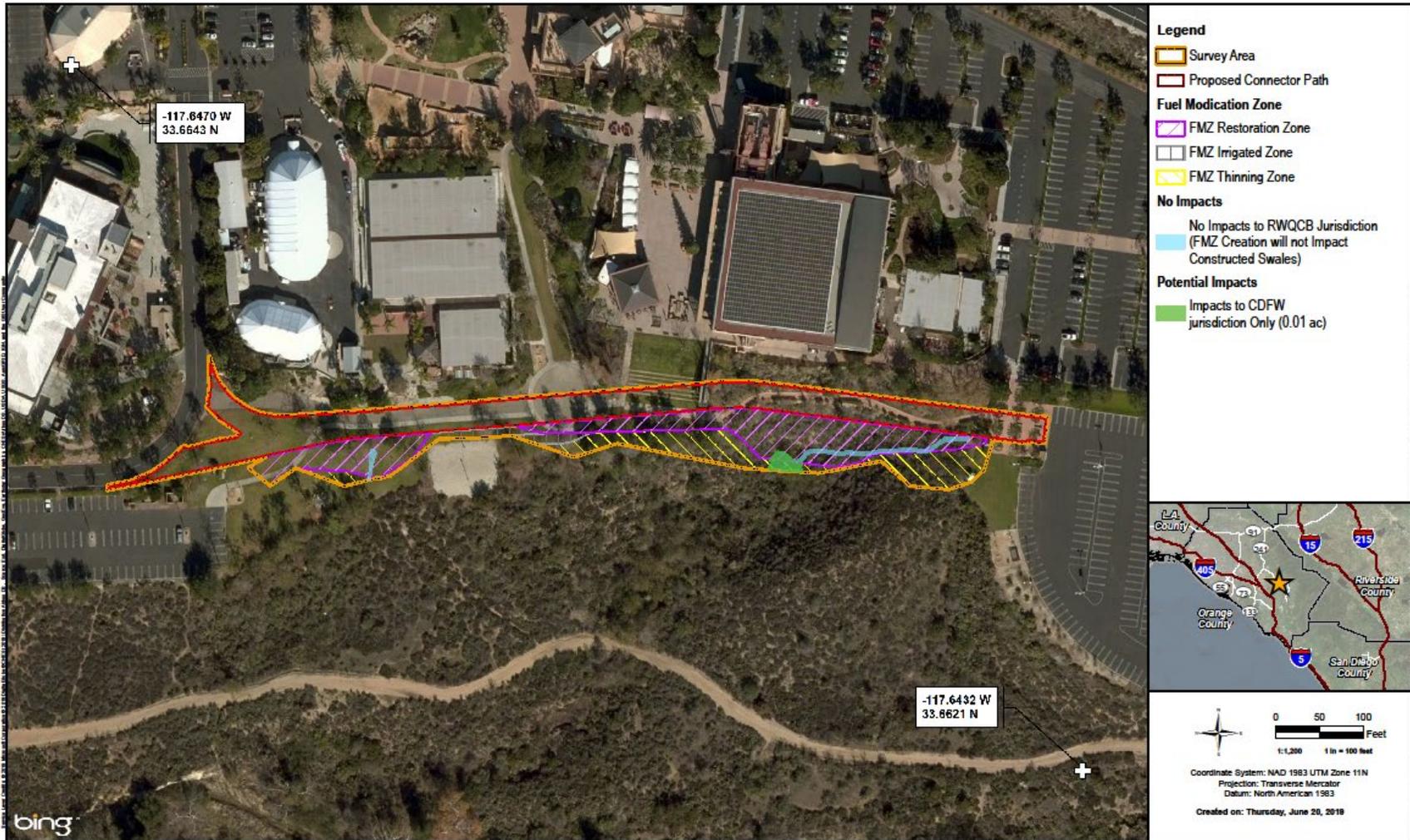
LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

According to the JD Report prepared for the project (Appendix D), the project site or survey area does not contain any waters of the U.S. or federally protected wetlands. The species and features in the survey area did not meet the three wetland parameters of hydrophytic vegetation, hydric soils, or wetland hydrology.

State jurisdictional features were found on site as seen in Figure 6, including 0.2 acres (265 linear feet) of a drainage swale and 0.1 acres of riparian extent which includes southern willow scrub. These features would not be impacted by direct development, but both are located within the FMZ, which would include vegetation clearing and planting. The regulatory purview of the drainage swale

Figure 6 Jurisdictional Features



is under the Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW) and the riparian extent is under the purview of only CDFW.

As determined in the JD Report, the regular maintenance and modification of vegetation in the FMZ would not impact the drainage swale and impacts to the 0.2-acre feature would be less than significant. However, fuel modification and maintenance could impact the 0.1-acre southern willow scrub riparian area; therefore, impacts to this feature may require a Streambed Alteration Agreement (SAA) under Section 1600 of the California Fish and Game Code. Therefore, implementation of Mitigation Measure BIO-4 would be required to reduce impacts to the southern willow scrub.

Mitigation Measures

BIO-4 Consultation and Compensatory Mitigation

Prior to ground disturbing activities that could impact waters of the state (WOS), the project proponent shall submit a Notification with CDFW South Coast Region on the need for a Streambed Alteration Agreement for impacts to southern willow scrub riparian area. Impacts to jurisdictional waters (0.1 acres) shall be mitigated through the purchase of the appropriate number of riparian restoration credits at a ratio of no less than 1:1 from a CDFW-approved mitigation bank.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- d. *Would the project 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?*

Wildlife movement corridors are linear landscape elements that provide for species movement and dispersal between two or more habitats. They maintain connectivity between core coastal sage scrub habitat areas, improve biological linkages between the Reserve System and adjacent NCCPs, and provide for other "Target Species" habitat located outside the Reserve System. Maintaining sufficient connectivity between peripheral and core populations and among core habitat areas is essential for conservation of wildlife. Aliso Creek occurs approximately 380 feet to the south of the site, and is a 19-mile intermittent stream that serves as a wildlife movement corridor between the Cleveland National Forest and the coast. The project would not construct new roads or structures within the Aliso Creek wildlife corridor. In addition, the project is proposing development within the existing Saddleback Church development footprint. Therefore, no habitat fragmentation or obstructions to existing or planned wildlife linkages, corridors, or crossings will occur. The project would not interfere with the movement of any fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites. There would be no impact.

NO IMPACT

- e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Five coast live oaks (*Quercus agrifolia*) were identified in the survey area. Four of the oaks are located in potential impact areas on the project and would likely need to be removed. According to the BRA, all trees have diameter at breast height measurement less than 25 inches and appeared to be healthy with no obvious evidence of decay, cracks or other structural defects, or canopy die back (Appendix C). The City of Lake Forest does not have a tree preservation policy specific to coast live

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oaks. Regardless, the project applicant would plant approximately 21 coast live oaks along the widened connector road as part of the project. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The project site is located in the City of Lake Forest, which is a signatory to the Orange County Central/Coastal Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP). The Orange County Central/Coastal NCCP/HCP was approved in 1996 and was designed to create a permanent, subregional habitat reserve system to protect multiple species and habitats, particularly coastal sage scrub. The project would impact coastal sage scrub and riparian willow, and potentially impact the CAGN, coastal cactus wren, and rufous-crowned sparrow, which are covered species and habitats under the NCCP/HCP. Implementation of Mitigation Measure BIO-1 and BIO-2 would reduce impacts to sensitive bird species and nesting birds through avoidance measures and monitoring. Implementation of Mitigation Measure BIO-3 would mitigate impacts to coastal sage scrub through the payment of a one-time Mitigation Fee, consistent with the NCCP/HCP. Implementation of Mitigation Measure BIO-4 would reduce impacts to willow habitat through consultation with CDFW and the purchase of riparian credits. Therefore, with the implementation of these mitigation measures, the project would not conflict with the provisions of the NCCP/HCP and impacts would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*
- b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Under CEQA, a lead agency is required to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b]).

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PRC, Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

According to the Phase I Environmental Site Assessment (ESA) prepared for the project and incorporated as Appendix F, the project site was undeveloped prior to 1994. Expansion of the Saddleback Community Church campus occurred after 1994, with project site buildings constructed between 1999 and 2009. Additionally, three buildings on the project site were demolished in 2016. The property currently has the existing Worship Center Building and pavilion, seven other buildings housing cafes, offices, and the children’s and nursery facilities, 10 parking lots, tent facilities, and landscaped and hardscaped open space. The direct area of impact of the proposed project includes the existing Worship Center Building, temporary tent facilities, paved areas, and outdoor areas (e.g., picnic and seating areas).

On February 19, 2019, Rincon Consultants, Inc. conducted a search of the California Historical Resources Information System at the South Central Coastal Information Center (SCCIC) at California State University Fullerton. The search was conducted to identify any previously recorded cultural resources and previously conducted cultural resources studies within the project site and a 0.5-mile radius surrounding it. Rincon also reviewed the National Register of Historic Places (NRHP), the CRHR, and the California State Historic Resources Inventory list.

The SCCIC records search identified 39 previous cultural resource studies completed within 0.5-mile of the project site between 1973 and 2014 (Table 7). Six of these previous studies include portions of the project site. In total, these previous cultural studies covered approximately 70 percent of the project site.

Table 7 Previously Conducted Cultural Resources Studies within a 0.5-mile Radius of the Project Site

Report Number	Author(s)	Year	Title	Relationship to Project Site
OR-00019	Howard, Jerry B.	1975	<i>Archaeological Site Survey, El Toro Road Realignment</i>	Within
OR-00189	Desautels, Roger J.	1977	<i>Archaeological Survey Report on a Fifty (+) Acre Parcel of Land in the El Toro Area of the County of Orange</i>	Outside
OR-00208	La Fontaine, Keith	1978	<i>Archaeological Survey Report on Seventy-seven (77) Acres of Land Located in the El Toro Area of the County of Orange</i>	Outside
OR-00238	Howard, Jerry B.	1977	<i>A Reevaluation of the Cultural Resources of the Glen Ranch</i>	Outside

Report Number	Author(s)	Year	Title	Relationship to Project Site
OR-00251	Desautels, Roger J. and Paul G. Chace	1976	<i>Archaeological Report on an Archaeological Survey, Inventory, and Analysis of Alternate Realignment of El Toro Road Between 2.6 Miles Northerly of Trabuco Road and Live Oak Canyon Road in Orange County, California</i>	Adjacent
OR-00286	Bean, Lowell	1979	<i>Cultural Resources and the High Voltage Transmission Line From San Onofre to Santiago Substation and Black Star Canyon</i>	Outside
OR-00452	Anonymous	1979	<i>Archaeological Salvage Program at CA-ORA-508 Irvine, California</i>	Outside
OR-00571	Ahlering, Michael L.	1973	<i>Report of Findings of a Scientific Resources Survey and Study: Conducted on a Portion of the Whiting Ranch, Orange County, California</i>	Within
OR-00580	Anonymous	1977	<i>The Aliso Creek Watershed, Orange County, California a Proposal for Creating an Archaeological District for the National Register of Historic Places and a Suggested Research and Study Design</i>	Outside
OR-00581	McCoy, Lesley C. and Alex N. Kirkish	1982	<i>Cultural Resources Data Recovery Program for the 230kv Transmission Line Rights-of-Way from San Onofre Nuclear Generating Station to Black Star Canyon and Santiago Substation and to Encina and Mission Valley Substations</i>	Outside
OR-00591	Cooley, Theodore G. and Marie G. Cottrell	1980	<i>Archaeological Assessment of the Whiting Ranch</i>	Within
OR-00611	Bissell, Ronald M.	1988	<i>Cultural Resources Reconnaissance of the Baker Ranch Property, El Toro Orange County, California</i>	Adjacent
OR-00629	Cottrell, Marie G.	1981	<i>Archaeological Resource Assessment for Two Parcels Near El Toro, California</i>	Adjacent
OR-00646	Cooley, Theodore G.	1982	<i>Archaeological Investigation at CA-ORA-947, a Small Prehistoric Campsite, Located in the Inland Foothills of Orange County, California</i>	Outside
OR-00648	Breece, Bill and Beth Padon	1982	<i>Cultural Resource Survey: Archaeological Resources: Foothill Transportation Corridor, Phase I</i>	Within
OR-00899	Anonymous	1987	<i>Draft Environmental Impact Report No. 481 Foothill Ranch (formerly Whiting Ranch) Planned Community Area Plan, General Plan Amendment and Zone Change</i>	Within
OR-01067	Brown, Joan C.	1991	<i>Cultural Resources Reconnaissance of the 72 Acre El Toro Industrial Park</i>	Outside
OR-01102	Macko, Michael E., and Gary S. Hurd	1991	<i>Final Report: Results of Archaeological Monitoring and Test Excavations for the Foothill Transportation Corridor Northern Segment, El Toro Ridge Section</i>	Outside

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Report Number	Author(s)	Year	Title	Relationship to Project Site
OR-01137	Demcak, Carol R.	1991	<i>Cultural Resource Assessment for Planning Areas 11, 17, 27, 67, 80, and 81, Mission Viejo</i>	Outside
OR-01156	Brock, James P.	1991	<i>Report on Archaeological Monitoring of Rough Grading of Portola Parkway at Aliso Creek, El Toro, California (station 13+67 to El Toro Road)</i>	Outside
OR-01157	Brock, James P.	1991	<i>Report on Archaeological Monitoring of Rough Grading of Portola Parkway from Station 13+67 to Station 42+24, El Toro, California</i>	Outside
OR-01158	Brock, James P.	1991	<i>Report on Part-time Archaeological Monitoring of Rough Grading of Portola Parkway from Station 42+24 to Station 55+02, Foothill Ranch, El Toro, California</i>	Outside
OR-01188	Mason, Roger D.	1990	<i>Cultural Resources Records Search Santiago Canyon Road Alignment Study Addendum Orange County, California</i>	Adjacent
OR-01275	Jones, Carleton S.	1992	<i>The Development of Cultural Complexity Among the Luiseño</i>	Outside
OR-01309	Macko, Michael E.	1993	<i>Final Report Summary of Archaeological Monitoring, Test Excavations, and Data Recovery for the Foothill Transportation Corridor Northern Segment</i>	Adjacent
OR-01310	Macko, Michael E., and Gary Hurd	1992	<i>Results of Archaeological Test Excavations for the Foothill Transportation Corridor Northern Segment, Construction Section F8 and F9</i>	Adjacent
OR-01316	Demcak, Carol R.	1993	<i>Archaeological Monitoring Report for CA-ORA-458, Planning areas 40 and 82, Mission Viejo Planned Community, Orange County, California</i>	Outside
OR-01354	Munoz, Jeanne	1980	<i>History and Historical Resources of the Whiting Ranch</i>	Within
OR-01439	McCoy, Lesley C., and Phillips Roxana	1980	<i>National Register Assessment Program of Cultural Resources of the 230Kv Transmission Line Rights-of-Way from San Onofre Nuclear Generating Station to Black Star Canyon and Santiago Substation and to Encina and Mission Valley Substation</i>	Outside
OR-01445	Desautels, Roger J., David Van Horn, Paul Chase, and Nancy Whitney	1977	<i>Archaeological Field Test Report on Archaeological Sites ORA-458, ORA-485, ORA-486, ORA-488 & ORA-507 Located in the Upper Aliso Creek Area of Orange County P.O. No. C 60012 Control No. 39717</i>	Outside
OR-01753	Brechbiel, Brant A.	1998	<i>Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 302-14 in the City of Lake Forest, California</i>	Outside
OR-02112	Brock, James P.	2000	<i>Cultural Resources Evaluation for the Foothill Gateway Project, City of Lake Forest, Orange County</i>	Outside

