FINAL
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

LEWIS STREET REORGANIZATION BETWEEN THE CITY OF GARDEN GROVE AND THE CITY OF ORANGE (RO 17-01) AND RESIDENTIAL PROJECT

CITY OF GARDEN GROVE, CALIFORNIA

LSA

May 2017

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LEWIS STREET REORGANIZATION BETWEEN THE CITY OF GARDEN GROVE AND THE CITY OF ORANGE (RO 17-01) AND RESIDENTIAL PROJECT

CITY OF GARDEN GROVE, CALIFORNIA

Submitted to:

City of Garden Grove
11222 Acacia Parkway
Garden Grove, California 92840

Prepared by:

LSA
20 Executive Park, Suite 200
Irvine, California 92614
949.553.0666

Project No. SHO1601

LSA

May 2017

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SECTION 1

INTRODUCTION

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INTRODUCTION

This section comprises the Comments and Responses of the Final Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project (Project) at 12921 Lewis Street in the City of Garden Grove (City). The purpose of this document is to respond to all comments received by the City regarding the environmental information and analyses contained in the IS/MND.

As required by the California Environmental Quality Act (CEQA) Guidelines Section 15073, a Notice of Intent (NOI) to adopt an MND was sent to responsible agencies and trustee agencies in addition to various public agencies, citizen groups, and interested individuals concerned with the project. In addition, the NOI was filed with the Orange County Clerk on March 15, 2017.

The Draft IS/MND was circulated for public review for a period of 20 days, from March 15, 2017, to April 4, 2017. Copies of the Draft IS/MND were made available for public review at the City Planning Services Department Planning Counter, two area libraries, and on the internet.

Comments were accepted for a period of 20 days in order to ensure adequate time for residents and agencies to comment on the Draft IS/MND. Four comment letters were received during the public review period. Comments were received from Orange County Local Agency Formation Commission (LAFCO), Orange County Public Works, Orange County Transportation Agency (OCTA), and the South Coast Air Quality Management District (SCAQMD).

The City, as the Lead Agency, is required to consider agency and public comments on a negative declaration. Although preparation of responses to comments received on an IS/MND is not required by CEQA, responses have been prepared.

Information provided in this Response to Comments document clarifies, amplifies, or makes minor modifications to the IS/MND. No significant changes have been made to the information contained in the IS/MND as a result of the responses to comments, and no significant new information has been added that would require recirculation of the document.

A revised version of the IS/MND has been prepared to make minor corrections and clarifications to the public draft IS/MND as a result of comments received during the public review period. Revisions to the public draft IS/MND are shown in track changes in Section 3 of this document. Text that has been added is underlined (underlined) and text that has been deleted is shown with strikeout (~~strikeout~~).

Together, the responses to comments and the revised text of the IS/MND are collectively referred to as the Final IS/MND; the Final IS/MND will be submitted for the consideration by the City Council prior to a vote to approve the Final IS/MND.

INDEX OF COMMENTS RECEIVED

The following is an index list of the agencies that commented on the IS/MND prior to the close of the public comment period or immediately thereafter. The comments received have been organized in a manner that facilitates finding a particular comment or set of comments. Each comment letter received is indexed with a number below.

Comment Code	Signatory	Date
Local		
L-1	Orange County LAFCO	April 3, 2017
L-2	Orange County Public Works	March 4, 2017
L-3	OCTA	April 4, 2017
L-4	SCAQMD	March 21, 2017

FORMAT OF RESPONSES TO COMMENTS

Responses to each of the comment letters are provided on the following pages. The comment index numbers are provided in the upper right corner of each comment letter, and individual points within each letter are numbered along the right-hand margin of each letter. The City's responses to each comment letter immediately follow the letter and are referenced by index numbers in the margins. As noted in some of the responses, the proposed Final IS/MND includes text revisions that provide corrections and clarifications to the public draft IS/MND.

SECTION 2

RESPONSES TO COMMENTS

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ORANGE COUNTY LAFCO
EST. 1963

LOCAL AGENCY FORMATION COMMISSION

ORANGE COUNTY

April 3, 2017

Lee Marino, Senior Planner
Planning Service Division
11222 Acacia Parkway
Garden Grove, CA 92840

SUBJECT: **Comments on Notice of Intent to Adopt Negative Declaration for the proposed *Lewis Street Reorganization Between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project ("Project")***

Dear Mr. Marino:

On behalf of the Orange County Local Agency Formation Commission ("OC LAFCO"), we would like to thank you for the opportunity to provide written comments on the *Lewis Street Reorganization Between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project* ("Project"). L-1-1

As you are aware, OC LAFCO is governed by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 ("Act." Govt. Code Section 56000 et seq.). Under the Act, OC LAFCO is required to make determinations regarding the proposal for changes of organization or reorganization (Govt. Code Section 56880). In making these determinations, The Act also prescribes the factors, which OC LAFCO must consider in making its determinations, including any policies adopted by OC LAFCO to encourage orderly growth and development (Govt. Code Section 56668). L-1-2

Because of this role and pursuant to Section 21069 of the Public Resources Code, OC LAFCO is a responsible agency for the proposed reorganization between the City of Garden Grove and City of Orange. Additionally, and pursuant to Section 15086 of the California Environmental Quality Act (CEQA) Guidelines, OC LAFCO is responsible for reviewing and providing comments on this *Initial Study/ Mitigated Negative Declaration.* Considering this role, after OC LAFCO's review of the documents, LAFCO has no additional comments at this time. L-1-3

2677 North Main Street, Suite 1050, Santa Ana, CA 92705
• (714) 640-5100 • FAX (714) 640-5139 •
http://www.oclafco.org

Should you have any questions contact Luis Tapia at ltapia@oclafco.org.

L-1-4

Sincerely,

Carolyn Emery
Executive Officer
Orange County LAFCO

LETTER CODE: L-1

COMMENTER: Orange County Local Agency Formation Commission

DATE: April 3, 2017

RESPONSE L-1-1

The comment is introductory. The Orange County Local Agency Formation Commission (LAFCO) thanks the City of Garden Grove (City) for the opportunity to provide written comments on the Initial Study/Mitigated Negative Declaration (IS/MND).

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-1-2

The comment provides information pertaining to LAFCO's statutory responsibilities. In particular, the comment highlights LAFCO's authority to make determinations regarding the proposal for changes of organization or reorganization under Government Code Section 56880. Because of this role and pursuant to Section 21069 of Public Resources Code, LAFCO is a Responsible Agency for the proposed project. As such LAFCO provided written comments on the IS/MND for the proposed project.

LAFCO is identified as a Responsible Agency, as defined in the California Environmental Quality Act (CEQA), in the IS/MND (refer to page 2-34). Table 2.C in the IS/MND list probable future actions by Responsible Agencies including LAFCO. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-1-3

The comment states that LAFCO does not have any additional comments at this time.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-1-4

The comment concludes the comment letter and provides contact information. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

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OC Public Works
Integrity, Accountability, Service, Trust
Shane L. Silsby, Director

March 4, 2017 NCL-17-023

Lee Marino
City of Garden Grove
Planning Services Division
11222 Acacia Parkway
Garden Grove, CA 92840

Subject: Notice of Intent to Adopt a MND for the Lewis St Reorganization Between the City of Garden Grove and the City of Orange and Residential Project

Dear Lee Marino:

The County of Orange has reviewed Notice of Intent to Adopt a MND for the Lewis St Reorganization between the City of Garden Grove and the City of Orange and Residential Project and has no comments at this time. We would like to be advised of any further developments on the project. Please continue to keep us on the distribution list for future notifications related to the project. L-2-1

Sincerely,

pp Laree Alonso

Laree Alonso, Manager, Planning Division
OC Public Works Service Area/OC Development Services
300 North Flower Street
Santa Ana, California 92702-4048
Laree.alonso@ocpw.ocgov.com

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LETTER CODE: L-2

COMMENTER: Orange County Public Works

DATE: March 4, 2017

RESPONSE L-2-1

The comment states that the County of Orange reviewed the Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the proposed project and has no comments at this time. The County requested to be advised of any further developments on the proposed project.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

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OCTA

AFFILIATED AGENCIES

Orange County Transit District

Local Transportation Authority

Service Authority for Freeway Emergencies

Consolidated Transporation Service Agency

Congestion Management Agency

Service Authority for Abandoned Vehicles

April 4, 2017

Mr. Chris Chung
Planning Services Division
City of Garden Grove
11222 Acacia Parkway
Garden Grove, CA 92840

Subject: **Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Initial Study/Mitigated Negative Declaration**

Dear Mr. Chung:

Thank you for providing the Orange County Transportation Authority (OCTA) with the Initial Study and Mitigated Negative Declaration for the Lewis Street Reorganization Project (Project). The following comments are provided for your consideration: L-3-1

- On page 2-21 ('Circulation') and page 4-48, Table 4.7.C: L-3-2
  - Please revise "Orange County Transit Authority" to "Orange County Transportation Authority".
  - Please revise text regarding Orange County Transportation Authority (OCTA) service to three bus routes within the Project vicinity: Route 47, Route 56 and Route 454. Route 16 is not operated by OCTA, but may be operated by the Anaheim Resort Transportation. L-3-3

- From page 4-128, Section 4.16 ('Transportation/Traffic'), Subsection F, OCTA currently provides bus service and has bus stops located within the Project vicinity, specifically on Lewis Street and Garden Grove Boulevard. OCTA recommends employing measures to reduce potential disruptions to the bus stop, in effect reducing transit service disruptions, and requests the City of Garden Grove to keep OCTA updated with any potential bus stop disruptions or street closures that may necessitate detours. L-3-4

Throughout the development of this project, we encourage communication with OCTA on any matters discussed herein. If you have any questions or comments, please contact me at (714) 560-5907 or at dphu@octa.net. L-3-5

Sincerely,

Dan Phu
Manager, Environmental Programs

LETTER CODE: L-3

COMMENTER: Orange County Transportation Authority

DATE: April 4, 2017

RESPONSE L-3-1

The comment is introductory. The Orange County Transportation Authority (OCTA) thanks the City of Garden Grove (City) for providing the Initial Study/Mitigated Negative Declaration (IS/MND).

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-3-2

The comment states that on page 4-48, Table 4.7.C, OCTA is incorrectly identified as the Orange County Transit Authority and requests that the agency name be revised.

The Final IS/MND will be revised as requested. The change is not a "substantial revision" because: (1) it does not identify a new, avoidable significant effect that requires mitigation measures or project revisions in order to reduce the effect to below a level of significance and (2) the lead agency has not determined that a proposed mitigation measure will not reduce potential effects to a less than significant level and new measures or revisions must be required. The proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-3

The comment states that Route 16 is incorrectly identified as being operated by OCTA in Table 4.7.C (page 4-48) of the IS/MND. Route 16 is not operated by OCTA, but may be operated by the Anaheim Resort Transportation.

The Final IS/MND will be revised as requested. The change is not a "substantial revision" because: (1) it does not identify a new, avoidable significant effect that requires mitigation measures or project revisions in order to reduce the effect to below a level of significance and (2) the lead agency has not determined that a proposed mitigation measure will not reduce potential effects to a less than significant level and new measures or revisions must be required. The proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines,* Section 15073.5).

RESPONSE L-3-4

The comment states that OCTA recommends employing measures to reduce potential disruptions to the existing bus stops on Lewis Street and Garden Grove Boulevard requests that the City keep OCTA up to date with any potential bus stop disruptions of street closures that may necessitate detours.

As discussed in the IS/MND (pages 4-59, 4-127), the proposed project would require temporary lane closures on Lewis Street to relocate the gas and water lines. No lane closures on Garden Grove Boulevard are anticipated. Temporary lane closures would be implemented consistent with the recommendations of the *California Joint Utility Traffic Control Manual*, which recommends that the needs of operators of commercial vehicles such as busses be assessed and appropriate coordination and accommodations made. In addition, as described in Mitigation Measure HAZ-3, the Project Applicant/Developer would be required to prepare and implement a Construction Staging and Traffic Management Plan, which would be subject to the approval of the Director of the City of Garden Grove Department of Public Works, or designee. Mitigation Measure HAZ-3 has been revised to make it more clear that coordination with OCTA is required as part of the Construction Staging and Traffic Management Plan. As such, OCTA will be provided with advance notice of any temporary lane closures that could necessitate detours in order to ensure that bus service in the vicinity of the project site is maintained throughout the construction period. With implementation of Mitigation Measure HAZ-3, potential disruptions to transit service would be minimized. The change is not a "substantial revision" because: (1) it does not identify a new, avoidable significant effect that requires mitigation measures or project revisions in order to reduce the effect to below a level of significance and (2) the lead agency has not determined that a proposed mitigation measure will not reduce potential effects to a less than significant level and new measures or revisions must be required. The proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines*, Section 15073.5). The proposed revision is a minor change to the IS/MND that merely clarifies, amplifies, or makes insignificant modifications to the document. As such, recirculation of the document is not required (*State CEQA Guidelines*, Section 15073.5).

RESPONSE L-3-5

The comment encourages communication with OCTA on any matters discussed in the comment letter. The comment concludes the letter.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL AND USPS:
leem@ci.garden-grove.ca.us
Lee Marino
City of Garden Grove
Planning Services Division
11222 Acacia Parkway
Garden Grove, CA 92840

March 21, 2017

Mitigated Negative Declaration (MND) for the Proposed Lewis Street Reorganization Between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comment is meant as guidance for the Lead Agency and should be incorporated into the Final MND. L-4-1

Project Description
The proposed project consists of the construction of a gated residential community with 70 single-family detached residential units on an approximately 9.01-acre site. The proposed project is expected to generate approximately 261 residents. The proposed residential units would have private outdoor areas and an open recreation area located near the entrance to the residential community. The proposed project is currently bounded by low-density residential and light/heavy commercial uses, medium-density residential and general commercial uses. The proposed project site, including the recreation area, is within 500 feet of the California State Route 22 (SR-22) Freeway. L-4-2

Mobile Source Health Risk Assessment
When specific development is reasonably foreseeable as result of the goals, policies, and guidelines in the proposed project, the Lead Agency should identify any potential adverse health risk impacts using its best efforts to find out and a good-faith effort at full disclosure in the CEQA document. Based on a review of aerial photographs and information under Surrounding Land Uses in the MND, the SCAQMD staff found that the proposed project would facilitate the siting of future residents approximately 188 feet from the SR-22 Freeway (with the recreation area approximately 357 feet from SR-22), which has an average daily volume of 238,000 vehicles[1] including approximately 11,424 diesel fueled trucks. Because of the close proximity to the existing freeway, residents would be exposed to diesel particulate matter (DPM), which is a toxic air contaminant and a carcinogen. Diesel particulate matter emitted from diesel powered engines (such as trucks) has been classified by the state as a toxic air contaminant and a carcinogen. L-4-3

Since future residences of the proposed project would be exposed to toxic emissions from the nearby sources of air pollution (e.g., diesel fueled highway vehicles), the SCAQMD staff recommends that the Lead Agency estimate potential health risks to these future residents from these sources. Otherwise, the Lead Agency has not demonstrated, supported by substantial evidence, that public health will not be significantly impacted by this project. Therefore, the SCAQMD staff recommends that the Lead Agency

[1] Caltrans 2015 annual average daily traffic (Annual ADT) and truck volumes: http://www.dot.ca.gov/trafficops/census/.

conduct a health risk assessment (HRA)[2] to disclose the potential health risks to the residents from the freeway, railroad, and industrial sources. L-4-3

Notwithstanding the court rulings, the SCAQMD staff recognizes that the Lead Agencies that approve CEQA documents retain the authority to include any additional information they deem relevant to assessing and mitigating the environmental impacts of a project. Because of SCAQMD's concern about the potential public health impacts of siting sensitive populations within close proximity of freeways, the SCAQMD staff will continue to recommend that, prior to approving the project, Lead Agencies consider the impacts of air pollutants on people who will live in a new project and provide mitigation where necessary. L-4-4

Guidance Regarding Residences Sited Near a High-Volume Freeway or Other Sources of Air Pollution

The SCAQMD staff recognizes that there are many factors Lead Agencies must consider when making local planning and land use decisions. To facilitate stronger collaboration between Lead Agencies and the SCAQMD to reduce community exposure to source-specific and cumulative air pollution impacts, the SCAQMD adopted the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning in 2005. This Guidance Document provides suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. The SCAQMD staff recommends that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions. This Guidance Document is available on SCAQMD's website at: http://www.aqmd.gov/home/library/documents-support-material/planning-guidance/guidance-document. Additional guidance on siting incompatible land uses (such as placing homes near freeways or other polluting sources) can be found in the California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at: http://www.arb.ca.gov/ch/handbook.pdf. L-4-5