Report Number	Author(s)	Year	Title	Relationship to Project Site
OR-02522	Wallock, Nicole	2001	<i>Upper Aliso Creek Archaeological District</i>	Outside
OR-02645	Schmidt, James J.	2003	<i>Removal of a Nextel Installation from an SCE Right-of-Way</i>	Outside
OR-02659	Duke, Curt	2000	<i>Cultural Resource Assessment for Pacific Bell Wireless (PBW) Facility Cm 324-03, County of Orange, California</i>	Outside
OR-03989	Deering, Mark and Mason, and D. Roger	2011	<i>Cultural Resources Documentation and Monitoring of Southern California Edison Access Roads During Maintenance by the Orange County Fire Authority, 2010 Orange County, California</i>	Outside
OR-04029	Deering, Mark, and Roger Mason	2010	<i>Cultural Resources Monitoring of Southern California Edison Access Roads Maintained by Orange County Fire authority, Orange County, California (JPA E6088-0031; I.O. 305869)</i>	Outside
OR-04243	Billat, Lorna	2012	<i>Tower Co Colo CA2304</i>	Outside
OR-04308	Smith, Brian	2014	<i>A Section 106 (NHPA) Cultural Resources Study for the Portola Center Project Orange County, California</i>	Outside

Source: South Central Coastal Information Center (2019)

A total of 11 cultural resources have been documented within a 0.5-mile radius of the project site (Table 8). All of the resources date to the prehistoric period. These include six prehistoric sites (four lithic scatters, one lithic scatter with habitation debris, and one lithic scatter with cairns/rock features) and five prehistoric isolates (one mano, and five chert flakes). None of the previously recorded cultural resources intersect the project site and none are adjacent (i.e., less than 500 feet from the project site). The closest previously recorded resources to the project site are lithic scatter sites (P-30-000458 and P-30-000905) situated approximately 1,500 feet to the southeast and east.

Table 8 Previously Identified Cultural Resources within a 0.5-mile Radius of the Project Site

Resource Number	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to Project Site ¹
P-30-000458; CA-ORA-000458	Prehistoric Site	Lithic scatter	Howard, J. and C. Carter 1975; Oxendine, P. 1978	Not evaluated for NRHP or CRHR	Outside
P-30-000468; CA-ORA-000468	Prehistoric Site	Lithic scatter	Fenenga, G., and N. Howard 1974; Wallock, N. 2001	Not evaluated for NRHP or CRHR	Outside
P-30-000725; CA-ORA-000725	Prehistoric Site	Lithic scatter and habitation debris	Cooley, T. 1978; Oxendine, P. 1978; Breece, W. 1982; Macko, M. 1991; Wallock, N. 2001	Not evaluated for NRHP or CRHR	Outside
P-30-000905; CA-ORA-000905	Prehistoric Site	Lithic scatter	McCoy, L. 1980; Breece, W. 1982	Not evaluated for NRHP or CRHR	Outside
P-30-000947; CA-ORA-000947	Prehistoric Site	Lithic scatter and cairns/rock features	Cooley, T. 1981	Not evaluated for NRHP or CRHR	Outside
P-30-001145; CA-ORA-001145	Prehistoric Site	Lithic scatter	Brown, J., and R. Bissell 1988	Not evaluated for NRHP or CRHR	Outside
P-30-100219	Prehistoric Isolated Artifact	Granitic mano	Stropes, T. 2014	Ineligible for listing on the NRHP and CRHR	Outside
P-30-100220	Prehistoric Isolated Artifact	Chert flake	Stropes, T. 2014	Ineligible for listing on the NRHP and CRHR	Outside
P-30-100445	Prehistoric Isolated Artifact	Chert flake	Brock, J. 2008	Ineligible for listing on the NRHP and CRHR	Outside
P-30-100463	Prehistoric Isolated Artifact	Two chert flakes	Brock, J. 1991	Ineligible for listing on the NRHP and CRHR	Outside
P-30-100464	Prehistoric Isolated Artifact	Chert flake	Brock, J. 1991	Ineligible for listing on the NRHP and CRHR	Outside

Source: South Central Coastal Information Center (2019)

Based on the results of the records search, no known historical or archaeological resources occur on the project site. However, the site is located adjacent to Aliso Creek, which is designated as an archaeologically sensitive area in the Orange County General Plan Cultural Resources Element (Figure VI-10) and the City of Lake Forest General Plan Resources and Recreation Element (County of Orange 2013; City of Lake Forest 2015). Because the project site is in a sensitive area on the City's and County's archaeological resources maps, the potential exists for intact subsurface archaeological resources to be encountered during earthwork or other construction-related activities. Therefore, impacts would be potentially significant and mitigation would be necessary to reduce this impact to a less than significant level. Mitigation Measures CR-1, described below, would minimize potential impacts to previously unidentified archaeological resources by requiring worker training, monitoring during earth moving activities, halting work in the vicinity of a discovery, and ensuring such discoveries are evaluated and preserved under the direction of a qualified archaeologist. Therefore, with implementation of these mitigation measures, impacts would be less than significant.

Mitigation Measures

CR-1 Cultural Resources Mitigation

To minimize and/or avoid impacts to cultural resources, the project shall implement the following:

- **Worker Environmental Awareness Program**
 - Prior to the commencement of construction, an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (NPS 1983) or their representative under their direction shall provide a Worker Environmental Awareness Program (WEAP) for the general contractor, subcontractor(s), and construction workers participating in earth disturbing activities. The WEAP training shall describe the potential of exposing archaeological resources, the types of cultural materials that may be encountered, and directions on the steps that shall be taken if such a find is encountered. This training may be presented alongside other environmental training programs required prior to construction. A WEAP acknowledgment form shall be signed by all workers who receive the training.
- **Cultural Resources Mitigation and Monitoring Program**
 - Prior to the start of any ground-disturbing activity, the Qualified Archaeologist shall be retained to prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on the project construction plans and schedule. The CRMMP shall include provisions for archaeological monitoring of all ground disturbance related to construction of the project, procedures to be followed in the event of discovery of archaeological resources, and protocols for Native American coordination and input, including review of documents. The CRMMP shall outline the role and responsibilities of Native American tribal representatives. It should include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin. The CRMMP shall include provisions for Native American monitoring during testing or data recovery efforts for unknown resources that are Native American in origin.
- **Cultural Resources Construction Monitoring**
 - A Qualified Archaeologist shall be retained to be present during all earth moving activities for the duration of the project or until the qualified archaeologists determines monitoring is

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no longer necessary. In the event that previously unidentified prehistoric or historic archaeological materials or human remains are encountered during project construction, the significance of the discovery will be assessed in accordance with CEQA and the CRMMP.

▪ **Previously Unidentified Archaeological Resources**

- If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) would evaluate the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for the CRHR or NRHP eligibility. If the discovery proves to be significant under CEQA and/ or the NHPA and cannot be avoided by the project, additional work such as data recovery excavation may be warranted to mitigate any significant impacts to historical resources.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Although the potential to encounter human remains is low, it is possible that as yet undiscovered human remains may be uncovered during project excavation and grading. If human remains are found during ground disturbing activities, State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. The project would comply with these requirements; therefore, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Electricity and Natural Gas

In 2018, California used 285,488 gigawatt-hours (GWh) of electricity, of which 31 percent were from renewable resources (CEC 2019). California also consumed approximately 12,500 million U.S. therms (MMthm) of natural gas in 2017 (CEC 2017). The project site would be provided electricity by Southern California Edison (SCE) and natural gas by Southern California Gas Company (SCG). Table 9 and Table 10 show the electricity and natural gas consumption by sector and total for SCE and SCG.

Table 9 Electricity Consumption in the SCE Service Area in 2018

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
3,150.9	31,165.5	4,310.9	13,218.5	2,359.1	28,617.1	578.0	83,399.9

Notes: All usage expressed in GWh

Source: CEC 2018a

Table 10 Natural Gas Consumption in SCG Service Area in 2018

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
77.6	912.9	74.5	1,714.4	229.2	2,147.3	5,156.1

Notes: All usage expressed in MMThm

Source: CEC 2018b

Petroleum

In 2016, approximately 40 percent of the state's energy consumption was used for transportation activities (EIA 2018). Californians presently consume over 19 billion gallons of motor vehicle fuels per year (CEC 2018c). Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.8 billion gallons in 2017 to between 12.3 billion and

12.7 billion gallons in 2030, a 20 percent to 22 percent reduction. This decline comes in response to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (CEC 2018c).

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Construction Energy Demand

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. The project would require site preparation and grading, including hauling material off-site; pavement and asphalt installation; building construction; architectural coating; and landscaping and hardscaping.

The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod used to estimate construction air emissions in the Air Quality and Greenhouse Gas Impact Study (Appendix B). The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod, a model used to estimate construction criteria pollutant and GHG emissions. Table 11 presents the estimated construction phase energy consumption, indicating construction equipment, vendor trips, and worker trips would consume approximately 53,844 gallons of diesel fuel over the project construction period. Construction equipment would consume an estimated 36,989 gallons of fuel; vendor trips would consume approximately 13,548 gallons of fuel; and worker trips would consume approximately 3,307 gallons of fuel over the combined phases of project construction.

Table 11 Estimated Fuel Consumption during Construction

Fuel Type	Gallons of Fuel	MMBtu⁴
Diesel Fuel (Construction Equipment) ¹	36,988.8	4,714.7
Diesel Fuel (Hauling & Vendor Trips) ²	13,548.0	1,487.4
Other Petroleum Fuel (Worker Trips) ³	3,307.5	10.9
Total	53,844.3	6,565.0

¹ Fuel demand rate for construction equipment is derived from the total hours of operation, the equipment’s horse power, the equipment’s load factor, and the equipment’s fuel usage per horse power per hour of operation, which are all taken from CalEEMod outputs (see Appendix B), and from compression-ignition engine brake-specific fuel consumptions factors for engines between 0 to 100 horsepower and greater than 100 horsepower (U.S. EPA 2018). Fuel consumed for all construction equipment is assumed to be diesel fuel.

² Fuel demand rate for hauling and vendor trips (cut material imports) is derived from hauling and vendor trip number, hauling and vendor trip length, and hauling and vendor vehicle class from “Trips and VMT” Table contained in Section 3.0, *Construction Detail*, of the CalEEMod results (see Appendix B). The fuel economy for hauling and vendor trip vehicles is derived from the United States Department of Transportation (DOT 2018). Fuel consumed for all hauling trucks is assumed to be diesel fuel.

³ The fuel economy for worker trip vehicles is derived from the U.S. Department of Transportation National Transportation Statistics (24 mpg) (DOT 2018). Fuel consumed for all worker trips is assumed to be gasoline fuel.

⁴ CaRFG CA-GREET 2.0 fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for worker trips specified above (California Air Resources Board [CARB] 2015). Low-sulfur Diesel CA-GREET 2.0 fuel specification of 127,464 Btu/gallon used to identify conversion rate for fuel energy consumption for construction equipment specified above (Shremp 2017). Totals may not add up due to rounding.

The construction energy estimates represent a conservative estimate because the construction equipment used in each phase of construction was assumed to be operating every day of construction. Construction equipment would be maintained to all applicable standards, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. It is also reasonable to assume contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and the construction-phase impact related to energy consumption would be less than significant.

Operational Energy Demand

The operation of the project would increase area energy demand from greater electricity, natural gas, and gasoline consumption due to slightly increasing church capacity at the new Worship Center Building compared to the previous building. The analysis below conservatively analyzes the energy use from the entire use of the Worship Center Building, and not solely from the increase in capacity compared to the existing building. Natural gas and electricity would be used for heating and cooling systems, lighting, appliances, water use, and the overall operation of the project buildings. Gasoline consumption would be attributed to the trips generated from people employed by the church and visitors accessing the site. The estimated number of average daily trips associated with the project from the project's TIA (RK Engineering Group, Inc. 2018; Appendix I) is used to determine the energy consumption associated with fuel use from the operation of the project. The majority of the fuel consumption would be from motor vehicles traveling to and from the project site. According to the CalEEMod calculations, the continued operation of the church, including the minimal increase in capacity from the project, would result in an estimated 2,940,127 annual VMT (Appendix B). This is a conservative value as the CalEEMod inputs assumed no increase in weekday trips, but that all weekend trips were due to the project, as opposed to just the project's increase in trips over the existing site use. Table 12 shows the estimated total annual fuel consumption of the project using the estimated VMT with the assumed vehicle fleet mix (Appendix B). One gallon of gasoline is equivalent to approximately 109,786 Btu (CARB 2015), while one gallon of diesel is equivalent to approximately 127,460 Btu (Schremp 2017).

Table 12 Estimated Project Annual Transportation Energy Consumption

Vehicle Type¹	Percent of Vehicle Trips²	Annual Vehicle Miles Traveled³	Average Fuel Economy (miles/gallon)⁴	Total Annual Fuel Consumption (gallons)	Total Fuel Consumption (MBtu)⁶
Passenger Cars	55.9	1,643,460	24.0	68,478	7,518
Light/Medium Trucks	36.7	1,079,920	17.4	62,064	6,814
Heavy Trucks/Other	6.9	202,354	7.4	27,345	3,002
Motorcycles	0.5	14,395	43.9 ⁵	328	36
Total	100.0	2,940,127	–	158,215	17,370

¹ Vehicle classes provided in CalEEMod do not correspond exactly to vehicle classes in DOT fuel consumption data, except for motorcycles. Therefore, it was assumed that passenger cars correspond to the light-duty, short-base vehicle class, light/medium trucks correspond to the light-duty long-base vehicle class, and heavy trucks/other correspond to the single unit, 2-axle 6-tire or more class.

² Percent of vehicle trips from Table 4.4 “Fleet Mix” in Air Quality and Greenhouse Gas Impact Study (Appendix B).

³ Mitigated annual VMT found in Table 4.2 “Trip Summary Information” in Air Quality and Greenhouse Gas Impact Study (Appendix B).

⁴ Average Fuel Economy: U.S. Department of Energy, 2018.

⁵ U.S. Department of Transportation 2013

⁶ CaRFG fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for vehicle classes specified above (CARB 2015).

Notes: Totals may not add up due to rounding.

Operation of the proposed project would consume approximately 1.0 GWh of electricity per year (Appendix B). As previously mentioned, the project would be served by SCE, which provided 83,399.9 GWh of electricity in 2018. Therefore, SCE would have sufficient supplies for the project and would not place a significant demand on the electrical supply. Estimated natural gas consumption for the project would be 0.025 MMthm per year (Appendix B). The project’s natural gas demand would be served by SCG, which provided 5,156 MMthm per year in 2018; therefore, SCG would have sufficient supplies for the project.

The project would comply with all standards set in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. California’s Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the Energy Commission. As the name implies, these standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. The standards are updated every three years and each iteration is more energy efficient than the previous standards. For example, according to the CEC, nonresidential buildings built with the 2019 standards will use about 30 percent less energy due mainly to lighting upgrades (CEC 2018c). Furthermore, the project would further reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by SCE continues to increase to comply with state requirements through Senate Bill 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

In conclusion, the construction of the project would be temporary and typical of similar projects, and not result in wasteful use energy. The operation of the project would increase the use of

electricity on-site. However, the increase would be in conformance with the latest version of California's Green Building Standards Code and Building Energy Efficiency Standards. In addition, SCE and SCG have sufficient supplies to serve the project. Therefore, project operation would not result in wasteful or unnecessary energy consumption.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The current General Plan for the City was established in 1994. The Recreation and Resources Element of the City's General Plan discusses energy conservation. Goal 7.0, Improvement of Air Quality, contains Policy 7.7, which states that the City will "promote energy conservation and recycling by the public and private sector." In addition, the element contains a short section entitled Energy Conservation, which describes how the City will promote energy conservation by requiring buildings to use state Title 24 performance requirements. As described above, the project would comply with Title 24 energy standards, including the Building Energy Efficiency Standards that are designed to promote energy efficiency. In addition, the project would comply with the AB 341 waste diversion goal of 75 percent. Therefore, the project would not conflict with or obstruct a plan for renewable or energy efficiency, and there would be no impacts.

NO IMPACT

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 offsite 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 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. 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"/>

This section is based, in part, on the Preliminary Geotechnical Investigation and Percolation Testing Report (“Geotechnical Report”) for the project, prepared by P.A. & Associates, Inc. and included as Appendix E (P.A. & Associates, Inc. 2018).

Geologic Setting

The project area is located in the coastal hills of Orange County in the northwestern portion of the Peninsular Ranges Geomorphic Province. The province consists of a series of ridges extending approximately 900 miles from the Los Angeles basin southeastward to the tip of Baja California, Mexico. The province is approximately 80 to 100 miles wide and bordered by the Transverse Ranges to the north, the Salton Trough to the east, and the Pacific Ocean to the west.

The dominant features of the Peninsular Ranges consist of northwest-trending fault zones. Faulting has manifested itself as a series of right-lateral northwest-trending transform faults, including the Palos Verdes, Newport-Inglewood, Norwalk-Anaheim Hills, Whittier-Elsinore, San Jacinto, and San Andreas faults. While active or potentially active faults are not known to transect the project site, the project site may be expected to experience moderate to potentially-severe groundshaking from earthquakes generated on the aforementioned faults or other faults in the seismically-active southern California region. Seismic events can result in groundshaking, liquefaction, landslides, subsidence, tsunami and seiche.

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?

According to the Geotechnical Report, the project site is not located in or adjacent to an Alquist-Priolo Fault Zone, and there are no known active or potentially active faults known to transect the project site. The nearest active fault is the Elsinore Fault-Glen Ivy Segment, approximately 10 miles northeast of the site (California Department of Conservation 2018). The project would not indirectly experience potential adverse effects involving rupture of a known earthquake fault. Therefore, no impact would occur.

NO IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

While not located on a known active or potentially active fault, the project site is located in seismically-active southern California and may be subject to moderate to severe seismic ground shaking. According to the Geotechnical Report, the project site is expected to experience a magnitude 6.8 earthquake with a peak ground acceleration of 0.526g with a two percent probability of exceedance in the next 50 years.

The City of Lake Forest regulates development (and reduced geologic and seismic impacts) through the requirements of the CBC, as adopted in Chapter 8.02 of the Lake Forest Municipal Code. The CBC requires various measures of all construction in California to account for hazards from seismic shaking. These measures include standards for structural design, necessary tests and inspections, provisions addressing building foundations, and standards for the use of certain materials. The Geotechnical Report concludes that secondary effects, such as surface rupture and ground deformation, are unlikely. With adherence to the requirements of the CBC, as recommended by the

Geotechnical Report, the project would result in less than significant impacts related to seismically-induced ground shaking from nearby faults.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction is a phenomenon where loose, saturated, non-cohesive soils such as silts, sands, and gravels undergo a sudden loss of strength during earthquake shaking. These soils may acquire a high degree of mobility and lead to structurally damaging deformations. Liquefaction begins below the water table, but after liquefaction has developed, the groundwater table will rise and cause the overlying soil to mobilize. Liquefaction typically occurs in areas where groundwater is less than 30 feet from the surface and where the soils are composed of poorly consolidated fine- to medium-grained sand. In addition to the necessary soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to initiate liquefaction.

According to the Geotechnical Report, the project site is underlain by shallow bedrock and should be considered to possess no liquefaction potential. Groundwater was not encountered during collection of any soil boring samples discussed in the Geotechnical Report to a depth of 30 feet below ground surface, and historic high groundwater maps for the El Toro Quadrangle indicate groundwater levels deeper than 50 feet below ground surface. The nearest liquefaction zone to the project site is located along Aliso Creek, south of the project site. In addition, the project would adhere to applicable CBC requirements as required under the Lake Forest Municipal Code. Therefore, no impact would occur.

NO IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site slopes southward, with elevations ranging from approximately 845 feet above mean sea level near SR-241 to 790 feet above mean sea level near Aliso Creek. According to the California Department of Conservation's Earthquake Zones of Required Investigation Map, no portion of the project site is located in a landslide hazard area; the nearest landslide hazard zones are located immediately west of Saddleback Parkway and immediately east of Saddleback Church Road (California Department of Conservation 2018). Given that the project site is not located in a landslide hazard zone, no impact would occur.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Construction activities would disturb soil on the project site, resulting in potential for soil erosion and loss of topsoil. The project site is predominantly underlain by Myford and Cieneba sandy loam soils with a K factors ranging from 0.28 to 0.37 and Wind Erodibility Group Classification of 3, indicating moderate to high potential for sheet and rill erosion by water and moderate to high susceptibility to wind erosion (Natural Resources Conservation Service 2017).

As noted in Section 3, *Air Quality*, the project would be required to comply with SCAQMD Rule 403 regarding incorporation of measures to reduce fugitive dust, which would reduce the potential for construction-related wind erosion (SCAQMD Rule 403(d)(2)). SCAQMD Rule 403 includes requirements for the application of water or stabilizing agents to prevent generation of dust

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plumes, pre-watering materials prior to the use of tarps to enclose haul trucks, stabilizing sloping surfaces using soil binders until vegetation or ground cover efficiently stabilize slopes, hydroseeding prior to rain, and washing mud and soils from equipment at the conclusion of trenching activities. Because the project site is generally flat (reducing the potential for high-speed stormwater flows during construction) and would comply with SCAQMD Rule 403, project construction would not result in substantial wind erosion or loss of topsoil.

Because the project would disturb more than one acre of land, it would be subject to the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ) adopted by the SWRCB. Compliance with the permit requires the project applicant to file a Notice of Intent with the SWRCB. Permit conditions require preparation of a SWPPP, which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Inspection of construction sites before and after storms is also required to identify stormwater discharge from the construction activity and to identify and implement erosion controls, where necessary. Compliance with existing regulatory requirements, including implementation of applicable BMPs related to wind and water erosion control, would reduce potential soil loss and erosion from the site. Impacts related to erosion and loss of topsoil would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?*

Lateral spreading is the horizontal movement or spreading of soil toward an open face. Lateral spreading may occur when soils liquefy during an earthquake event, and the liquefied soils with overlying soils move laterally to unconfined spaces. Subsidence is the sudden sinking or gradual downward settling of the earth's surface with little or no horizontal movement. Subsidence is caused by a variety of activities, which include, but are not limited to, withdrawal of groundwater, pumping of oil and gas from underground, the collapse of underground mines, liquefaction, and hydrocompaction. The project site is underlain by shallow bedrock, with limited subsidence potential. In addition, the project site is not located in an area of historical or current subsidence (United States Geological Survey 2018). The project would not include activities known to cause subsidence, such as groundwater or oil extraction. As discussed under items a.3 and a.4 above, the project site would not be subject to impacts from landslides and liquefaction.

The project would comply with CBC requirements, thus limiting impacts related to unstable soils. Additionally, the Geotechnical Report prepared for the project concluded that native soils are acceptable for use as structural fill material. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Expansive soils are soils that have the ability to shrink or swell as water content changes. According to the Geotechnical Report, soils on the project site have very low expansion potential. However, the Geotechnical Report recommends that post-grading corroborative expansion tests be

performed. According to the CalEEMod outputs contained in the Air Quality and Greenhouse Gas Impact Study, the project would require approximately 40,000 cubic yards (cy) of imported fill material. Fill material imported from off-site would have distinct physical properties, with potentially higher expansion potential, which could result in a potentially significant impact. Incorporation of Mitigation Measure GEO-1 would require verification that any imported soils have a low expansion potential and that post-grading corroborative testing occurs on the project site. With implementation of this mitigation measure, impacts would be less than significant.

Mitigation Measure

GEO-1 Expansive Soils

Imported fill material shall be primarily granular, with very low expansion potential (Expansion Index less than 20). All import shall be inspected and tested, as necessary, by the Soils Engineer prior to importation to the site. If, upon inspection, imported fill material is determined to have an Expansion Index of 20 or greater, an alternative source of import fill that meets the very low expansion potential criteria shall be identified in consultation with the Soils Engineer and used on-site. In addition, post-grading corroborative testing shall be performed by the Soils Engineer to verify that expansion potential of the soils on-site remains very low.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The project would be connected to the city's existing sewer system for wastewater disposal and would not require a septic system. Therefore, the project would not result in impacts associated with soils that are incapable of supporting septic tanks and alternative wastewater disposal systems.

NO IMPACT

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The project site is heavily disturbed and presently developed with an existing Worship Center Building, parking lot area, and temporary facilities (i.e., tents, trailers, etc.). Given the disturbed nature of the site, it is unlikely to contain intact paleontological resources. Nevertheless, the project site, like most of the city, is designated as paleontologically sensitive according to the City of Lake Forest General Plan (City of Lake Forest 2015). Site preparation, grading, and excavation, as well as other construction activities involving heavy equipment would have the potential to damage or destroy previously unidentified paleontological resources on the project site, and impacts would be potentially significant. Mitigation Measure GEO-2 would minimize potential impacts to previously unidentified paleontological resources by halting ground-disturbing activities in the vicinity of a discovery and ensuring such discoveries are handled and preserved under the direction of a qualified paleontologist. With implementation of this mitigation measure, impacts would be less than significant.

Mitigation Measure

GEO-2 Unanticipated Discovery of Paleontological Resources

In the event that paleontological resources are unearthed during project construction, all earth-disturbing work near the find must be temporarily suspended or redirected until a qualified paleontologist has evaluated the nature and significance of the find. If the discovery proves to be significant under CEQA, additional work such as preservation in place or data recovery, shall occur as required by the paleontologist in coordination with City staff and stakeholder groups, as warranted. Once the resource has been properly treated or protected, or the resource is determined not to be significant under CEQA work in the area may resume.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

An Air Quality and Greenhouse Gas Impact Study was prepared for the project (RK Engineering Group, Inc. 2019a; Appendix B). Results of the report’s GHG findings are summarized below.

Climate Change Background

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Climate change may result from human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth’s surface; this is attributed to an accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth’s surface temperature. The emission of GHGs through fossil fuel combustion in conjunction with other human activities appears to be closely associated with global warming.

GHGs, as defined under California’s Assembly Bill (AB) 32, include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). General discussions on climate change often include water vapor, ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies, such as CARB, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, ozone, or aerosols is provided.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO₂. For example, since CH₄ and N₂O are approximately 25 and 298 times more powerful than CO₂, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 21 and 310, respectively (CO₂ has a GWP of 1). Carbon dioxide equivalent (CO₂e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP.

There are no established City thresholds applicable to the project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For the proposed project, which is located in the SCAB, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold, which applies to commercial/residential projects (SCAQMD 2008); therefore, for the purposes of this analysis, a significant impact would occur if the proposed project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 MT CO₂e per year.

- a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The project would generate GHG emissions from construction activities and operational activities.

Construction Emissions

Project construction GHG emissions were estimated using the CalEEMod model as described in Section III.b. Project-specific input was based on general information provided in the Project Description and default model settings to estimate reasonably conservative conditions. Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix B.

Emissions of GHGs related to the construction of the project would be temporary. As shown in Table 13, total GHG emissions associated with construction of the project are estimated at 758 MT CO₂e. For construction emissions, SCAQMD guidance recommends amortization (averaging) of the emissions over 30 years and added to operational emissions (SCAQMD 2008). Averaged over 30 years, the proposed construction activities would contribute approximately 25 MT CO₂e emissions per year.

Table 13 Estimated Construction GHG Emissions

Year	Project Emissions (MT/yr CO₂e)
Total	758
Total Amortized over 30 Years	25

Source: Appendix A

Operational Emissions

Operational sources of GHG emissions include: (1) area sources; (2) energy use; (3) mobile use (vehicles); (4) solid waste generation; and (5) water conveyance and treatment. Area sources include emissions from landscaping equipment. Energy sources include electricity consumption from lighting, heating, and cooling. Operational emissions from mobile source emissions are associated with project-related vehicle trip generation for weekdays and trip length from the project’s TIA (RK Engineering Group, Inc. 2018; Appendix I). The weekend trip rates in the CalEEMod model were left as defaults for the entire Worship Center Building use; therefore, the mobile emissions estimates are conservative as they account for the entire church capacity and not just the project’s increase in capacity. Solid waste generated by the project would also contribute to GHG

emissions due to treatment and disposal. Water-related GHG emissions would be generated from the conveyance and treatment of water.

According to RK Engineering Group, Inc., CalEEMod overestimates the GHG emissions for waste and water for a worship center when the land use quantity is based on the number of seats; therefore, water and waste is calculated based on the square footage of the building, as shown in Appendix B of Appendix B, to give a more realistic estimate of GHG emissions.

Table 14 displays the total annual emissions for the project, including amortized construction emissions. As shown in Table 14, the project would result in annual GHG emissions of 2,124 MT CO₂e. This value would not exceed the SCAQMD 3,000 MT CO₂e per year significance threshold; therefore, impacts would be less than significant.

Table 14 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO ₂ e in metric tons)
Construction	25
<hr/>	
Operational	
Area	<1
Energy	683
Solid Waste	204
Water	25
Mobile	1,187 ¹
<hr/>	
Total	2,124
<hr/>	
Threshold	3,000
Exceed Threshold?	No

¹ Because CalEEMod does not calculate N₂O emissions from mobile sources, N₂O emissions were calculated separately from CalEEMod (included at the end of Appendix B). Therefore, the mobile emissions total contains 16 CO₂e from N₂O emissions.