Numerous health studies have demonstrated potential adverse health effects associated with living near highly travelled roadways. In traffic-related studies, the additional non-cancer health risk attributable to proximity is seen within 1,000 feet and is strongest within 300 feet[3]. California freeway studies show about a 70% drop off in particulate pollution levels at 500 feet[4]. As a result of these studies, the CARB developed a Land Use Handbook[5] that recommends avoiding new sensitive land uses (such as housing) within 500 feet of a freeway. Additional research has shown that the near roadway environment also contains elevated levels of many pollutants that adversely affect human health, including some pollutants that are unregulated (e.g., ultrafine particles) and whose potential health effects are still emerging[6]. L-4-6

Mitigation Measures and Limits to Enhanced Filtration Units

While the health science behind recommending against placing new homes in close proximity to freeways is clear, the SCAQMD staff recognizes that there are many factors Lead Agencies must consider when making local planning and land use decisions such as siting new housing. In the event that the Lead Agency, after performing an HRA, finds that maximum cancer risk from the proposed project would exceed the SCAQMD significance threshold of 10 in one million, the identification and evaluation of mitigation measures are required to reduce health impacts below the significance level before the MND is considered for adoption (CEQA Guideline Section 15074(b)). In an event that the Lead Agency determines that health impacts cannot be mitigated, a draft environmental impact report shall be prepared pursuant to the CEQA Guideline Sections 15073.5, 15086, and 15087. L-4-7

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[2] "Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis" accessed at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis.

[3] California Air Resources Board. April 2005. "Air Quality and Land Use Handbook: A Community Health Perspective." Accessed at: http://www.arb.ca.gov/ch/landuse.htm.

[4] Ibid.

[5] Ibid.

[6] See Chapter 9 of the 2012 AQMP for further information. Accessed at: http://www.aqmd.gov/aqmp/2012aqmp/Final-February2013/Ch9.pdf.

Many mitigation measures have been proposed for other projects to reduce exposure, including, but are not limited to, building filtration systems, sounds walls, vegetation barriers, etc. Because of the potential adverse health risks involved with siting housing near a freeway, it is essential that any proposed mitigation measure must be carefully evaluated in order to determine if those health risks would be brought below recognized significance thresholds.

In the event that enhanced filtration units on housing residents are proposed as a mitigation measure, the Lead Agency should consider the limitations of the enhanced filtration. For example, in a study that SCAQMD conducted to investigate filters[7], costs were expected to range from $120 to $240 per year to replace each filter. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy costs to the resident. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and it does not account for the times when the residents have their windows or doors open or are in common space areas of the project. These filters also have no ability to filter out any toxic gases from vehicle exhaust. The presumed effectiveness and feasibility of any filtration units, if proposed as a mitigation measure, should therefore be evaluated in more detail prior to assuming that they will sufficiently alleviate near roadway exposures. L-4-8

Compliance with SCAQMD Rule 1166

As stated in Section 4.8, Hazards and Hazardous Materials, on Page 4-53 in the MND, "Phase I identified the presence of a dry cleaner operation at the same property as the former service station." Additionally, "[…] potential sources of volatile organic compounds (VOCs) from a former dry cleaning operation [is] located 100 ft east of the Project site […], and underground fuel storage tanks [are] located 525 ft northwest of the Project site." Although all VOC concentrations are below the EPA reporting limits (Page 4-54), in the event that petroleum hydrocarbons are expected to be encountered during excavation and any other soil disturbing activities, the Final MND should include a discussion to demonstrate compliance with the requirements of SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil. L-4-9

SCAQMD staff is available to work with the Lead Agency to address any other air quality and health risk questions that may arise. Please contact Gordon Mize, Air Quality Specialist, CEQA IGR, at (909) 396-3302, if you have any questions regarding these comments. L-4-10

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS:GM

ORC170315-02
Control Number

[7] This study evaluated filters rated MERV 13+ while the proposed mitigation calls for less effective MERV 12 or better filters. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf.

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LETTER CODE: L-4

COMMENTER: South Coast Air Quality Management District

DATE: March 21, 2017

RESPONSE L-4-1

The comment is introductory. The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Project. The introduction states that the following comments are meant as guidance for the City of Garden Grove (City) and should be incorporated into the Final IS/MND.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-4-2

The comment provides a description of the proposed Project and the location of the Project site. The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-4-3

SCAQMD recommends that the Lead Agency estimate potential health risks to future residents from nearby sources of air pollution including State Route 22 (SR-22). SCAQMD further recommends that a health risk assessment (HRA) be prepared to disclose the potential health risks to the future residents on the Project site from SR-22, as well as railroad and industrial sources.

In its ruling on the *California Building Industry Association v. Bay Area Air Quality Management District* (December 17, 2015, Case No. S213478), the California Supreme Court stated unanimously that the California Environmental Quality Act (CEQA) review is focused on a project's impact on the environment "and not the environment's impact on the project." The potential impact of existing hazards on future users is not a significant environmental impact for CEQA purposes. The Court also opined that Lead Agencies should consider whether a project could *exacerbate* existing environmental conditions rather than assessing the impacts of the environment on the Project.

In the *East Sacramento Partnership for a Livable City v. City of Sacramento* (November 7, 2016, Case No. C079614), the Third District Court of Appeal has recently applied the Supreme Court's (Court) reasoning in considering whether an environmental impact report (EIR) for a residential development adequately analyzed the alleged "exacerbation" of environmental impacts associated with a nearby freeway, a former landfill and railroad tracks. As an infill residential project bounded by a freeway and railroad tracks, and near a former landfill, the Project site in that case was subject to potentially hazardous toxic air contaminants (TACs) and possible subsurface methane gas migration. Challengers in that case asserted that the EIR failed to analyze the increased cancer risk to the project's future residents associated with the airborne pollutants from the freeway and railroad tracks. The Court rejected this argument and stated that the mere existence of multiple hazards near a project

site is insufficient to require an EIR to consider the question of "exacerbation"; instead, there must first be substantial evidence showing that a project could exacerbate existing hazards. The Court of Appeal found that the trial court properly found that "CEQA did not require an EIR to analyze the existing effects of the environment on future residents of the Project." (citing *California Building Industry Association v. Bay Area Air Quality Management District* [December 17, 2015, Case No. S213478]).

As there is no evidence showing that the proposed Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project would exacerbate existing environmental hazards, no additional analysis is required.

RESPONSE L-4-4

The comment states that, notwithstanding the Court rulings, SCAQMD staff will continue to recommend that Lead Agencies consider the impacts of air pollutants on people who will live in a new residential project and provide mitigation where necessary because of SCAQMD's concern about the potential health impacts of siting sensitive populations within close proximity of freeways.

While the City respects the recommendations of SCAQMD, it should be noted that the Project site and the freeway are separated by existing residential uses; the exiting residential uses are located closer to SR-22 than the Project site. In addition, the Project site is currently occupied by a church and a school. Thus in the existing condition, uses on the Project site have the potential to result in the exposure of sensitive communities to emissions from SR-22. Finally, as stated in Response to Comment L-4-3, the proposed Project would not substantially contribute to a worsening of existing environmental hazards, and no further analysis is required under CEQA.

RESPONSE L-4-5

The comment recommends that the City review the SCAQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Location Planning* (2005), which provides suggested policies that local government can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-4-6

The comment provides a reference to the California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Perspective* (Land Use Handbook) which provides guidance on siting incompatible land uses. The comment further states that numerous health studies have demonstrated potential adverse health effects associated with living near highly traveled roadways and that the CARB Land Use Handbook recommends avoiding citing new sensitive land uses (such as housing) within 500 feet (ft) of a freeway.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE L-4-7

The comment states that in the event the City performs an HRA and finds that the maximum cancer risk from the proposed Project would exceed the SCAQMD significance threshold of ten in one million, the identification and evaluation of mitigation measures are required. Alternatively, if the City were to determine that the health impacts could not be mitigated, then a draft environmental impact report would be required.