Source: Appendix B

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

There are numerous state plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal state plan and policy is AB 32, the California Global Warming Solutions Act of 2006, and the follow up, Senate Bill (SB) 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and the goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. Per the SB 32 goal, the 2017 Scoping Plan was created to outline goals and measures for the state to achieve the reductions. The 2017 Scoping Plan’s goals include reducing fossil fuel use, energy demand, VMT, and maximizing recycling and diversion from landfills. The project would be consistent with these goals through project design, which includes complying with the latest Title 24 Green Building Code and Building Efficiency Energy Standards, providing on-

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site bike racks, and complying with the AB 341 waste diversion goal of 75 percent. In addition, the nearest bus stop is located at the entrance to the church campus at Portola Parkway and Saddleback Parkway, an approximate 0.3 mile walk to the new Worship Center, which would allow for non-single occupancy vehicle trips to the proposed project, further reducing VMT. Therefore, the project is consistent with the applicable GHG reduction strategies in the 2017 Scoping Plan.

The project would also be consistent with relevant goals and strategies embodied in Chapter 5, *On the Road to Greater Mobility and Sustainable Growth*, of the 2016 RTP/SCS (SCAG 2016). These strategies include measures similar to those of the 2017 Scoping Plan, such as placing land uses near transit stops, encouraging bicycle use, and reducing VMT. As discussed above, the project would be consistent with these types of goals through being located near a transit stop and provision of bike racks.

The City of Lake Forest has not adopted plan, policy, or regulation adopted for the purpose of reducing the GHG emissions. The current General Plan was established in 1994, and does not contain policies or regulations specific to GHGs. The Recreation and Resources Element discusses energy conservation such as through compliance with Title 24 energy standards, which would have the effect of reducing GHG emissions. As mentioned above, the project would comply with these standards.

Given the aforementioned, the project is consistent with state and local policies for reducing GHG emissions, including the 2017 Scoping Plan and 2016 RTP/SCS. Therefore, no impact would occur.

NO IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

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 0.25 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 that is included on a list of hazardous material 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 checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a project located in 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 or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. 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"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b. *Would the project 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?*

The transport, use, and storage of hazardous materials during the construction of the project would be conducted in accordance with all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22.

Religious uses proposed under the project operation are not typically associated with routine transport, use, or disposal of hazardous materials or upset and accident conditions involving the release of such materials. Operation of the proposed facilities, such as cleaning and maintenance of the worship center, classrooms, or landscaping, would occasionally require the use of various solvents, cleaners, paints, oils/fuels, and pesticides/herbicides. The use of these common materials in small quantities would not pose a significant hazard to the public or the environment. As described above, any transport, storage, use, or disposal of hazardous materials would be subject to applicable state and federal laws, minimizing the potential for spills, leaks, or other accident or upset conditions to occur. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

Schools in the vicinity of the project site include Montessori Lake Forest/Irvine, approximately 0.4 mile to the west, and Trabuco Hills High School, approximately 0.5 mile to the south. Additionally, the Saddleback Community Church campus is home to the Saddleback Academy of Music immediately east of the existing worship center, and a nursery building and childcare center immediately north of the proposed improvements.

While the project site is proximate to proposed schools, operation of the project would not involve routine use, storage, transport, or disposal of hazardous materials, substances, or waste. Small quantities of cleaners, paints, or landscape chemicals may be used to maintain proposed facilities. Such chemicals would be typical of commercial or institutional land uses and would not result in hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project be located on a site that is included on a list of hazardous material 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?*

A Phase I Environmental Site Assessment (ESA) Report was prepared for the project site (Appendix F; Priority 1 Environmental 2018). While the project site was listed on the NPDES, Echo, and HAZNET databases for previous construction permits, the Phase I ESA concludes that there is no evidence of any Recognized Environmental Conditions (RECs) on-site and does not recommend any additional environmental investigations at this time.

The Phase I ESA notes three nearby listed sites in the vicinity of the project site:

- **Orange County Public Works Portola Yard Limited Volume Transfer Operation (approximately 495 feet southeast of the project site).** Located at 20791 El Toro Road, the site is listed under the SWF/LF database. Activity at the site is a limited volume transfer operation, with a listed land use of residential and industrial and category of transfer/processing. Accepted waste is construction/demolition.
- **Standard Concrete (approximately 560 feet south of the project site).** Located at 20851 El Toro Road, the Standard Concrete site is listed under LUST, HIST, CORTESE, RCRA-SQG, HIST UST, FINDS, ECHO, EMI, and WDS databases. The status of the LUST is completed (case closed as of 1987). The potential media affected is soil only, and the potential contaminants of concern are limited to diesel. The leak was discovered during a tank closure event. The file has been discarded. According to the HIST UST database, one 20,000-gallon UST containing diesel was installed in 1980. No Violations were found under the RCRA-SQG database listings.
- **El Toro Materials Company (immediately west of the project site).** The site is listed under the US MINES database as non-coal mining. The mine status is abandoned as of 2010. Several citations were issued for the site in 2003, 2005, and 2006; the status of the citations is closed.

The Phase I ESA concludes that listed sites would not impact the project site, based on the type of listings, distance to the project site, and additional information located in Geotracker and EnviroStor databases. Therefore, the site would not create a significant hazard to the public or the environment. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- 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 or excessive noise for people residing or working in the project area?*

The airport nearest to the project site is John Wayne Airport, located approximately 12.3 miles to the west. The project site is not located in an airport land use plan area (Airport Land Use Commission for Orange County 2005). Therefore, the project would not result in a safety hazard for people working or visiting the project area, and no impact would occur.

NO IMPACT

- f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The project would be required to comply with applicable city codes and regulations pertaining to emergency response and evacuation plans maintained by the Orange County Fire Authority and Orange County Sheriff's Department. No roads would be permanently closed as a result of the construction or operation of the project. The project would involve construction of a new Worship Center Building where an open field, tent facilities, and parking lot areas currently exist, as well as an addition to the existing worship center and a parking area expansion. Site access would continue to occur via signalized intersections at Santa Margarita (Portola) Parkway and Purpose Drive, Santa Margarita (Portola) Parkway and Saddleback Parkway, and Marguerite Parkway and El Toro Road. The project would maintain and improve circulation throughout the campus via a proposed new road connecting across the southern side of the proposed and existing worship center, and none of the proposed structural improvements would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As discussed in Section 17, *Transportation*, the project would not result in any change in weekday traffic conditions, nor would

it result in any potentially significant impacts to area intersections that could impede emergency access to the site. As such, implementation of the project would not interfere with existing emergency evacuation plans or emergency response plans in the area. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

The project site is on the edge of a developed hillside area of Lake Forest, immediately south of SR-241. While the project site is not located in a fire hazard severity zone, the project site is approximately 0.1 mile west of a Very High Fire Hazard Severity Zone Local Responsibility Area (LRA) located immediately northeast of SR-241 (CAL FIRE 2011).

Given the site's proximity to a Very High Fire Hazard Severity Zone, the site is potentially exposed to wildfire risk. The project site is separated from the Very High Fire Hazard Severity Zone by SR-241, a six-lane divided freeway. The parking lot area would remain in the northeastern corner of the campus, further isolating the project site from the Very High Fire Hazard Severity Zone with a hardscaped area containing minimal wildfire fuel. In addition, the project would add hardscaped area to the project site, with proposed landscaping generally located on the southern and western side of proposed structures and away from the fire hazard zone. Furthermore, the project would incorporate an FMZ on the southern portion of the project site.

The project would be required to undergo plan review by the Orange County Fire Authority, which would require provision of adequate defensible space through the FMZ and use of fire-resistance building materials, as necessary. Additional analysis of potential environmental impacts with respect to wildfire is included in Section 20, *Wildfire*. Given that the project would reduce potential fuels on the site by adding hardscaped area, would be separated from the Very High fire hazard severity zone by a divided freeway and existing parking lot, would implement an FMZ, and would undergo plan review by the Orange County Fire Authority, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) 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"/>
(iii) 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; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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This section is based, in part, on the Preliminary Water Quality Management Plan (WQMP) for the project, included as Appendix G (Burgess Engineering Group 2018).

The project site is located in the South Coast Hydrologic Region, which covers approximately 10,600 square miles of southern California watersheds draining to the Pacific Ocean. The South Coast Hydrological Region includes all of Orange County, most of San Diego and Los Angeles Counties, and parts of Riverside, San Bernardino, and Ventura Counties. The region is bound by the Transverse Ranges (including the San Gabriel and San Bernardino Mountains) to the north, the San Jacinto Mountains and low-lying Peninsular Range to the east, and the international boundary with Mexico to the south (California Department of Water Resources 2003).

The project site is located in the Aliso Creek sub-watershed of the Aliso-San Onofre Watershed. The nearest National Hydrography Dataset-delineated flowline to the project site is Aliso Creek, which runs along the southern edge of the project site. The project site is approximately 12.1 miles northeast of the Pacific Ocean at the mouth of Aliso Creek. The project site is under the jurisdiction of the San Diego RWQCB (Region 9), although other portions of the City of Lake Forest are under the jurisdiction of the Santa Ana RWQCB (Region 8). The San Diego RWQCB sets water quality objectives and monitors surface water quality through the implementation of the Water Quality Control Plan for the San Diego Basin (Basin Plan).

The project site does not overlie any groundwater basin as delineated by the California Department of Water Resources' Bulletin 118. No groundwater has been encountered on the site to a depth of 30 feet below ground surface (Appendix G). The nearest groundwater basin to the project site is the Coastal Plain of Orange County (Basin 8-001), approximately 0.3 mile to the northwest.

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

Construction activities associated with the project would have the potential to generate soil erosion and to increase sediment loads in stormwater runoff. Further, operation of the proposed project would increase impervious surface area on the project site, which can result in increased runoff and degraded water quality. Construction-related and operational impacts associated with the project are discussed below.

Construction

Grading, excavation, and other construction activities associated with the project could adversely affect water quality due to erosion resulting from exposed soils and the generation of water pollutants, including trash, construction materials, and equipment fluids. Soil disturbance associated with site preparation and grading activities would result in looser, exposed soils, which are more susceptible to erosion. Erosion factors (K factors) for soils on the project site generally range from 0.28 to 0.37, indicating moderate potential for sheet and rill erosion by water (Natural Resources Conservation Service 2018). Additionally, spills, leakage, or improper handling and storage of substances such as oils, fuels, chemicals, metals, and other substances from vehicles, equipment, and materials used during project construction could contribute to stormwater pollutants or leach to underlying groundwater.

Because the project would result in disturbance of more than one acre, on-site construction activities would be subject to the NPDES Statewide General Construction Activity Stormwater permit. For all covered projects, the NPDES construction permit requires visual monitoring of stormwater and non-stormwater discharges, sampling, analysis, and monitoring of non-visible

pollutants, and compliance with all applicable water quality standards established for receiving waters potentially affected by construction discharges. Additionally, construction site operators would be responsible for preparing and implementing a SWPPP that outlines project-specific BMPs to control erosion, sediment release, and otherwise reduce the potential for discharge of pollutants in stormwater. Typical BMPs include use of temporary de-silting basins, construction vehicle maintenance in staging areas to avoid leaks or spills of fuels, motor oil, coolant, and other hazardous materials, and installation of silt fences and erosion control blankets.

Furthermore, Section 8.30 of the Lake Forest Municipal Code contains the City's Grading and Excavation Code. Pursuant to Section 8.30.150, all project plans would be reviewed by the City's Public Works and/or Development Services Department for compliance with applicable pollution prevention practices prior to issuance of a grading permit. The City may impose additional BMPs to ensure the discharge of pollutants from the project site would not cause or contribute to an exceedance of water quality standards. Implementation of construction BMPs would minimize surficial erosion and transport of pollutants, and would ensure compliance with applicable NPDES requirements, thereby protecting water quality both on- and off-site. Therefore, water quality impacts from construction would be less than significant.

Operation

The project would increase impervious surface cover on the project site due to the construction of the new Worship Center Building and additional surface parking lot area. Increased impervious area on the project site could result in increased runoff, which can carry pollutants to downstream water bodies and adversely affect water quality. Common pollutants associated with suburban commercial/institutional development that could be discharged during operation of the project include automotive chemicals and metals that accumulate on roadways and parking lots, fertilizers, pesticides, and herbicides applied to ornamental landscaping, and trash, debris, and sediments.

Although the project site is located in the San Diego Basin and under the jurisdiction of the San Diego RWQCB, the City of Lake Forest is regulated under the Phase I Municipal Separate Storm Sewer System (MS4) permit issued by the Santa Ana RWQCB, pursuant to an agreement between the two boards issued in 2015 (San Diego RWQCB 2015). Under the MS4 permit issued by the Santa Ana RWQCB (Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff, Order No. R8-2009-0030), co-permittees, including the City of Lake Forest, must require BMPs, where feasible, to capture and treat stormwater prior to discharge to their MS4 facilities.

As described in the Preliminary WQMP, the project would construct an approximately 11,557 cubic foot stormwater storage structure in the southwest corner of the project site under the proposed connector road for controlled release of runoff to Aliso Creek. On-site storage of stormwater runoff would provide an opportunity for debris, sediment, and sediment-bound pollutants to settle out of the water column prior to discharge downstream. Furthermore, the project would implement both structural and non-structural source control BMPs to reduce operational water impacts. Structural BMPs required pursuant to the Preliminary WQMP include storm drain stenciling and construction and maintenance of outdoor material storage areas. Non-structural source control BMPs include common area landscape management and litter control, street sweeping of parking lot areas to remove sediment, pollutants, and debris, and regular BMP maintenance.

On-site stormwater capture and controlled release would reduce downstream erosional impacts while allowing pollutants to settle out of the captured runoff. Additional operational BMPs would

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further reduce pollution of stormwater runoff associated with increased impervious area proposed on the project site. Therefore, operation of the project would not violate any water quality standards or waste discharge requirements, nor would it otherwise substantially degrade water quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The project site does not overlie any delineated groundwater basin, and groundwater was not encountered during site exploration to a depth of 30 feet below ground surface. The Geotechnical Report prepared for the project conducted percolation tests on the project site. The results of these tests indicate low infiltration rates, on the order of 0.066 inches per hour, suggesting minimal potential for groundwater recharge to occur on the site. Therefore, the project would not interfere substantially with groundwater recharge.

The project does not involve drilling of wells or additional groundwater extraction. The nearby Coastal Plain of Orange County Groundwater Basin (Basin 8-001) is a designated medium priority basin required to prepare a Groundwater Sustainability Plan pursuant to the Sustainable Groundwater Management Act. The project may acquire water from this basin via the Irvine Ranch Water District (IRWD). However, as described in Section 19, *Utilities and Service Systems*, the project would draw from existing IRWD supplies, which are sufficient to support the project's anticipated water demand. Therefore, the project would not substantially decrease groundwater supplies. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c.(i) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?*
- c.(ii) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- c.(iii) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would 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?*
- c.(iv) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?*

Under current conditions, water on the project site flows from the higher elevations on the northern portion of the site southward, toward an open space corridor along Aliso Creek. Two 30-inch RCP drainage lines convey runoff through the site. One line extends from just south of SR

241, through the project site under the proposed Worship Center Building. The other line extends from south of SR 241, along the east side of the existing Worship Center Building and parking lots, prior to discharging to Aliso Creek. According to the Preliminary WQMP, the project site consists of approximately 44.7 percent (116,790 square feet) of impervious surface area.