As stated in Response to Comment L-4-3, in its ruling on the *California Building Industry Association v. Bay Area Air Quality Management District* (December 17, 2015, Case No. S213478), the California Supreme Court stated unanimously that CEQA review is focused on a project's impact on the environment "and not the environment's impact on the project." The potential impact of existing hazards on future users is not a significant environmental impact for CEQA purposes. It is acknowledged that the opinion also held that when a project has "potentially significant exacerbating effects of existing environmental hazards", those impacts are properly within the scope of CEQA because they can be viewed as impacts of the Project on "existing conditions" rather than impacts of the environment on the Project. The Court decision is also further supported by the Court of Appeals in the *East Sacramento Partnership for a Livable City v. City of Sacramento* (November 7, 2016, Case No. C079614), that the mere existence of multiple hazards near a project site is insufficient to require an analysis to consider the question of exacerbation.

As further discussed in Response to Comment L-4-3, the proposed Project would not substantially contribute to a worsening of existing environmental hazards, and no further analysis is required under CEQA.

RESPONSE L-4-8

The comment discusses the use of enhanced filtration units on housing units, the cost of maintaining such units, and the limitations of such units (e.g., that do not work as well with windows open). The comment concludes by stating that the presumed effectiveness and feasibility of any filtration units, if proposed as mitigation, should be evaluated in more detail prior to assuming that they will sufficiently alleviate near-roadway exposures.

The Project Applicant is not proposing to install enhanced air filtration units nor did the IS/MND require installation of enhanced air filtration units as mitigation. Therefore, the IS/MND correctly does not include a discussion of the relative merits and drawbacks of such units.

RESPONSE L-4-9

The comment states that although all volatile organic compound (VOC) concentrations are below the United States Environmental Protection Agency (EPA) reporting limits (page 4-54 of the IS/MND), in the event that petroleum hydrocarbons are expected to be encountered during excavation and any other soil-disturbing activities, the Final IS/MND should include a discussion to demonstrate compliance with the requirements of SCAQMD Rule 1166.

As discussed in Section 4.8 (page 4-54) of the IS/MND, the Soil and Soil Vapor Sampling Report provided the results of soil vapor sampling conducted at five locations on the Project site. Each of these five samples were taken at 5 ft below ground surface and were generally located at the southeast corner of the Project site in order to evaluate potential vapor migration from underground

storage tanks at the former and present dry-cleaning stations. The results of the soil gas samples at these five locations indicated that all VOC concentrations were below the reporting limit and were not detected at concentrations above the method detection limit established by the EPA. Because all VOC concentrations were reported as below the reporting limits, VOC concentrations were also determined to be below the California Human Health Screening Levels (CHHSL) for shallow soil gas at residential and commercial/industrial sites. Therefore, no further action or mitigation is required.

In addition, the nearest underground storage tanks are located 525 ft northwest of the Project site and no leaks have been reported that would indicate the potential for petroleum hydrocarbons to be found in the soils. Nonetheless, in the event that unlikely unknown hazardous materials—including petroleum hydrocarbons—are discovered on site during Project construction, the Project contractor would be required to comply with a Contingency Plan developed and approved prior to the commencement of grading activities. As stated in Mitigation Measure HAZ-2, in the event that construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the Contingency Plan will require the contractor to stop work, cordon off the affected area, and notify the Garden Grove Fire Department (GGFD). The GGFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of the substance consistent with local, State, and federal regulations, including SCAQMD Rule 1166. In addition, the California Department of Transportation (Caltrans), the California Highway Patrol, and local police and fire departments are trained in emergency response procedures for safely responding to accidental spills of hazardous substances on public roads, further reducing potential impacts to a less than significant level. With implementation of Mitigation Measure HAZ-2, potential risks associated with encountering unknown hazardous wastes during construction would be reduced to a less than significant level.

RESPONSE L-4-10

The comment concludes the comment letter and provides contact information for SCAQMD staff.

The comment does not contain any substantive comments or questions about the environmental analysis or conclusions contained in the IS/MND. This comment will be made available to the decision-makers. No further response is required.

SECTION 4

DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
(with revisions)

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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

LEWIS STREET REORGANIZATION BETWEEN THE CITY OF GARDEN GROVE AND THE CITY OF ORANGE (RO 17-01) AND RESIDENTIAL PROJECT

CITY OF GARDEN GROVE, CALIFORNIA

LSA

March 2017

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March 2017

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

LEWIS STREET REORGANIZATION BETWEEN THE CITY OF GARDEN GROVE AND THE CITY OF ORANGE (RO 17-01) AND RESIDENTIAL PROJECT

CITY OF GARDEN GROVE, CALIFORNIA

Lead Agency:

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March 2017

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March 2017

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1.0 INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA), the *State CEQA Guidelines*, the City of Garden Grove's (City) Local CEQA Guidelines, and the City's CEQA Significance Thresholds Guide (March 2009), this Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the proposed Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project (proposed Project) at 12921 Lewis Street in the City of Garden Grove. Consistent with *State CEQA Guidelines* Section 15071, this IS/MND includes a description of the proposed Project, an evaluation of the potential environmental impacts, and findings from the environmental analysis.

This IS/MND evaluates the potential environmental impacts that may result from development of the proposed Project. The City is the Lead Agency under CEQA and is responsible for adoption of the IS/MND and approval of the Project.

1.1 CONTACT PERSON

Any questions or comments regarding the preparation of this IS/MND, its assumptions, or its conclusions should be referred to:

Lee Marino
City of Garden Grove
Planning Services Division
11222 Acacia Parkway
Garden Grove, CA 92840
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2.0 PROJECT DESCRIPTION

2.1 REGIONAL SETTING

The Project site is located in the City of Garden Grove and the City of Orange, which are both part of the County of Orange (County), California. As shown on Figure 2.1, Project Location, regional access to the Project site is provided by California State Route 22 (SR-22) to the north of the Project site and Interstate 5 (I-5) to the east.

2.2 SURROUNDING LAND USES

The Project site is bounded by Garden Grove Boulevard to the south, Lewis Street to the east, light industrial uses to the west with SR-22 beyond, and medium-density residential housing along El Prado Avenue to the north with SR-22 beyond. Low-density residential and light commercial uses are located to the south and southwest along Garden Grove Boulevard. Other local uses include heavy commercial uses to the west and a variety of medium-density residential (Community Garden Towers) and general commercial uses to the east across Lewis Street. Surrounding land uses are shown on Figure 2.2.

2.3 EXISTING SITE CONDITIONS AND LAND USE DESIGNATIONS

The 9.01-acre Project site (Assessor's Parcel Nos. 231-041-26, 231-041-27, 231-041-28, and 231-255-01) is zoned Residential (R-1) and is currently labeled Civic/Institutional in the City of Garden Grove General Plan.

The current use for the Project site is a church and school consisting of nine buildings, two play yards (one asphalt-covered and the other on an athletic field), and a parking lot. Chain-link fences are located on the north and west sides of the property, and wrought-iron fencing is used along Garden Grove Boulevard. Two wrought-iron gates exist at the driveway access points on Lewis Street. The existing Project site is shown on Figure 2.3.

In the existing condition, two vehicular access points are located on Lewis Street and two vehicular access points are located on Garden Grove Boulevard. All vehicle access points are gated.[1] A 7-foot (ft) sidewalk is located adjacent to the Project site along Lewis Street and a 9 ft sidewalk is located adjacent to the Project site on Garden Grove Boulevard. Both sidewalks would remain after Project implementation.

The Project site is relatively flat with drainage in the form of drainage swales, which lead to the regional storm water system. Photographs of the existing Project site are shown on Figure 2.4.

[1] The gate of the southernmost vehicular access point on Lewis Street remains open and provides site access for the existing tenant.

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Figure 2.1: Project Location

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Figure 2.2: Surrounding Land Uses

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Figure 2.3: Existing Project Site

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Figure 2.4a: Photographs of Existing Site Condition

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Figure 2.4b: Photographs of Existing Site Condition

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2.4 PROJECT SITE HISTORY

Until 1962, the Project site and much of the surrounding area were planted with orchards and pastures. In 1963, the orchards on the Project site were cleared and a school and church were constructed. Around the same time, much of the surrounding area was developed for residential use. In 1972, the school building shown on Figure 2.3 was added on the west side of the Project site. Additionally, Lewis Street was realigned to the present configuration and SR-22 was constructed. From 1977 to 1995, development of the surrounding area continued and the Project site remained unchanged. In 2005, a new church structure, presently located on the southeast corner of the site, was built. The site has remained unchanged since 2005.