The project would largely maintain the existing drainage pattern of the project site. Under the proposed condition, runoff would still flow from the northern portion of the site to the south. However, stormwater would be conveyed via a newly constructed 36-inch HDPE pipe to pass west of the proposed Worship Center Building. The existing 36-inch RCP under the proposed Worship Center Building would be abandoned in place, and the existing drainage line east of the current worship center would function as it does presently. Total impervious area on the project site would increase to 70.8 percent (184,916 square feet).

Runoff from the project site and upstream buildings, including the Children's Ministry Center and Nursery, would be captured and stored for controlled release to the open space corridor and, ultimately, Aliso Creek. The approximately 11,557 cubic foot facility would capture runoff from the 24-hour, 85th percentile rainfall event. As demonstrated in the Preliminary WQMP, controlled release from the stormwater capture facility would not exceed the existing stormwater discharge to Aliso Creek.

The project would involve no alterations to Aliso Creek and no other streams or rivers are located on the project site. Because the stormwater flow rate to Aliso Creek would be controlled to match existing conditions, the proposed drainage alterations would not increase erosion in the creek. Furthermore, on-site stormwater capture would allow for sediments and sediment-bound pollutants to settle out of runoff prior to discharge to the creek, minimizing potential downstream siltation or pollution impacts. Therefore, drainage alterations associated with the project would not result in substantial erosion or siltation and would not provide substantial additional sources of polluted runoff. As described above, the project would convey stormwater through similarly-sized and located drainage lines and would not exceed the capacity of existing or planned stormwater drainage systems.

According to the Federal Emergency Management Agency's Flood Insurance Rate Map, the project improvements would all be located in Zone X, an area of minimal flood hazard (Federal Emergency Management Agency 2009). As described in the Preliminary WQMP, total site runoff volume may increase slightly due to the increase in impervious surface cover. However, no increase in flow rate from the project site would occur. Because of this, the Preliminary WQMP concludes that hydromodification impacts would not occur and impacts to downstream watercourses would be negligible. Given that the project is not located in a flood hazard area, would not increase the rate of surface runoff, and would only result in a marginal increase in runoff volume, the project would not impede or redirect flood flows or result in on- or off-site flood impacts.

Overall, impacts associated with the project's proposed drainage alterations would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

As described above, the project site is not located in a flood hazard zone. The project site is located approximately 12.1 miles inland from the Pacific Ocean at the mouth of Aliso Creek, and therefore would not be subject to inundation as a result of tsunami. Upper Oso Reservoir, located

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approximately 0.7 mile to the east, is the nearest enclosed waterbody that may be subject to seiche, particularly during a seismic event. However, given the small size of the reservoir, seiche is unlikely to result in inundation of the project site. Furthermore, the project site proposes no storage or processing of pollutants that may be released upon inundation. No impact would occur.

NO IMPACT

- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The San Diego RWQCB updated the Water Quality Control plan for the San Diego Basin (Basin Plan) in 2016. The Basin Plan designates beneficial uses for surface waters in the San Diego region and associated water quality objectives to fulfill such uses. Aliso Creek, which runs adjacent to the project site, has designated uses of Agricultural Supply, Non-Contact Water Recreation, Warm Freshwater Habitat, Wildlife Habitat, and a potential use of Contact Water Recreation (San Diego RWQCB 2016). Aliso Creek is covered by the TMDL for Indicator TMDLs for indicator bacteria for impaired beaches and creeks in the San Diego region, adopted in February 2010.

As described above, the project would not increase the flow rate to Aliso Creek and would implement structural and non-structural BMPs to reduce downstream water quality impacts. Stormwater would be captured and stored on-site for controlled release to Aliso Creek. The project does not involve use of septic systems, pet parks, or other land uses commonly associated with indicator bacteria and, therefore, would not exacerbate existing impairments to Aliso Creek. The project would not impair existing or potential beneficial uses of the creek and would not conflict with or obstruct implementation of the Basin Plan.

The project site is not located in a groundwater basin and proposes no new wells or additional groundwater extraction. As noted in Item b of this section, the nearby Coastal Plain of Orange County Groundwater Basin (8-001) is a designated medium priority basin and, therefore, is required to prepare a Groundwater Sustainability Plan by 2022 pursuant to the Sustainable Groundwater Management Act. The project site may receive water from this basin via IRWD. However, as discussed in Section 19, *Utilities and Service Systems*, the project would be served by IRWD's existing supplies and would not require acquisition of additional water supplies. Therefore, the project would not conflict with or obstruct implementation of a sustainable groundwater management plan. Overall, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. Would the project physically divide an established community?

The project would involve construction and expansion of church facilities on the existing Saddleback Community Church campus. The project does not involve construction of freeways, walls, or other features that would divide an established community, and no impact would occur.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project site is currently designated Light Industrial by the City’s General Plan Land Use Element (City of Lake Forest 2016). According to the General Plan, the Light Industrial designation is intended for various non-polluting light industrial uses that can coexist with surrounding land uses. Allowable uses include wholesale businesses, light manufacturing, research and development, warehousing and storage, distribution and sales, high technology production, retail sales and related uses. However, other uses determined to be compatible with the primary uses may also be allowed.

The project would construct new and expanded religious facilities on the existing church campus. Existing and proposed land uses on the project site do not create smoke, gas, dust, sound, vibration, soot, or glare to any degree which might be obnoxious or offensive to persons residing or conducting business in the city. Furthermore, these uses are already occurring on the project site and the project proposes no change to the existing land uses on site.

The General Plan Land Use Element also contains the following policy related to siting of religious facilities (City of Lake Forest 2016):

Policy 3.5: Encourage the establishment of churches, synagogues, temples, and similar religious institutions in the community in accessible areas where compatibility with surrounding land uses can be achieved.

As described in Section 17, *Transportation*, the project site is accessible via existing signalized intersections along Portola Parkway/Santa Margarita Parkway, Marguerite Parkway, and El Toro

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Road. The site is also less than 0.5 mile from the Aliso Creek Bikeway, bike lanes along Portola Parkway, and the OCTA Route 82 bus line. The surrounding land use is largely existing religious facilities and open space, and the project would not be incompatible with such uses. Therefore, the project would be consistent with Policy 3.5 of the General Plan Land Use Element.

The project applicant is requesting approval of an Alternate Development Standard to exceed the maximum developable height of 45 feet permitted in the Foothill Ranch Planned Community's Industrial zone. The majority of the proposed Worship Center Building would be 42 feet tall or shorter. However, a 3,908-sf portion of the 92,391 sf building footprint would be 50 feet tall to accommodate a two-story set for drama productions on the building's stage. The 50-foot-tall section would be located on the western portion of the building, setback approximately 45 feet from the western building edge and 130 feet from the northern and southern building edges. The portion of the building exceeding the maximum developable height accounts for less than six percent of the building's footprint. As noted in Section 1, *Aesthetics*, this height would be similar to that of other buildings located on the Saddleback Community Church campus and aesthetic impacts associated with the project would be less than significant. Therefore, approval of the proposed Alternate Development Standard would not conflict with the intent of the City's development standards.

In addition to consistency with applicable plans and policies, the City's CEQA Significance Thresholds Guide states that a project would normally have a significant impact if it would substantially conflict with existing on-site or adjacent land use due to project-related significant unavoidable indirect effects (i.e., noise, aesthetics, etc.) that preclude use of the land as it was intended by the General Plan (City of Lake Forest 2009). Adjacent land uses are existing religious facilities associated with the Saddleback Community Church campus, open space along Aliso Creek, and the SR-241 freeway. The project would involve construction of religious facilities, consistent with the existing use on the site and surrounding land use. As described throughout this document, the project would not result in any significant and unavoidable environmental impacts. No General Plan amendments or zone changes would be required for approval of the project. Therefore, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and no impacts would occur.

NO IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<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. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project 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?*

According to the California Department of Conservation, the project site and vicinity is located in Mineral Resource Zone 3 (MRZ-3), which indicates that mineral deposits may be present but are of unknown significance (Miller 1994). The City’s General Plan previously identified sand and gravel resources elsewhere in the City as the only significant mineral resources in the City. Previous sand and gravel extraction operations have occurred in the vicinity of the project site, such as at the El Toro Materials Company pit (designated MRZ-2), immediately west of the project site. However, such operations have ceased, with the mine status listed as abandoned as of 2010 on the US MINES database (Priority 1 Environmental 2018). No mineral extraction is occurring on the project site that would be interrupted by the project. Furthermore, the City identifies sand and gravel extraction sites under the zoning designation Sand and Gravel Extraction (SG) (City of Lake Forest 2015). The project site is not zoned under this designation. Therefore, no impact to mineral resources would occur.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project 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. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or 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 type="checkbox"/>	<input checked="" type="checkbox"/>

An Acoustical Analysis was prepared for the project (RK Engineering Group, Inc. 2019b; Appendix H). Results of the analysis are summarized below.

Background

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013a).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as

one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud ([10.5x the sound energy] Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013a). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA’s guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{DN}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.); it is also measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013a). Noise levels described by L_{DN} and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the L_{DN} /CNEL depends on the distribution of traffic during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60-plus CNEL range. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (FTA 2018).

Some land uses are more sensitive to ambient noise levels than other uses due to the amount of noise exposure and the types of activities involved. For example, residences, motels, hotels, schools, libraries, churches, nursing homes, auditoriums, museums, cultural facilities, parks, and outdoor recreation areas are more sensitive to noise than commercial and industrial land uses. Although the existing church building would be located approximately 50 feet from future grading activities, it is not considered a noise-sensitive land use in the context of this noise analysis as project construction

and operation would be generating noise to a use within the same property limits (i.e., the project is generating noise to the project) and not to an adjacent property.

Vibration

Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas sound is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise (e.g., the rattling of windows from passing trucks). This phenomenon is caused by the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases.

Regulatory Framework/Significance Thresholds

Noise

LAND USE COMPATIBILITY

The City’s General Plan Safety and Noise Element lays out the interior and exterior noise standards for new land uses. For churches, the interior standard is 45 dBA L_{eq} (12-hour); there is no exterior noise standard for churches.

OPERATIONAL NOISE

The City’s exterior noise standards, included in Section 11.16.040(A) of the Municipal Code, are shown in Table 15.

Table 15 City of Lake Forest Exterior Noise Standards

Noise Zone ¹	Noise Level	Time Period
1	55 dBA	7 AM to 10 PM
1	50 dBA	10 PM to 7 AM

¹ The entire territory of the City of Lake Forest is designated as “Noise Zone 1.”
 Source: City of Lake Forest Municipal Code Section 11.16.040(A)

Section 11.16.040(B) of the Municipal Code allows increases in exterior noise levels based on the time period for which a noise occurs, which includes: a 5 dBA increase for noise of a 15 minute per hour duration; a 10 dBA increase for noise of a 5 minute per hour duration; a 15 dBA increase for noise of a 1 minute per hour duration; and a 20 dBA increase for noise of less than one minute duration.

Off-site Traffic

According to the City’s CEQA Significance Thresholds Guide (City of Lake Forest 2009), a significant offsite traffic noise impact would occur if *both* of the following criteria are met:

- Project traffic will cause a noise level increase of 3 dBA or more on a roadway segment adjacent to a noise sensitive land use. Noise sensitive land uses include the following: residential (single-

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family, multi-family, mobile home); hotels; motels; nursing homes; hospitals; parks, playgrounds and recreation areas; and schools.

- The resulting “future with project” noise level exceeds the noise standard for sensitive land uses as identified in the City of Lake Forest General Plan.

CONSTRUCTION NOISE

Section 11.16.060(D) of the Municipal Code provides the following exemptions for construction noise: *“noise sources associated with construction, repair, remodeling, or grading of any real property are exempt from the provisions of the Noise Control ordinance, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday.”*

Although construction activity is exempt from the noise standards shown above, for purposes of this analysis, the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (2018) criteria will be used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period.

Vibration

The City does not have defined thresholds for vibration. Vibration impacts are analyzed using the thresholds from Caltrans’ *Transportation and Construction Vibration Guidance Manual* and the Federal Transit Administration and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2013b; FTA 2018). Therefore, the applicable structure threshold for the vibration analysis would be 0.2 PPV inches per second at residential structures and a 0.24 PPV inches per second, the “distinctly perceptible threshold,” for human receivers.

Existing Noise Environment

Two, 20-minute noise measurements were conducted, one on a Wednesday and one on Sunday, at a location approximately in between the existing worship center and the existing tents on site (see Appendix B of Appendix H). The weekday measurement recorded a sound level of 50.4 dBA L_{eq} and the weekend measurement recorded a sound level of 53.3 dBA L_{eq} . Noise levels from SR 241 were likely reduced at the measurement location due to the placement of the meters that were shielded from the freeway by nearby buildings.

- a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

The project would generate temporary noise from construction activities and permanent noise from operational activities (traffic and stationary sources).

Construction

Construction noise impacts from general construction activities of the project would include noise generated from construction equipment involved in minor grading and building of the project structures. According to the Acoustical Analysis, the closest noise-sensitive land uses (NSLUs) to the project site are the residential uses approximately 650 feet to the south. The highest construction noise levels would occur during paving through operation of a paver, cement and mortar mixer,

paving equipment, roller, and a tractor/loader/backhoe. At a distance of 650 feet, the highest noise levels from paving would be 62.1 dBA L_{eq} (8-hour), which would be well below the 80 dBA L_{eq} (8-hour) threshold. Therefore, impacts from project construction would be less than significant.

Operational

Traffic Noise

ON-SITE

The City does not have a land use compatibility level for exterior noise for churches. The interior noise level compatibility level is 45 CNEL. Future interior noise level was calculated for the proposed Worship Center Building using a typical “windows closed” condition. A “windows closed” condition assumes 20 dBA of noise attenuation from the exterior noise level.

According to the Acoustical Analysis, with the project design feature of using windows with an STC rating of greater than 28, the future interior noise levels for the Worship Center Building with buildout traffic volumes from SR-241 Toll Road would not exceed the City’s interior noise threshold.

OFF-SITE

The Acoustical Analysis used traffic numbers from the project’s TIA to determine increased noise levels to off-site NSLUs from the project. The changes in roadway noise from the project were compared under the following scenarios: existing conditions and opening year conditions.

As shown in Table 4 of Appendix H, the project’s traffic noise increase under the existing conditions would be minimal, with the highest change in noise level being 0.1 CNEL on Santa Margarita Parkway from El Toro Road to Los Alisos Road and on El Toro Road from Normandale Drive to Portola Parkway/Santa Margarita Parkway. Similarly, as shown in Table 5 of Appendix H, the traffic noise increase under opening year conditions would also be minimal, with the highest change in noise level being 0.1 CNEL on El Toro Road from Normandale Drive to Portola Parkway/Santa Margarita Parkway and on Portola Parkway from Glenn Ranch Road to SR-241.