2.5 PROPOSED PROJECT

2.5.1 Development Proposal

The proposed Project includes the development of a gated residential community with 70 single-family detached residential units. The Project proposes two floor plans, each of which would feature four bedrooms and a two-car garage accessed from the front of each unit. Plan 1 features a customizable option for the fourth bedroom, which would increase the size of this room. All units feature private outdoor areas to the sides and rear of the units. Table 2.A, Proposed Single-Family Unit Floor Plans, provides more information on the floor plans.

Table 2.A Proposed Single-Family Unit Floor Plans

Floor Plan	Stories	Square Footage per Unit
1	2	2,451
2	2	2,689

The Project also includes the development of a private recreation area that would be located near the entrance of the residential community. The recreation area would feature the following amenities: a playground, an open turf area, two covered barbeque dining areas, and a shade structure with bench seating. The site plan is shown on Figure 2.5.

2.5.2 Building and Site Design

Building Design. The proposed Project would incorporate architectural influences from Santa Barbara, Andalusian, Monterey, and Formal Spanish design styles.

Parking. Based on the City of Garden Grove parking requirements for small lot subdivisions (GGMC Section 9.12.040.060), the proposed Project would be required to provide 3.75 parking spaces per unit, which would be a total of 262.5 spaces. Per the site plan, the proposed Project would provide 140 enclosed garage parking spaces and 70 driveway apron spaces. The proposed Project would also provide 53 additional on-street parallel parking spaces. Consistent with the City of Garden Grove parking requirements, the proposed Project would provide 263 parking spaces.

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Figure 2.5: Site Plan

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Landscaping and Fencing. Figure 2.6 depicts the Conceptual Landscaping Plan for the proposed Project. As shown on Figure 2.5, the proposed Project would include 10 ft landscaped setbacks between the sidewalks and the community wall along Garden Grove Boulevard and Lewis Street. According to the Conceptual Landscape Plan, landscaping in the setback area would include Camphor trees (*Cinnamomum camphora*) or other similar trees and shrubs. Crepe Myrtle (*Lagerstroemia indica*) or other similar trees and shrubs would be planted in the landscaped buffer at the corner of Lewis Street and Garden Grove Boulevard and near the Project entrance on Lewis Street. Landscaping in setback areas would be maintained by the homeowners association (HOA).

The Conceptual Landscaping Plan also includes landscaping within the gated residential community that would be maintained either by the HOA or individual homeowners, depending on the location of the landscaping. Landscaping on either side of the gated entrance and in and around the recreation area would include various trees and low-water use varieties of turf that would be maintained by the HOA.

Landscaping in the front yard of each residential unit would include shrubs and trees and would be maintained by individual homeowners. Additional landscaping in the back yards of residential units would be installed and maintained by individual homeowners consistent with the HOA-approved plant palette.

In total, 148,600 square feet (sf) (3.41 acres) of landscaping would be installed. All HOA-maintained landscaped areas would be irrigated with an electronically operated irrigation system utilizing water sensors and programmable irrigation cycles. This system may also include smart timers, rain sensors, and moisture shut-off valves. The irrigation systems would be in conformance with the City of Garden Grove's water efficiency guidelines. Systems would be tested twice per year, and water used during testing/flushing would not be discharged to the storm drain system. This system would be managed by the HOA after Project implementation.

The proposed Project includes the construction of an approximately 6 to 8 ft tall masonry block wall around the perimeter of the site. The wall would be constructed using concrete slump blocks. The wall would provide privacy and buffer potential noise from the nearby streets and adjacent land uses. In addition, 6 ft masonry walls are proposed along the interior property lines of each unit.

Vehicular and Pedestrian Access. Vehicular and pedestrian access to the proposed Project site would occur via one gated access entry off Lewis Street. In addition, an access point located on Garden Grove Boulevard would only be accessible to emergency vehicles.

The vehicular access on Lewis Street would be located at the northeast corner of the Project site and would line up with El Rancho Avenue (on the east side of Lewis Street). The gate would be electronically controlled and would be designed to meet the City of Garden Grove's standard gate entry requirements. Residents would have remote controls to open the gate. In addition, a call box would ring to residents' phones to provide guest access. A code-protected pedestrian gate adjacent to the vehicular gate would also be included for residents and guests.

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Figure 2.6: Conceptual Landscaping Plan

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Emergency vehicles would be able to enter and exit the Project site via the gated-access driveway off Lewis Street or the gated-access driveway off Garden Grove Boulevard. The gate control would be operable by a Knox emergency override key switch. In addition, a remote gate-opening device would be installed on both electronically operated gates. The remote opening systems currently available from the Orange County Fire Authority are either optical or radio-controlled. Optical systems work the same as the traffic signal preemption system by using the emergency vehicle's strobe light to open the gate. The radio-controlled system would open the gate when the emergency responder clicks the receiver on an 800-megahertz radio.

Circulation. Circulation through the residential community would occur via a private access drive that would provide direct access to each residential unit. The Project would use rolled curbs in place of driveway cuts.

The Orange County Transit Authority operates four bus routes within 0.5 mile of the Project site (Route 47 along Lewis Street near the site, a 15-minute frequency rush-hour route; Route 56, a local route along Garden Grove Boulevard near the site; Route 454, a Stationlink route along Lewis Street near the site; and Route 16, a route along Garden Grove Boulevard from the nearby hotel to Disneyland). The nearest railway station is Anaheim Station located approximately 2.3 miles to the north of the Project site. This station is served by the Metrolink Orange County Line and Amtrak's Pacific Surfliner.

Lighting. The proposed Project would include on-site lighting consisting of street lighting (approximately 14 ft in height), low-level bollard lighting (less than 4 ft in height), and wall lighting (less than 7 ft in height). Where necessary, lighting may be hooded or shielded to focus the light downward and prevent light spillage onto adjacent properties.

Signage. The proposed Project would include a community identification monument sign wall with a maximum height of 6 ft at the Project entry, as well as address signage on the residential units. During construction, temporary signage would designate construction and model home traffic routes.

Police and Fire Access. As discussed in this section, emergency vehicles would be able to enter and exit the Project site via the gated access driveway off Lewis Street or the gated emergency access driveway off Garden Grove Boulevard. Per GGMC Section 18.32.040 (amending Section 507.5.1 of the International Fire Code), an automatic sprinkler system would be provided in all residential units. The proposed Project includes the installation of three fire hydrants on the Project site. In addition, three existing fire hydrants are located in close proximity to the Project site on Garden Grove Boulevard and Lewis Street.

Sustainability Features. The proposed Project would be consistent with California's Title 24 energy code and the California Green Buildings Standards codes. As such, the proposed Project would incorporate the following sustainability features:

- Low-flow toilets
- Low-flow showerheads
- Low-flow kitchen faucets
- Tankless water heaters
- Light-emitting diode (LED) recessed can lighting
- LED exterior coach lighting
- LED Surface Mount Fixtures
- LED Pendant Lighting
- Preplumb/prewire the houses for a future condensing water heater
- Prewire the houses for a future electric vehicle car outlet
- Prewire the house for future solar

Water Quality Best Management Practices. The Project will incorporate the use of permeable pavers in most on-street parking stalls within the Project site. These pavers will trap pollutants in storm water and allow for infiltration for low flow events. Other management practices include minimizing impervious surfaces to allow for greater infiltration on the site, education for homeowners, and activity restrictions (e.g., vehicle washing restrictions). Best management practices (BMPs) will be regulated and maintained by the HOA for the community.

The proposed Project is subject to the State Water Resources Control Board National Pollutant Discharge Elimination System County Permit (Order Nos. R8-2009-0030 and R8-2010-0062). Under this order, the proposed Project must develop a Project-specific Water Quality Management Plan (WQMP) and implement BMPs to mitigate for pollutants of concern and runoff concerns. BMPs would be described in complete detail within the WQMP for the Project. Prior to construction, the Project would obtain coverage under the County Permit. The site WQMP map is shown on Figure 2.7. Section 4.9 provides more information pertaining to hydrology and water quality.