These increases would be well below the first requirement of a 3 dBA increase for significant traffic noise impacts; therefore, impacts from project’s traffic noise to off-site NSLUs would be less than significant.

Other Noise Sources

The stationary noise impacts associated with the proposed project would include on-site generated noise such as mechanical equipment and condenser unit noise from heating, ventilation, and air conditioning (HVAC) units. The project is expected to utilize an existing on-site chiller plant for air ventilation within the proposed Worship Center building. Air handling units and boilers will be installed on the top of the building, but no additional compressors or other types of mechanical equipment are expected. These units will generate significantly less noise than mechanical HVAC systems (RK Engineering Group, Inc. 2019b; Appendix H).

The HVAC units are anticipated to generate a noise level of 44.9 dBA L_{eq} at a distance of 125 feet. The nearest off-site NSLUs are located approximately 650 feet to the south. At this distance, the HVAC units would generate a noise level of 30.6 dBA L_{eq} , which would be well below the Municipal Code threshold of 55 dBA L_{eq} during the daytime and 50 dBA L_{eq} during the nighttime. Therefore, impacts from stationary noise would be less than significant.

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- b. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

The major source of vibration during construction would be from vibratory rollers used for the roadway extension. These rollers would be used approximately 650 feet to the nearest off-site residences. A vibratory roller would create approximately 0.210 inch per second PPV at a distance of 25 feet (Caltrans 2013b). At a distance of 650 feet, vibration levels from a roller would be 0.01 PPV inches per second.² This would be lower than what is considered a distinctly perceptible impact for humans of 0.24 in/sec PPV, and the structural damage impact to residential structures of 0.2 in/sec PPV. Therefore, temporary impacts associated with the roller (and other potential equipment) would be less than significant.

The project does not include any substantial vibration sources associated with operation. Therefore, operational vibration impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *For a project located within the vicinity of a private airstrip or 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?*

The project is not located in the vicinity of an airport; the nearest airport is John Wayne Airport, located approximately 12.5 miles to the west. Therefore, the project would not expose people working at the project site to excessive airport noise levels, and no impact would occur.

NO IMPACT

² $PPV_{Equipment} = PPV_{Ref} (25/D)^n$ (in/sec), PPV_{Ref} = reference PPV at 25 feet, D = distance, and $n = 1.1$

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., 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 people or housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a. *Would the project induce substantial unplanned 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)?*

The project involves expansion of facilities on the Saddleback Community Church campus to be used exclusively for religious purposes. The proposed Worship Center Building and classroom space would nominally increase the capacity of the church’s facilities. However, this capacity would be filled by the church’s existing congregation in the form of larger religious services or by new church members drawn from Lake Forest and other nearby cities. The project does not include the development of new homes or the establishment of new businesses that could induce population growth in the City. In addition, the project does not involve the extension of roads or other infrastructure that could also have a growth-inducing effect. Therefore, the project would not induce substantial unplanned population growth and no impacts would occur.

NO IMPACT

b. *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The project site is currently developed with the existing worship center, parking lot space, and temporary church facilities (i.e., tents, trailers, etc.), none of which are used for residential purposes. No housing would be demolished, and construction of replacement housing would not be necessary. Therefore, no impact would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

1	Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The Orange County Fire Authority (OCFA) provides fire protection and suppression, inspection services, paramedic emergency medical services, and hazardous material response to the City, including the Saddleback Community Church campus. The closest fire station to the site is Fire Station 54, located across SR 241 approximately 1.2 mile (driving distance) north of the project site at 19811 Pauling Avenue. The fire station includes one engine, an urban search and rescue task force (California Task Force 5), and is staffed by three fire captains, three fire apparatus engineers and three firefighters (OCFA n.d.).

The project would construct a new, slightly increased capacity Worship Center Building, convert and expand the existing worship center into classroom space, and create a new parking area. As a result, the church may experience an increase in the temporary population of the site, particularly on weekends during church services. This increase could marginally increase the number of calls for fire and emergency services. The project would not place a significant burden on fire protection services and would not result in the need for a new or substantially altered fire station. Project plans would

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be reviewed and approved by OCFA and the project would contribute development impact fees to OCFA for the development of future fire facilities. Therefore, the project's impact on fire protection would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The Orange County Sheriff's Department (OCSD) provides 24-hour contract law enforcement services to the City of Lake Forest, including the project site. The city is served by the Southeast Operations Division at the Saddleback Station, located at 20202 Windrow Drive approximately 0.9 mile northeast of the project site. OCSD staff includes five Sergeants, three Investigators, 38 Deputies, an Investigative Assistant, five Community Services Officers, and a Crime Prevention Specialist (OCSD n.d.). The project would involve replacement and expansion of church facilities on the Saddleback Community Church campus. The larger proposed Worship Center Building and classroom space may marginally increase the temporary population on the project site during religious services and other church events. This marginal increase would not result in a substantial increase in demand for police protection services that would require new or physically altered facilities. Therefore, the project's impact on police protection would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The project site is served by the Saddleback Valley Unified School District. As described in Section 14, *Population and Housing*, the project would involve replacement and expansion of church facilities on an existing church campus. The project would not have direct or indirect growth-inducing effects and, therefore, would not increase the resident or school-age population. No impact would occur.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The City of Lake Forest maintains approximately 293 acres of public park land across 30 parks containing a variety of facilities, resources, and services (City of Lake Forest, 2015). The closest park to the project site is the 5.3-acre Etnies Skatepark at 20028 Lake Forest Drive. As a religious facility, the project would not increase the population of the area or the use of existing neighborhood and regional parks. Therefore, the project would not result in adverse physical impacts associated with the provision of new or physically altered parks and no impact would result.

NO IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

As described in Section 14, *Population and Housing*, the project would not result in an influx of new residents to the City, as the project involve replacement and expansion of existing church facilities intended for religious purposes. The project would not result in a substantial increase in the use of other governmental facilities that would lead to the physical deterioration of such facilities or require additional facilities. No impact would occur.

NO IMPACT

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16 Recreation

	Potentially Significant 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 type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

The project involves replacement and expansion of facilities on the existing Saddleback Community Church campus. As described in Section 14, *Population and Housing*, the project would not result in a population increase and, therefore, would not increase the use of existing neighborhood and regional parks or other recreational facilities beyond existing conditions such that physical deterioration of the facilities would occur. The project would not involve construction or expansion of recreational facilities. No impact would occur.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following analysis is partially based on a TIA prepared for the project (RK Engineering Group, Inc. 2018). The report is included in full as Appendix I.

a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

The City of Lake Forest General Plan Circulation Element identifies key local transportation routes, principal intersections, and performance criteria in the form of acceptable level of service (LOS) for evaluating project impacts on the circulation system. According to the City’s General Plan Circulation Element, the performance standard for intersections in the City is LOS D, except for designated Critical Intersections, where LOS E is acceptable with required regular monitoring (City of Lake Forest 2008). Additionally, the Mission Viejo city limits extend to the southeast corner of the Saddleback Community Church campus, approximately 0.1 mile southeast of the project site. Marguerite Parkway, Los Alisos Boulevard, and portions of Santa Margarita Parkway are under the jurisdiction of the City of Mission Viejo. Similar to the City of Lake Forest, the City of Mission Viejo has established a threshold of LOS D or better for all intersections, except for those on the County of Orange’s Congestion Management Plan, where LOS E is acceptable (City of Mission Viejo 2013).

The project would generate vehicle trips associated with the expanded capacity of the proposed Worship Center Building. The existing worship center accommodates 3,153 seats. By comparison, the proposed Worship Center Building would accommodate 3,509 seats, resulting in a net increase of 356 seats. The TIA assumes that the existing worship center would be expanded to accommodate classrooms with capacity for approximately 969 students. Applicant-provided information has indicated that the classrooms would accommodate approximately 903 students. The TIA accounts for a higher student capacity and, therefore, provides a conservative analysis of potential traffic impacts.

According to the TIA, the project is not anticipated to result in an increase in trips during weekdays, and weekday traffic impacts were not evaluated. Table 16 provides an estimate of the number of Saturday and Sunday peak hour trips and total ADT that would be generated by the project. Trip estimates for the proposed Worship Center Building are based on the trip rates for the “Church” land use published in the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual*, 9th Edition (ITE Code 560).

Table 16 Project Trip Generation

Day	Peak Hour ¹			Total Daily Trips
	In	Out	Total Peak Hour	
Saturday	92	122	214	320
Sunday	107	107	217 ²	659

¹ Peak Saturday activities would occur from 3:00 p.m. to 7:00 p.m. and Sunday activities from 10:00 a.m. to 2:00 p.m.

² The TIA’s total for peak hour does not equal the addition of the in and out traffic volumes.

Source: TIA (Appendix I)

In accordance with City guidance, RK Engineering Group, Inc. performed an LOS analysis to evaluate the project’s traffic impacts using Intersection Capacity Utilization (ICU) methodology for signalized intersections. Eight study area intersections were included in the analysis:

- Portola Parkway/SR-241 On and Off Ramps (City of Lake Forest)
- Portola Parkway/Rancho Parkway-Purpose Drive (City of Lake Forest)
- Portola Parkway/Saddleback Parkway (City of Lake Forest)
- Portola Parkway – Santa Margarita Parkway/El Toro Road (City of Lake Forest)
- Los Alisos Boulevard/Santa Margarita Parkway (City of Mission Viejo)
- Marguerite Parkway/El Toro Road (City of Mission Viejo)
- Marguerite Parkway/Los Alisos Boulevard (City of Mission Viejo)
- Marguerite Parkway/Santa Margarita Parkway (City of Mission Viejo)

The TIA identifies the LOS at each study area intersection for the following scenarios:

- (a) Existing Conditions
- (b) Existing plus Project Conditions
- (c) Project Buildout Year (2021) without Project
- (d) Project Buildout Year (2021) plus Project

As shown in Table 17, under existing conditions, all intersections operated at LOS A during Saturday and Sunday peak activity hours. Under existing plus project conditions, the Portola Parkway – Santa Margarita Parkway/El Toro Road intersection would degrade from LOS A to LOS B during the Sunday peak activity hours. However, project-related traffic would not degrade any study area intersections to lower than LOS D, meeting the City of Lake Forest and City of Mission Viejo performance standard.

Table 17 Existing and Existing Plus Project Peak Hour Intersection LOS

Intersection	Existing		Existing plus Project		V/C Change	Impact?
	V/C ¹	LOS ²	V/C	LOS		
Saturday						
Portola Parkway/SR-241 On and Off Ramps	0.257	A	0.265	A	0.008	No
Portola Parkway/Rancho Parkway-Purpose Drive	0.414	A	0.421	A	0.007	No
Portola Parkway/Saddleback Parkway	0.369	A	0.381	A	0.012	No
Portola Parkway – Santa Margarita Parkway/El Toro Road	0.555	A	0.570	A	0.015	No
Los Alisos Boulevard/Santa Margarita Parkway	0.493	A	0.502	A	0.009	No
Marguerite Parkway/El Toro Road	0.414	A	0.423	A	0.009	No
Marguerite Parkway/Los Alisos Boulevard	0.436	A	0.443	A	0.007	No
Marguerite Parkway/Santa Margarita Parkway	0.589	A	0.596	A	0.007	No
Sunday						
Portola Parkway/SR-241 On and Off Ramps	0.254	A	0.259	A	0.005	No
Portola Parkway/Rancho Parkway-Purpose Drive	0.529	A	0.538	A	0.009	No
Portola Parkway/Saddleback Parkway	0.415	A	0.426	A	0.011	No
Portola Parkway – Santa Margarita Parkway/El Toro Road	0.588	A	0.605	B	0.017	No
Los Alisos Boulevard/Santa Margarita Parkway	0.504	A	0.514	A	0.010	No
Marguerite Parkway/El Toro Road	0.422	A	0.434	A	0.012	No
Marguerite Parkway/Los Alisos Boulevard	0.449	A	0.457	A	0.008	No
Marguerite Parkway/Santa Margarita Parkway	0.567	A	0.575	A	0.008	No

¹V/C = volume to capacity ratio

²LOS = Level of Service

Source: TIA Tables 4 and 5 (Appendix I)

Project Buildout Year (2021) traffic volumes account for a one percent annual growth rate (or four percent total) and development of approved and pending projects located in the surrounding area that would add traffic to the study intersections. As with the project, trip generation estimates were developed for cumulative development projects using trip generation rates published in the ITE Trip Generation Manual, 9th Edition. Cumulative project trips were assigned to the roadway network based on their locations in relation to surrounding land uses and regional arterials. Table 18 summarizes the Saturday and Sunday peak hour and daily trip generation for the cumulative projects.

Table 18 Cumulative Projects Trip Generation

Number	Project	Land Use	Size	Saturday		Sunday	
				Peak	Daily	Peak	Daily
1	Toll Parkside	Single Family Homes	195 DU	182	1,932	168	1,680
2	PDP 2015 – 285	Residential Condominium/ Townhouse	113 DU	28	340	27	290
Cumulative Projects Total Trip Generation				210	2,272	195	1,970

DU = dwelling units

Source: TIA Table 3 (Appendix I)

As shown in Table 18, cumulative projects would generate a total of 2,272 Saturday trips and 1,970 Sunday trips. Table 19 summarizes the LOS of study area intersections under both Project Buildout Year (2021) and Project Buildout Year (2021) with Project conditions. Under Project Buildout Year (2021) without and with Project conditions, all study area intersections would operate at LOS D or better, meeting the City of Lake Forest and City of Mission Viejo’s performance criteria.

Table 19 Project Buildout Year (2021) and Project Buildout Year (2021) with Project Peak Hour Intersection LOS

Intersection	Project Buildout Year (2021)		Project Buildout Year (2021) with Project		V/C Change	Impact?
	V/C ¹	LOS ²	V/C	LOS		
Saturday						
Portola Parkway/SR-241 On and Off Ramps	0.269	A	0.278	A	0.009	No
Portola Parkway/Rancho Parkway-Purpose Drive	0.444	A	0.450	A	0.006	No
Portola Parkway/Saddleback Parkway	0.390	A	0.402	A	0.012	No
Portola Parkway – Santa Margarita Parkway/El Toro Road	0.595	A	0.611	B	0.016	No
Los Alisos Boulevard/Santa Margarita Parkway	0.512	A	0.531	A	0.019	No
Marguerite Parkway/El Toro Road	0.429	A	0.438	A	0.009	No
Marguerite Parkway/Los Alisos Boulevard	0.445	A	0.459	A	0.014	No
Marguerite Parkway/Santa Margarita Parkway	0.613	B	0.620	B	0.007	No
Sunday						
Portola Parkway/SR-241 On and Off Ramps	0.264	A	0.274	A	0.010	No
Portola Parkway/Rancho Parkway-Purpose Drive	0.561	A	0.571	A	0.010	No
Portola Parkway/Saddleback Parkway	0.438	A	0.449	A	0.011	No
Portola Parkway – Santa Margarita Parkway/El Toro Road	0.629	B	0.646	B	0.017	No
Los Alisos Boulevard/Santa Margarita Parkway	0.532	A	0.542	A	0.010	No
Marguerite Parkway/El Toro Road	0.437	A	0.449	A	0.012	No
Marguerite Parkway/Los Alisos Boulevard	0.465	A	0.473	A	0.008	No
Marguerite Parkway/Santa Margarita Parkway	0.590	A	0.598	A	0.008	No

¹V/C = volume to capacity ratio

²LOS = Level of Service

Source: TIA Tables 6 and 7 (Appendix I)

The City of Lake Forest General Plan Circulation Element does not contain specific policies relating to transit, bicycle, or pedestrian facilities. However, it does state that one of the key components of the Circulation Element is to promote the use of alternative transportation modes, such as transit, bicycling, walking, and riding to reduce traffic, improve air quality, and minimize the need for costly roadway improvement projects. The project site is accessible via existing Class II bike lanes along Portola Parkway and the OCTA Route 82 bus line. The project site would remain accessible via these alternative transportation facilities and proposes no changes to these facilities that would inhibit their use.

According to the City of Lake Forest CEQA Significance Thresholds Guide, a project would have a potentially significant impact on parking if it would provide less parking than required, applying the standards found in the Lake Forest Municipal Code. The TIA contains a parking analysis to determine the adequacy of available parking on the Saddleback Community Church campus to serve the project. Based on the Lake Forest Municipal Code, churches, temples, and other places of assembly require one space for each three fixed seats in the main auditorium or for every 35 square feet of seating area in the main auditorium where there are no fixed seats. As discussed above, the proposed Worship Center Building would consist of 3,509 seats, and according to the TIA, classrooms in the existing worship center would serve 969 students, for a total of 4,478 seats. Therefore, the project would require a total of 1,493 parking spaces, pursuant to the requirements in the Lake Forest Municipal Code. According to the TIA, the Saddleback Community Church campus would have a total of 3,045 parking spaces under project buildout conditions, more than double the required number of spaces under the Lake Forest Municipal Code.

Given that the project would not cause any intersections to fall below applicable City performance criteria, would be accessible via existing alternative transportation facilities, and would provide adequate parking meeting the requirements of the Lake Forest Municipal Code, the project would not conflict with any program, plan, ordinance, or policy addressing the circulation system. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Specifically, the guidelines state that VMT exceeding an applicable threshold of significance may indicate a significant impact. The City of Lake Forest has not yet adopted a VMT threshold of significance.

According to Section 15064.3(b)(1) of the CEQA Guidelines, land use projects within 0.5 mile of either an existing major transit stop or a stop along an existing high-quality transit corridor are presumed to have a less than significant impact with respect to transportation. The project site is located approximately 0.4 mile from the Portola/Saddleback Parkway bus stop, served by OCTA's Route 82 bus line connecting Foothill Ranch Towne Center to Rancho Santa Margarita via Portola Parkway.

Since the City has not yet adopted a threshold of significance for VMT and the project site is within 0.5 mile of an existing transit stop along an OCTA transit line, the project would not conflict or be

inconsistent with CEQA Guidelines Section 15064.3(b), and this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*

The project would include the construction of religious facilities on an already-developed church campus. The project would not include sharp curves, dangerous intersections, or incompatible uses that would increase hazards. A proposed connector path along the southern edge of the project site would improve fire lane access and provide a drop-off point on the southern end of the new Worship Center Building. This connector path would include a designated passenger drop-off zone immediately adjacent to the south entrance of the proposed Worship Center Building for ADA accessibility, the church shuttle, delivery trucks, and emergency vehicles. The designated drop-off zone in close proximity to the building entrance would minimize potential pedestrian crossings of the proposed connector path. As a result, the project would not substantially increase hazards due to a geometric design feature or incompatible use. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project result in inadequate emergency access?*

The project would be designed, constructed, and operated per applicable standards outlined in the 2016 California Fire Code, as adopted in Section 8.24 of the Lake Forest Municipal Code. Such requirements include building and emergency access; adequate emergency notification; and means of egress for emergency vehicles. Project site plans indicate a fire lane on the north side of the project site, as well as a proposed fire lane along the roadway to be constructed south of the new Worship Center Building as part of the project. These fire lanes, along with the existing network of roadways on the church campus, would provide site access for emergency vehicles.

According to the TIA, site access for the project would continue to be provided via the following signalized full access intersections: Santa Margarita (Portola) Parkway and Purpose Drive, Santa Margarita (Portola) Parkway and Saddleback Parkway, and Marguerite Parkway and El Toro Road (Appendix I). As discussed under Item a of this section, the project would not degrade the LOS at any of these key access intersections, nor would it result in significant impacts to other intersections in the vicinity of the project site that could impair emergency vehicle access. Therefore, impacts to emergency access would be less than significant.

LESS THAN SIGNIFICANT IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or 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:</p>				
<p>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</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As of July 1, 2015, California Assembly Bill (AB) 52 of 2014 was enacted and expands CEQA by defining a new resource category, “tribal cultural resources.” AB 52 establishes that “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

1. 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
2. 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 these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

Saddleback Community Church Expansion Project

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

On April 30, 2019, the City of Lake Forest distributed AB 52 consultation letters detailing the proposed project, including a map and case planner contact information, to six Native American tribal contacts (see Appendix J for a copy of the letters). The Native American tribes provided with an AB 52 consultation letter via certified mail, included:

- Juaneño Band of Mission Indians - Acjachemen Nation
- Soboba Band of Luiseño Indians
- Torres Martinez Desert Cahuilla Indians
- United Auburn Indian Community of the Auburn Rancheria (three contacts)

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation; the 30-day consultation period ended May 30, 2019. However, the City received one letter from the Torres Martinez Desert Cahuilla Indians on June 3, 2019. The tribe stated that they wished to defer to tribes that are located closer to the project site.

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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?*

As discussed above, the only tribe to respond to AB 52 consultation regarding the project deferred to tribes located closer to the project; those tribes did not respond during AB 52 consultation. Therefore, no tribes identified tribal cultural resources in the project area.

As discussed in Section 5, *Cultural Resources*, the presence of cultural resources, including TCRs, is not anticipated due to the absence of known cultural resources on site, but the potential to encounter resources during ground-disturbing activities exists due to the sensitive cultural resource nature of the surrounding area. Therefore, impacts would be potentially significant. Mitigation measures CR-1 through CR-5 would be implemented to reduce impacts to TCRs to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. 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"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The project's potential to require or result in relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities is discussed below.

Water

The Saddleback Community Church campus is served by existing IRWD potable water facilities, including potable water mains and laterals located along the southern and northern portions of the project site and extending into the project site from the north (IRWD n.d.). Non-potable recycled water pipeline is also located on the campus, terminating at the southwestern corner of the project site. Minor potable and non-potable lateral extensions, valves, or other appurtenances may be necessary to serve the proposed new Worship Center Building, classrooms, and landscaping. Such improvements would be installed during project construction and within the project site; therefore, the construction would not increase the project's disturbance area or substantially increase emissions, or otherwise cause significant environmental effects. Major IRWD water treatment or distribution facility improvements would not be necessary to serve the project site. Therefore, impacts with respect to new or expanded water facilities would be less than significant.

Wastewater Treatment

The Saddleback Community Church campus is served by existing IRWD sewer lines, including a sewer gravity main serving the existing worship center building located along the northern border of the project site and extending west to Saddleback Parkway. The project may require short pipeline extensions to serve the new Worship Center Building. As with water facilities, sewer line extensions necessary to connect the proposed new building to existing facilities on campus would be installed in conjunction with the project and would not substantially increase potential environmental impacts.

Due to the increased capacity of the proposed Worship Center Building, the project may result in a marginal increase in wastewater generation. Wastewater generated in the IRWD service area is ultimately treated at the Michelson Water Reclamation Plant (MWRP) and the smaller Los Alisos Water Recycling Plant (LAWRP). According to the Air Quality and Greenhouse Gas Impact Study prepared for the project by RK Engineering Group, Inc. (Appendix B), the project is anticipated to require approximately 5,708,220 gallons of water per year. Assuming that total water demand is equivalent to approximately 120 percent of wastewater generation, the project would generate approximately 4,756,850 gallons of wastewater per year, or approximately 0.013 million gallons per day (MGD). Table 20 summarizes the available capacity at IRWD wastewater treatment facilities and the percentage used by anticipated project wastewater generation.

Table 20 Wastewater Treatment Plant Capacity

	Michelson Water Reclamation Plant (MWRP)	Los Alisos Water Recycling Plant (LAWRP)
Average Daily Treatment	20 MGD	7 MGD
Permitted Capacity	28 MGD	7.5 MGD
Available Capacity	8 MGD	0.5 MGD
Project Wastewater Generation ¹	0.013 MGD	0.013 MGD
Percent of Available Capacity Used by Project	0.16 percent	2.61 percent

MGD = million gallons per day

¹Assumes total water demand is approximately equivalent to 120 percent of wastewater generation. Total water demand obtained from CalEEMod outputs contained in the Air Quality and Greenhouse Gas Impact Study (Appendix B).

Sources: IRWD n.d., Santa Ana RWQCB 2018.

As shown in Table 20, wastewater treatment facilities operated by IRWD have sufficient capacity to process additional wastewater generated by the project. The project would be responsible for constructing on-site wastewater treatment conveyance systems and paying standard sewer connection fees to IRWD. Consequently, impacts with respect to wastewater treatment facilities would be less than significant.

Stormwater Drainage

As discussed in Section 10, *Hydrology and Water Quality*, the project site consists of approximately 44.7 percent (116,790 square feet) of impervious surface area under existing conditions. The project would increase impervious surfaces over the project site to approximately 70.8 percent (184,916 square feet) due to construction of the new Worship Center Building and parking lot expansion. Consequently, the project would reduce groundwater recharge and increase surface runoff on the project site. However, the project would largely maintain the existing drainage pattern of the project site. Stormwater would be conveyed via a newly constructed 36-inch HDPE pipe to pass west of the proposed Worship Center Building. The existing 36-inch RCP under the proposed Worship Center Building would be abandoned in place, and the existing drainage line east of the current worship center would function as it does presently. An approximately 11,557 cubic foot underground storage tank on the southwest portion of the project site would capture runoff from the 24-hour, 85th percentile rainfall event. As demonstrated in the Preliminary WQMP (Appendix G), controlled release from the stormwater capture facility would not exceed the existing stormwater discharge to Aliso Creek. Given that stormwater conveyance and storage facilities would be constructed to capture on-site runoff, impacts related to new or expanded stormwater facilities would be less than significant.

Electric Power & Natural Gas

Electrical service to the project site is provided by SCE, which maintains substations and transmission lines throughout southern California, including the Viejo Substation constructed in 2006 approximately 0.2 mile north of the project site across SR-241. SCGs provides natural gas service to approximately six million residential and business customers across 20,000 square miles of southern California, including Lake Forest and the project site (SCG 2019).

Saddleback Community Church Expansion Project

The project site is currently served by existing electricity and natural gas infrastructure. As discussed in Section 6, the project would involve an increase in electricity and natural gas demand to serve the proposed Worship Center Building and classroom space; however, this demand increase would not be substantial compared to the existing use, would not be considered a wasteful use of energy, and would not require additional electricity substations or natural gas storage/transmission facilities. Impacts with respect to new or expanded electric power or natural gas facilities would be less than significant.

Telecommunications

The project would not involve any components requiring telecommunications infrastructure and would not involve the relocation of existing telecommunications facilities. Therefore, no impact related to telecommunications facilities would occur.

Conclusion

Construction or relocation of utility systems would not be undertaken by the project that would cause significant environmental effects, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

IRWD serves approximately 380,000 residents in an approximately 181-square mile portion of central Orange County, including the city of Irvine and portions of the cities of Costa Mesa, Lake Forest, Newport Beach, Orange, Tustin, Santa Ana, and unincorporated Orange County (IRWD 2016). IRWD provides domestic and recycled water service to the Saddleback Community Church campus, including the project site.

Historically, IRWD met a substantial portion of its overall water demand using imported water supplies from the Metropolitan Water District of Southern California (MWD). In recent decades, however, IRWD has focused on efforts to diversify its supply through local groundwater extraction efforts and water recycling. Today, approximately 27 percent of IRWD’s potable supplies are obtained via MWD imports. Over 50 percent of overall supplies are obtained from local groundwater wells in the Orange County Groundwater Basin and Irvine and Lake Forest Sub-basins, and IRWD meets approximately 28 percent of its overall service area demand using recycled water for approved uses, such as landscape irrigation, agricultural irrigation, toilet flushing, cooling towers, and construction grading/compaction (IRWD 2016). Additionally, IRWD obtains and stores surface water from Santiago Creek at Irvine Dam to supplement its agricultural supply and recycled water system; due to the low baseflow in Santiago Creek, this surface water supply is minimal.

According to the Air Quality and Greenhouse Gas Impact Study prepared for the project (Appendix B), the project is expected to use approximately 5,708,220 gallons of water per year, or approximately 17.5 acre-feet per year (AFY). The IRWD Urban Water Management Plan (UWMP) describes IRWD’s existing water system and projects future water supplies and demands over a 20-year planning horizon. The UWMP water supply estimates are based on existing supplies and planned supply augmentation strategies. Demand projections are based on multi-jurisdictional land use data and land use-based demand assumptions. Table 21 summarizes IRWD’s normal year supply and demand, as well as the project’s share of anticipated excess supply.

Table 21 IRWD Projected Normal Year Supply and Demand

	2020	2025	2030	2035
Supplies (AFY)				
Purchased/Imported (potable)	41,929	41,929	41,929	41,929
Purchased/Imported (untreated)	17,826	17,826	17,826	17,826
Groundwater (potable)	53,171	65,523	65,523	65,523
Groundwater (non-potable)	3,514	3,514	3,514	3,514
Recycled Water (non-potable)	28,757	28,757	28,757	28,757
Total Supply	145,195	157,549	157,549	157,549
Demand (AFY)				
IRWD Projected Demand ¹	96,445	105,961	109,431	111,277
Project Demand ²	17.5	17.5	17.5	17.5
Project Percentage of Excess Supply (%) ³	0.04	0.03	0.04	0.04

AFY = acre-feet/year (one AF = 325,850 gallons)

¹ Includes demand for potable, raw, and recycled water.

² Project demand obtained from Air Quality and Greenhouse Gas Impact Study (Appendix B)

³ Project Demand's share of excess supply based on difference between Total Supply and IRWD Projected Demand.