2.5.3 General Plan and Zoning

The proposed Project includes a General Plan Amendment to modify the land use designation of the Project site from Civic/Institutional (CI) to Low Density Residential (LDR). According to the City of Garden Grove General Plan, the LDR designation is intended to create, maintain, and enhance residential areas characterized by detached single-unit structures and single-family residential neighborhoods. Densities for LDR range from 1 to 9 dwelling units per acre with detached units each on their own parcel. Following Project implementation, the Project site would have a net density of 7.8 dwelling units per acre.

The R-1, Single-Family Residential, zone allows density ranging from one to nine dwelling units per acre based on a single unit per lot and a range of allowed lot sizes prescribed to different neighborhoods (5,000 sf, 6,000 sf, 7,200 sf, 11,000 sf, and 15,000 sf). The Project site currently

Figure 2.7: Water Quality Management Plan

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has a zoning designation of R-1.6, which allows a lot size up to 6,000 sf; however, in order to develop the Project as proposed, the zoning of the property is proposed to be changed to a Residential Planned Unit Development.

In addition, the Project would include a Development Agreement between the City of Garden Grove and the Project Applicant. With the approval of a Development Agreement, the Applicant will be guaranteed 4 years in which to construct the Project and the City will receive a Development Agreement that is designed to reduce the economic costs of new projects to the public and mitigate development-related impacts on the community.

2.5.4 Reorganization

The Project requires the reorganization[1] of approximately 0.901 acre from the City of Orange into the City of Garden Grove. The reorganization would adjust the boundary between the City of Garden Grove and the City of Orange to the centerline of Lewis Street. As shown on Figure 2.8, Area of Reorganization, the boundary between the City of Garden Grove and the City of Orange would follow the centerline of Lewis Street north to the centerline of El Prado Avenue. Just north of the triangular section of undeveloped land created by the rerouting of Lewis Street as a result of the construction of SR-22, the adjusted boundary would rejoin the existing boundary between the two cities.

The reorganization consists of (1) the detachment of 0.901 acre from the City of Orange, (2) annexation of the same territory to the City of Garden Grove and the Garden Grove Sanitary District, and (3) concurrent amendment to each agency's sphere of influence. In addition, the reorganization would result in the change of service providers as shown in Table 2.B.

Table 2.B: Utility Provider Changes due to Reorganization

	City of Orange		City of Garden Grove
Water	City of Orange	→	City of Garden Grove
Sewer	City of Orange/Orange County Sanitation District	→	Garden Grove Sanitary District/Orange County Sanitation District
Solid Waste	CR&R	→	Republic

Upon this reorganization, the City of Garden Grove would assume service responsibilities for the reorganized area and would be entitled to a portion of the revenues previously accruing to the City of Orange to offset associated service costs. For the proposed Project, a property tax exchange agreement must be negotiated and approved by both the City of Orange and the City of

[1] "Reorganization" means two or more changes of organization contained in a single proposal (California Government Code §56073). A change of organization may include any of the following: annexation to a city or a district; detachment from a city or a district; a district dissolution or formation; a city incorporation or disincorporation; a consolidation of cities or districts; a merger of a city and a district; establishment of a subsidiary district; or exercise of new functions by a special district (California Government Code §56021). Annexation is the process by which a territory is incorporated into a City. Detachment is the process by which a territory is removed from a City.

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Figure 2.8: Proposed Reorganization

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Garden Grove prior to the Local Agency Formation Commission taking formal action on boundary reorganization.

2.5.5 Infrastructure Improvements

On-site and Off-site Infrastructure. The Project infrastructure to be implemented would require connections to existing off-site infrastructure systems. These systems, which include water, sanitary sewer, and storm water drains, would be constructed on site and would be fully provided and maintained by the HOA and/or individual homeowners. All on-site systems, with the exception of storm water drains, would connect to existing infrastructure in Garden Grove Boulevard and Lewis Street. No existing storm pipes or channels are located immediately downstream of the
Project site. Therefore, similar to the existing condition, runoff from the Project site discharges directly to Garden Grove Boulevard, where it surface flows along local streets until it eventually enters the storm drain system at Ranchero Way, approximately 0.6 mi southwest of the Project site. Because Garden Grove Boulevard conveys storm water, during some rain events the street may operate with limited capacity to the same extent it does in the existing condition.

As shown on Figure 2.9, specific infrastructure improvements would include:

- Relocation of existing water lines and installation of a new 8-inch domestic water line that would connect to the relocated 12-inch water line currently located in Lewis Street;
- Installation of a new 8-inch domestic water line that would connect to an existing 12-inch water line located in Garden Grove Boulevard;
- Installation of a new 8-inch sanitary sewer line that would connect to an existing sanitary sewer line in Garden Grove Boulevard;
- Relocation of existing off-site gas lines in Lewis Street and installation of on-site gas lines that would connect to the relocated existing gas lines;
- Installation of a new on-site, underground electrical distribution system; and
- Installation of new on-site, underground phone and communication system;

2.5.6 Implementation/Phasing

Project construction would generally occur in the following five steps:

- Phase 1: Demolition and Site Preparation
- Phase 2: Grading
- Phase 3: Underground Utilities
- Phase 4: Paving
- Phase 5: Phased Home Construction

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Figure 2.9: Infrastructure Improvements

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The Project would begin with removal of the existing buildings and parking lot. Thereafter, Project site preparation, grading, construction, and paving would occur. The construction trips that would be generated on a daily basis throughout each phase of construction would be based on construction workers and delivery of construction materials.

The construction phase with the highest construction trip generation would be grading, which is anticipated to last three months (or approximately 60 construction days). Based on preliminary construction operation estimates and preliminary grading plans, grading the Project site would require approximately 6,000 cubic yards of cut and 23,000 cubic yards of fill. The construction of the proposed Project would require approximately 17,000 cubic yards of soil import. Trucks with a 14-cubic-yard capacity are anticipated to be used. The total estimated number of trucks required for soil import is 1,215.

During peak excavation periods, the proposed Project construction is anticipated to generate up to 21 daily haul trucks (and 42 daily trips) that would be distributed throughout an 8-hour day. Assuming a passenger car equivalent (PCE) factor of 2 for haul trucks, 84 PCE construction trips are anticipated to be generated on a daily basis during this phase of Project construction, with approximately 11 PCE trips occurring each hour, during both the a.m. and the p.m. peak hours. The weekday a.m. peak period is 7:00 a.m. to 9:00 a.m. and the weekday p.m. peak period is 4:00 p.m. to 6:00 p.m. The majority of construction workers are anticipated to arrive and depart outside the peak hours, while delivery trucks would arrive and depart throughout the day.

Project construction is anticipated to take approximately 31 months. The expected date for construction to begin is May 2017 and the expected date of completion is December 2019. Model homes are anticipated to open in June 2018. All construction equipment, including construction worker vehicles, would be staged on the Project site for the duration of the construction period. In addition, the proposed Project construction schedule would comply with GGMC Chapter 8.47, which limits construction activities to the hours between 10:00 p.m. on one day and 7:00 a.m. the next day when the Project site is within a residential area or within 500 ft of a residential area.

2.6 DISCRETIONARY ACTIONS

Development of the proposed Project would require discretionary approvals by the City as the Lead Agency. The City's discretionary actions would include the following:

- **General Plan Amendment.** The Project proposes to change the General Plan land use designation of the Project site from CI to LDR.
- **Zone Change.** The Project proposed to change the zoning designation of the site from R-1, Single-Family Residential, to Planned Unit Development.
- **Tentative Tract Map.** A Tentative Tract Map is required to subdivide the Project site for single-family residential units, open space, and private street parcels.
- **Site Development Permit.** A Site Development Permit accompanies the Tentative Tract Map to provide for the review of detailed plans for the proposed development Project.

- **Development Agreement.** A Development Agreement between the City and the Project Applicant would be prepared to specify the standards and conditions, as well as the Development Agreement fees that would govern development of the property.
- **Reorganization.** The Project requires the approval of the Orange County Local Agency Formation Commission (LAFCO) for the proposed reorganization of 0.901 acre from the City of Orange into the City of Garden Grove and the Garden Grove Sanitary District and concurrent amendments to the boundaries of the agencies' spheres of influence.
- **Property Tax Exchange Agreement.** The reorganization of jurisdictional lines to allow for the inclusion of 0.901 acre from the City of Orange into the City of Garden Grove. This reorganization requires the approval of a Property Tax Exchange Agreement between the City of Orange and the City of Garden Grove.