Source: IRWD 2016

The 2015 UWMP also estimates IRWD supplies and demand for single and multiple dry-year scenarios based on historic dry years experienced by the agency. Given IRWD's diversified supply, including reliance on recycled water and banked groundwater, IRWD's supplies are relatively constant between normal, single, and multiple dry-year scenarios. According to the analysis in the UWMP, only surface water stored in Irvine Lake is expected to be affected by dry year scenarios. Anticipated supply and demand do not change between single and multiple dry-year scenarios. Table 22 compares anticipated single and multiple dry-year supply and demand and the project's anticipated share of excess dry-year supply.

Table 22 IRWD Single and Multiple Dry-Year Supply and Demand

	2020	2025	2030	2035
Supply (AFY)	142,197	154,549	154,549	154,549
Demand (AFY)	103,195	113,378	117,091	119,066
Difference (AFY)	39,002	41,171	37,458	35,483
Project Percentage of Excess Supply (%) ¹	0.04	0.04	0.05	0.05

AFY = acre-feet/year (one AF = 325,850 gallons)

¹ Assumes total project demand of 17.5 AFY.

Source: IRWD 2016

Saddleback Community Church Expansion Project

The project would increase water demand on the site by adding a new Worship Center Building, landscaped parking lot, and a second-story addition to the existing Worship Center Building. However, as demonstrated in Table 21 and Table 22, anticipated increased demand would account for 0.03 to 0.05 percent of IRWD's excess normal, single, and multiple dry-year supplies through 2035. As a result, adequate supplies are available to serve the project, and remaining excess supply would be available to serve reasonably foreseeable future development. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project 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?*

As discussed under Item a. of this section, the project-generated wastewater would be adequately served by available capacity at IRWD wastewater treatment facilities. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Construction and operation of the project would generate solid waste. CR&R Incorporated provides solid waste and recycling collection services for the project site. Solid waste generated in the Lake Forest is disposed of at three landfills: Olinda Alpha Landfill in Brea, Frank R. Bowerman Landfill in Irvine, and Prima Deshecha Landfill in San Juan Capistrano. The Olinda Alpha Landfill has a permitted daily throughput of 8,000 tons per day; the Frank R. Bowerman Sanitary Landfill has a permitted daily throughput of approximately 11,500 tons per; and the Prima Deshecha Landfill has a maximum permitted daily throughput of 4,000 tons per day. The last reported remaining capacity at each of these landfills ranges from approximately 34 million cubic yards at Olinda Alpha Landfill to over 200 million cubic yards at the Frank R. Bowerman Sanitary Landfill (CalRecycle 2019).

The handling of all debris and waste generated during construction of the project would be subject to 2016 CALGreen requirements and the California Integrated Waste Management Act of 1989 (AB 939) requirements for salvaging, recycling, and reuse of materials from construction activity on the project site. In accordance with 2016 CALGreen requirements, the project would be required to achieve a minimum of 65 percent diversion rate for construction waste.

For operational waste, AB 939 requires all cities and counties to divert a minimum of 50 percent of all solid waste from landfills. According to the Air Quality and Greenhouse Gas Impact Study (Appendix B) prepared for the project, the project would generate approximately 405.56 tons per year of solid waste, or approximately 1.1 ton per day. The project's anticipated daily solid waste generation would account for between 0.01 to 0.03 percent of permitted throughput at area landfills. Given this small proportion of permitted throughput and the existing surplus capacity at area landfills, the solid waste generated by operation of the project would be adequately accommodated by existing landfills.

The project would comply with the City's Integrated Waste Management Ordinance, codified in Title 16 of the Lake Forest Municipal Code, which regulates waste collection, transfer, and disposal in the City. The project would be required to comply with federal, state, and local statutes and regulations related to solid waste. Therefore, because the project would be served by landfills with sufficient capacity and would comply with applicable regulations related to solid waste, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

As discussed in Section 9, *Hazards and Hazardous Materials*, the project site is not located in a state responsibility area or a Very High Fire Hazard Severity Zone. However, the project site is approximately 0.1 mile west of a Very High Fire Hazard Severity Zone LRA located immediately northeast of SR-241 (CAL FIRE 2011). The entire coastal southern California region, including Orange County, is prone to large wildfires due to its hot, dry climate and expansive coverage of ignitable vegetation. During the autumn and winter months, strong offshore Santa Ana wind events carry dry, desert air and can fan fast-moving fires that spread rapidly from the less-populated Santa Ana Mountains downslope to developed communities. Recent wildfires in the vicinity of the project site include the 2006 Sierra Fire, the 2007 Santiago Fire, the 2008 Freeway Complex Fire, and the 2018 Holy Fire.

While a natural ecological process in coastal chaparral and forest systems, wildfire return intervals have decreased throughout southern California, resulting in more frequent ecological disturbance, loss of biodiversity, and colonization by non-native grass species (USFS 2018). Furthermore, post-fire conditions leave exposed mountain slopes and hillsides vulnerable to surface erosion and runoff. Debris flows during post-fire rainy seasons can pose a risk to life and property and occur with little

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warning. In southern California, as little as 0.3 inch of rain in 30 minutes can produce debris flows on post-fire landscapes (USGS 2018).

The City of Lake Forest has partnered with the County of Orange to develop a “reverse 911” emergency notification system to deliver timely updates to inhabitants, including fire-related weather forecasts and evacuation orders. The AlertOC system is a web based subscription service capable of notifying thousands of subscribers via phone call, e-mail, or text message as emergency events unfold (City of Lake Forest n.d.).

- a. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

As discussed in Section 17, *Transportation*, the project would not generate new traffic on weekdays. Furthermore, project-generated traffic on weekends would not result in significant impacts to area intersections that could impair an emergency response or evacuation route in the event of a wildfire. The project would be constructed on the developed Saddleback Community Church campus. While project construction may require temporary changes to the on-site circulation network, construction would not require lane or roadway closures that would temporarily impair emergency response or evacuation. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Presently, the project site is developed with masonry buildings, pavement, and maintained landscaping. Existing vegetated open space is located to the east, northeast, and south, along Aliso Creek. Under existing conditions, structures and tent facilities on the project site are separated from these vegetated areas by SR 241 to the north, an open parking lot to the east, and maintained landscaping and a footpath to the south.

In 2017, the OCFA developed a Community Wildfire Protection Plan (CWPP), to plan, manage and coordinate fuel reduction and fire protection activities throughout fire-prone regions of the County. Approximately 10,743 acres, or 35.3 percent of the City of Lake Forest, is included in the CWPP area (OCFA 2017). Portions of the City included in the CWPP area are generally located north of SR-241, north and east of the project site. The project site is not located within the CWPP area.

The project site is not located in a state responsibility area or a Very High Fire Hazard Severity Zone, though it is approximately 0.1 mile west of a Very High Fire Hazard Severity Zone. The project would involve construction of new religious facilities with expanded capacity on the existing Saddleback Community Church campus. Under existing conditions, the project site is developed with the existing worship center, temporary tent facilities used as classroom space, and vegetated/landscaped open space. The project would replace the temporary facilities and open space with the new Worship Center Building and parking lot area. The project would generally reduce potential fuel sources by reducing existing vegetated open space area on the project site.

The Orange County Local Hazard Mitigation Plan (County of Orange and OCFA 2015) includes a sample hazard identification rating system for evaluating wildfire risk on a specific site. The system focuses on four wildfire hazard categories: roads and signage, water supply, structure location (e.g.,

located on steep slopes), and exterior construction. Table 23 analyzes the project relative to the high hazard indicators provided in the sample hazard identification rating. As shown in Table 23, the project would not meet any of the high hazard indicators identified in the sample hazard identification rating system and from these hazards would not substantially exacerbate wildfire risk.

Table 23 Fire Hazard Identification Rating

Hazard Category	High Hazard Indicator	Does the Project Constitute a Risk per the High Hazard Indicator?
Roadways and Signage	Steep, narrow or poorly signed roads	No. The project site is accessible via paved four- to six-lane roadways with signage in the City of Lake Forest. The project site does not include and is not proximate to steep, unsigned, or narrow roadways that would inhibit emergency access. Additionally, the project would involve construction of an additional proposed fire lane along the southern edge of the project site.
Water Supply	No water supply, except domestic	No. The project site is served by existing potable and non-potable water mains. According to IRWD facility data, the project site is served by approximately eight potable hydrants within 500 feet of the project site (IRWD n.d.).
Structure Location	Top of steep slope with brush, grass below	No. The location of proposed structures is generally categorized as mid-slope, with elevations decreasing to the south and west and increasing to the north and east. However, grading on the site for previous buildings and improvements has leveled slopes to some degree. Additionally, structures on the project site would maintain clearance from vegetated areas downslope along Aliso Creek, as the project would construct hardscaped roadways and irrigated landscaping along the south side of the project site, including implementation of an FMZ. Vegetated upslope areas designated as a Very High Fire Hazard Severity Zone would be separated from the project site and proposed structures by the SR-241 freeway and existing parking lot area.
Exterior Construction	Combustible roofing, open eaves, combustible siding	No. According to the project site plan and elevations, the proposed structures would have a flat roof, providing few areas with open eaves and minimal roof projection beyond the building sides. Flat roofs would have a 4-ply built-up Class 'A' roofing system over half-inch DensGlass sheathing on corrugated metal deck, which would have minimal combustibility. Furthermore, the roof would be equipped with a fire sprinkler system based on the design demands of a Light Hazard Occupancy.

Source: County of Orange and OCFA 2015 (Figure 5, Sample Fire Hazard Identification Rating System)

In the event of a wildfire near the project site, evacuations may be necessary. If so, information regarding evacuations would be disseminated via the AlertOC system and project occupants would exit the site via the three existing full access intersections described in Section 17, *Transportation*: Santa Margarita (Portola) Parkway and Purpose Drive, Santa Margarita (Portola) Parkway and Saddleback Parkway, and Marguerite Parkway and El Toro Road. The church maintains an on-site volunteer firefighter service through its Fire Service Ministry, which allows current or retired fire prevention specialists and firefighters to offer fire protection during worship services (Saddleback Valley Community Church 2019). Additionally, during previous wildfire emergencies in the region, the project site has served as an evacuation center, housing evacuees, pets, and serving refreshments to firefighters (Christian Examiner 2007). By not precluding the ability to evacuate or the ability to perform as a shelter during wildfire, the project would not exacerbate wildfire risk.

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As discussed above, the entire coastal southern California region is prone to large wildfires due to climate and vegetation characteristics of the region. Santa Ana wind events could blow fires in the direction of the project as the project is to the south and southeast of the nearest Very High Fire Hazard Severity Zone. Therefore, project occupants may be exposed to pollutants from fire. However, this risk would not be unique because of the proposed project components -- the same risk exists for the existing church. In addition, the church does not contain residents (long-term occupants) and would have the ability to cancel services or classes if necessary during wildfire.

Therefore, the project would not be anticipated to exacerbate exposure project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire for the following reasons: the project would not meet any of the high hazard indicators identified in the sample hazard identification rating system; the project site is not located in a Very High Fire Hazard Severity Zone; the project occupants would be adequately notified by the AlertOC system and would have ample escape routes if evacuation is requested; the project site is typically used as a refuge during wildfires if evacuation requires people to consolidate at the project site; and the project does not propose components that would exacerbate wildfire risk over the existing risk already present in the area. Impacts would be less than significant.

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- c. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The project site is developed and served by existing water, wastewater, stormwater, electricity, and natural gas facilities. The project may require installation of additional water and sewer laterals or appurtenances to serve the proposed new Worship Center Building, but such infrastructure would be constructed on-site within the project disturbance area. None of the potential infrastructure improvements would exacerbate fire risk. No impact would occur.

NO IMPACT

- d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project site is located along Aliso Creek, which drains areas to the north and east, including areas designated as a Very High Fire Hazard Severity Zone. As discussed in Section 10, *Hydrology and Water Quality*, no portion of the project site is located in the flood zone for the creek. Furthermore, no portion of the project site is located in a designated landslide hazard zone. Proposed on-site stormwater capture and controlled release would result in no increase of stormwater discharge to Aliso Creek.

The project site is set back approximately 500 feet from Aliso Creek and located at approximately 50 feet higher elevation, which eliminates the potential for post-fire debris flows in the creek to impact the project site. Following a substantial wildfire event, the OCSD publishes maps created by County geologists, flood control experts, and other State and Federal agency partners to indicate neighborhoods at risk from flash floods, debris flows, mud flows, and other forms of post-fire slope instability (OCSD n.d.). Such maps are used to inform evacuation orders leading up to an anticipated

rainfall event. These procedures would help to provide advance notice to evacuate the campus or cancel services, as necessary, to reduce exposure to risks associated with flooding, landslides, or debris flows. Furthermore, as described in Item b of this section, the project would not substantially increase wildfire risk on the site and, therefore, would not substantially increase risk of post-fire flooding downstream or downslope. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Does the project:

- | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <p>a. Have the potential to substantially 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?</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>b. 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)?</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

a. *Does the project have the potential to substantially 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?*

The project may result in potentially significant impacts to biological resources (nesting birds and removal of sensitive habitat) and encountering unknown archaeological and tribal resources during ground disturbing activities. However, potential degradation of the quality of the environment would be reduced to below a level of significance through implementation of mitigation measures BIO-1 through BIO-4, as identified in Section 4, *Biological Resources*, and CR-1, as identified in Section 5, *Cultural Resources*.

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- 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)?*

As described in the discussion of environmental checklist Sections 1 through 20, the project would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated with respect to all environmental issues. As described in Item b of Section 4, *Air Quality*, the project would result in a cumulatively considerable net increase of ROG and NO_x due to construction emissions. This impact would be reduced to less than significant through implementation of Mitigation Measures AQ-1 through AQ-3. Operational criteria pollutant emissions from the proposed project would not be cumulatively considerable. The project’s GHGs emissions, which is inherently a cumulative discussion and analyzed under Section 8, *Greenhouse Gas Emissions*, would not result in a cumulatively considerable (potentially significant) increase in emissions. As discussed in Section 13, *Noise*, under cumulative scenarios project traffic would not result in a potentially significant impact. In addition, as discussed in Section 17, *Transportation*, no traffic impacts would occur when project traffic is combined with cumulative traffic. Other resource areas (e.g., agricultural/forestry, mineral resources) were determined to have no impact. Therefore, the project would not contribute to cumulative impacts related to these issues. Several resource issues (e.g., geology, hazards and hazardous materials) are project-specific by nature and impacts at one location do not add to impacts at other locations or create additive impacts. Furthermore, future projects in the vicinity of the project site would be required to undergo the appropriate level of environmental review and mitigate potential impacts, as necessary. This impact would be less than significant with mitigation.

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- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

As described in Item b of Section 3, *Air Quality*, the project would result in a cumulatively considerable net increase of ROG and NO_x due to construction emissions; these pollutants may have an adverse effect on human beings. This impact would be reduced to less than significant through implementation of Mitigation Measures AQ-1 through AQ-3.

Risks may occur to humans due to the potential for expansive soils that could affect project structures. These impacts would be mitigated to less than significant levels through Mitigation Measure GEO-1.

The proposed project would cause an increase in ambient noise levels during construction and operation. However, the noise would be in compliance with local ordinances. The temporarily increased noise levels would not cause substantial adverse impacts on human beings.

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