2.7 PROBABLE FUTURE ACTIONS BY RESPONSIBLE AGENCIES

The proposed Project will require approvals, permits, or authorization from other agencies, classified as "Responsible Agencies" under the California Environmental Quality Act (CEQA). According to Section 15381 of the *State CEQA Guidelines*, a Responsible Agency is defined as a public agency other than the Lead Agency that will have discretionary approval power over the Project or some component of the Project, including mitigation. These agencies include, but are not limited to, the agencies identified in Table 2.C.

Table 2.C Probable Future Actions by Responsible Agencies

Agency	Action
Local Agency Formation Commission	• Approval of the reorganization of 0.901 acre from the City of Orange into the City of Garden Grove and the Garden Grove Sanitary District and concurrent agency sphere of influence amendments. • Recordation of a Certificate of Completion with the County Recorder's Office upon satisfaction of all terms and conditions in the resolution ordering the reorganization.
City of Orange/City of Garden Grove	• Approval of a Property Tax Exchange Agreement • Approval of the reorganization of 0.901 acre from the City of Orange to the City of Garden Grove

2.8 OTHER MINISTERIAL CITY ACTIONS

Ministerial permits/approvals would be issued by the City of Garden Grove or other appropriate agency to allow site preparations, curb cuts (if necessary), connections to the utility infrastructure, and other Project features subject to ministerial permits.

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Less Than Significant Impact with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture & Forest Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☐ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☒ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☒ Tribal Cultural Resources
☒ Mandatory Findings of Significance		

DETERMINATION. On the basis of this initial evaluation:

1. I find that the Project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐

2. 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 in the Project have been made by or agreed to by the Project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

3. I find the proposed Project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐

4. I find that the proposed Project **may have a "potentially significant impact" or "potentially significant unless mitigated 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. ☐

5. I find that although the proposed Project could have a significant effect on the environment, because all potentially 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. ☐

Planning Services Manager _____ Date _____

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4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced, as discussed below).
5. Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration (Section 15063 (c)(3)(D)). In this case, a brief discussion should identity the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
6. Lead Agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and Lead Agencies are free to use different formats; however, Lead Agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4.1 AESTHETICS

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
(c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Impact Analysis:

(a) Would the Project have a substantial adverse effect on a scenic vista?

California State Government Code Section 65560(b)(3) stipulates that city and county General Plans address "…Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historical and cultural value; areas particularly suited for park and recreation purposes, including access to lakes shores, beaches, and rivers, and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors…"

A scenic vista is generally defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. The City of Garden Grove (City) General Plan does not identify specific areas of importance for visual quality or scenic resources within the City. Rather, according to the Parks, Recreation, and Open Space Element in the City's General Plan, the City included a Parks, Recreation, and Open Space Element in its General Plan because providing adequate parkland, recreation opportunities, and management and conservation of limited open space resources is a priority to the urbanized City.

The proposed Project would be located in a fully urbanized area of the City. The current use of the Project site is a church and school consisting of nine buildings, two play yards (one asphalt-covered and the other on an athletic field), and a parking lot. Chain-link fences are located on the north and west sides of the property, and wrought-iron fencing is used along Garden Grove Boulevard. The Project site is bounded by Garden Grove Boulevard to the south, Lewis Street to the east, light industrial uses to the west with State Route 22 (SR-22) beyond, and medium-density residential housing along El Prado Avenue to the north with SR-22 beyond. The surrounding views comprise a developed suburban environment that is built out. No scenic vistas are visible from the Project site.

In addition, no public parks are located on, or adjacent to, the Project site. The park closest to the Project site is the Haster Basin Recreational Park, which is approximately 0.5 mile (mi) northwest of the Project site at 12952 Lampson Avenue. Therefore, the proposed Project does not have the potential to damage scenic vistas from public parks, and no mitigation is

required. Refer to Section 4.15, Recreation, for additional discussion and analysis of potential impacts related to public parks in the City.

The proposed Project includes the demolition of existing on-site uses and the construction of 70 single-family detached residential units. The existing buildings in the vicinity of the Project site range from 1 to 13 stories; however, the majority of structures adjacent to the site are one and two stories in height. The proposed residential units would be two stories. While no designated scenic vistas are visible from the Project site or surrounding properties, the proposed Project would not block views of scenic vistas because the Project would not be substantially taller than the existing surrounding uses. Therefore, because the proposed Project is redeveloping a site in an already built out area of the City and no identified scenic vistas are within its proximity, the proposed Project does not have the potential to damage scenic vistas, and no mitigation would be required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(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 California Department of Transportation's (Caltrans) Landscape Architecture Program administers the Scenic Highway Program, contained in the Streets and Highways Code, Sections 260–263. State Highways are classified as either Officially Listed or Eligible. SR-22, located approximately 200 feet (ft) north of the Project site, is not identified as an eligible or State-designated Scenic Highway. Therefore, the proposed Project would not damage resources within a State-designated scenic highway.

In addition, no existing aesthetic or visual resources located on the Project site or in the surrounding vicinity have been designated in the City's General Plan. No existing scenic rock outcroppings are located within the Project limits. While the proposed Project would result in the removal of existing ornamental trees and landscaping on the site, the Project proposes to replace these trees and landscaping with new trees and vegetation along the internal roadways and southern and eastern borders of the site. Therefore, the proposed Project would not result in a significant impact to scenic resources. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(c) Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?

The Project site is located within a fully developed urban environment. As shown on Figures 2.4a and 2.4b, the area is characterized by a variety of residential and commercial uses, and major roadways/highways (i.e., Garden Grove Boulevard to the south and SR-22 to the north). The Project site is developed with Shepard's Grove Church and school. The site is

developed with a total of nine buildings, two play areas, an athletic field, and a surface parking lot. The Project site can be accessed via driveways off Garden Grove Boulevard and South Lewis Street.

The Project site is the former site of the St. Callistus Catholic Church and is associated with post-World War II development. The existing church structure at the southeastern corner of the site was designed by the renowned Southern California architectural firm Barker and Ott Architects. While the firm was known for its elaborate buildings and religious structures, the building on the site is a departure from the aesthetically elaborate Mediterranean/Spanish Colonial Revival Style for which the firm is known. The existing church building is characterized by plaster white walls, a large stained glass window, and a steeple with an adjoining cross. The majority of this structure is two stories in height, with the exception of the steeple and cross feature, which extend up to three stories in height. The remaining buildings on the Project site are also associated with post-World War II development, are one story in height, and are characterized by white plaster exteriors and brick accents. These buildings are modest and their aesthetic value does not rise above the ordinary.

Construction. Construction of the proposed Project would involve on-site grading and construction activities that would be visible to travelers along Garden Grove Boulevard, South Lewis Street, and other adjacent roadways. Construction activities for the proposed Project would be short-term and all construction vehicles would be staged on the site for the duration of the of the construction period. Visual impacts during construction would be temporary in nature and would cease upon Project completion. In addition, as discussed in Mitigation Measure NOI-1, a temporary 8-ft high perimeter wall would be placed along the northern perimeter of the Project site such that the line of sight from ground-level construction equipment and sensitive receptors (to the north) would be blocked. Therefore, construction impacts would be less than significant, and no mitigation is required.

Operation. The proposed Project is a residential development that includes 70 single-family detached residential units. The residences to be developed as part of the Project would incorporate architectural influences from Santa Barbara, Andalusian, Monterey, and Formal Spanish designs. While the existing buildings in the vicinity of the Project site range from 1 to 13 stories (with the majority of the development in the vicinity characterized by one- and two-story buildings), the proposed residential units would be two stories. As such, the proposed height of the buildings and massing associated with the proposed Project would be visually consistent with the existing urban environment in this area.

In the existing conditions, ornamental landscaping on the Project site is minimal and is generally limited to ornamental trees and shrubs fronting Garden Grove Boulevard and South Lewis Street, with the exception of the grassy open space/play area on the northwestern corner of the site. Landscaping included as part of the proposed Project would include ornamental trees and shrubbery in 10 ft setbacks along Garden Grove Boulevard and South Lewis Street, and would include the addition of landscaping along the proposed internal roadways. Trees proposed as part of the Project would include golden rain trees, camphor trees, crape myrtles, southern magnolias, date palms, and California fan palms. The proposed Project would also include a variety of shrubs, including but not limited to the following: aloe, sticky monkey flower, French lavender, deer grass, Tuscan blue rosemary, and Mexican

brush sage (Figure 2.6, Conceptual Landscaping Plan). The proposed Project also includes the development of a private recreation area located near the entrance to the residential community. This area would feature a playground, an open turf area, two covered barbeque areas, and a shade structure with bench seating.

In summary, the proposed Project would develop the Project site with low-density single-family residential uses. Single- and multifamily residential uses of varying densities already exist in the vicinity of the Project site. Consequently, the proposed Project would not fundamentally alter the surrounding land use character. In addition, the proposed Project would be similar to the height and mass of the surrounding development and the proposed architecture would not be incompatible with the mixed architectural styles of the neighborhood (e.g., housing units in the area exhibit modest examples of Contemporary, Ranch-Style, and Modern architectural styles). Furthermore, the landscaping would be similar to, or an improvement to, the existing landscaping on the Project site and the surrounding area. Therefore, because the proposed Project is replacing an existing development in an already built-out neighborhood and will be compatible with the surrounding development, the proposed Project would not degrade the character or quality of the Project site, nor would the proposed Project contribute to an overall degradation of the visual character or quality of the surrounding area. Therefore, impacts related to the degradation of the visual character or quality of the site would be less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(d) Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The impact of nighttime lighting depends upon the type of use affected, the proximity to the affected use, the intensity of specific lighting, and the background or ambient level of the combined nighttime lighting. Nighttime ambient light levels may vary considerably depending on the age, condition, and abundance of point-of-light sources present in a particular view. The use of exterior lighting for security and aesthetic illumination of architectural features may contribute to ambient nighttime lighting conditions.

The spillover of light onto adjacent properties has the potential to interfere with certain activities, including vision, sleep, privacy, and general enjoyment of the natural nighttime condition. Light-sensitive uses include residential, some commercial and institutional uses, and, in some situations, natural areas. Changes in nighttime lighting may become significant if a proposed project substantially increases ambient lighting conditions beyond its property line and project lighting routinely spills over into adjacent light-sensitive land use areas.

Reflective light (glare) is caused by sunlight or artificial light reflecting from finished surfaces (e.g., window glass) or other reflective materials. Glass and other materials can have many different reflectance characteristics. Buildings constructed of highly reflective materials from which the sun reflects at a low angle commonly cause adverse glare. Reflective light is

common in urban areas. Glare generally does not result in the illumination of off-site locations but results in a visible source of light viewable from a distance.

Nighttime illumination impacts are evaluated in terms of the Project's net change in ambient lighting conditions and proximity to light-sensitive land uses. The Project site is developed with Shepard's Grove Church and St. Callistus Elementary School. The site is developed with a total of nine buildings, two play areas, an athletic field, and a surface parking lot. The Project site is surrounded by a variety of residential, commercial, and light industrial uses. Sensitive receptors in the vicinity of the site include residential uses to the north, east, and south of the site. Other sources of light on and adjacent to the Project site include exterior lighting from adjacent properties, street lights, and vehicle headlights.

Construction activities would occur primarily during daylight hours. As discussed in Section 2.5.6, for the purposes of this analysis, an 8-hour construction day is assumed (from roughly 7:00 a.m. to 4:00 p.m.). Any construction-related illumination during evening and nighttime hours would be shielded to the extent feasible and would consist of the minimum lighting required for safety and security purposes only and would occur only for the duration required for the temporary construction process. Due to its limited scope and short duration, light resulting from construction activities would not substantially impact sensitive uses, substantially alter the character of off-site areas surrounding the construction area, or interfere with the performance of an off-site activity. Therefore, construction of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and light impacts associated with construction would be less than significant. No mitigation would be required.

The proposed Project would be located within a developed area of the City, which currently emits lighting that is typical for an urban area (i.e., residential and commercial uses). The proposed Project would include on-site lighting consisting of street lighting (approximately 14 ft in height), low-level bollard lighting (less than 4 ft in height), and wall lighting (less than 7 ft in height). All on-site lighting would be stationary and directed away from adjoining properties and public right-of-ways. Exterior lighting would be directed, positioned, or shielded in such a manner as to not "unreasonably illuminate the window area of nearby residences" (Garden Grove Municipal Code, Section 9.12.040.210). The proposed Project would include on-site lighting typical of residential development and would be consistent with the City's Municipal Code Section 9.08.040, Single-Family Residential Development and Design Standards. Lighting plans are subject to City review and approval as part of the site plan review process.

Impacts related to glare from on-site lighting would not occur because the exterior building materials and façade would not include highly reflective materials (e.g., windows or glass with mirror-like tints. In addition, the buildings would be shielded by the perimeter wall and by landscaping along Lewis Street and Garden Grove Boulevard.

Therefore, lighting provided as part of the proposed Project would be largely consistent with the type and intensity of existing lighting in the Project vicinity. The final lighting for the Project would be subject to review and approval and part of the site plan review process, but compliance with the City's Municipal Code would ensure lighting sufficient for safety

purposes all also ensure that all exterior lighting would be directed, positioned, or shielded in such a manner as to not "unreasonably illuminate the window area of nearby residences." As such, the proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. No mitigation is required.

Shade/Shadow. Shading resulting from new development projects pertains to the blockage of direct sunlight by proposed on-site structures on adjacent properties. Factors that influence the extent of shading include the season, time of day, weather, building height, bulk and scale of new development, spacing between buildings, and tree cover. The longest shadows are cast during winter months when the sun is lowest on the horizon and the shortest shadows are cast during the summer months. Shadows are also longer in the early morning and afternoon hours.

Residential uses closest to the Project site are located directly north of the Project site. These structures are two stories in height, which is the same height as residential structures proposed as part of the Project. An existing 8-ft fence, which currently casts shadows on existing residential uses to the north, is also located along the perimeter of the Project site. The proposed Project would reduce the amount of shadow cast as compared to existing conditions because the proposed Project would include replace the existing 8 ft fence with a 6 ft wall and would locate residential structures on the site approximately 80 to 100 ft south of the residential structures to the north.

Therefore, Project implementation is not anticipated to result in significant shade/shadow impacts to existing uses.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

4.2 AGRICULTURE AND FOREST RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(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))?	☐	☐	☐	☒
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(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?	☐	☐	☐	☒

Impact Analysis:

(a) Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Project site is not used for agricultural production and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.[1] The surrounding area is characterized by residential, light industrial, and commercial uses. The proposed Project would not convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or any other type of farmland to non-agricultural uses. Therefore, no impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

[1] California Department of Conservation. California Important Farmland Finder. http://maps.conservation.ca.gov/ciff/ciff.html, accessed November 11, 2016.

(b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Project site currently has a zoning designation of R-1.6, which allows for the development of single-family residential units with a lot size up to 6,000 square feet (sf) and is not used for agricultural production, is not zoned for agricultural production, and is not protected by or eligible for a Williamson Act contract. Therefore, no impacts to agricultural use or a Williamson Act contract would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(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))?

The Project site currently has a zoning designation of R-1.6, which allows for the development of single-family residential units with a lot size up to 6,000 sf; the Project site is not used for timberland production, is not zoned as forest land or timberland, and does not contain forest land or timberland. Therefore, no impacts to forest land or timberland would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

The proposed Project site was previously developed with a church and school. The proposed Project would not convert forest land to a non-forest use. Likewise, the Project site would not contribute to environmental changes that could result in conversion of forest land to non-forest use. Therefore, no impacts to forest land would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(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 currently has a zoning designation of R-1.6, which allows for the development of single-family residential units with a lot size up to 6,000 sf. The Project site has been development since 1962 and the surrounding area is characterized by residential,

light industrial, and commercial uses. The proposed Project site would not convert farmland to a non-agricultural use. Likewise, because the Project site is already developed and is not located in the vicinity of any existing agricultural land or land zoned for agricultural uses, the proposed Project would not contribute to environmental changes that could result in conversion of farmland to non-agricultural use. Therefore, no impacts to farmland or forest land would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

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4.3 AIR QUALITY

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
(b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
(c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
(d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
(e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Impact Analysis:

(a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The Project site is located in the City of Garden Grove, within the South Coast Air Basin (SCAB). The SCAB includes all of Orange County (County) and portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality within the SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD and the Southern California Association of Governments (SCAG) adopted the *2012 Air Quality Management Plan* (2012 AQMP) in February 2013.

The main purpose of an AQMP is to describe air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area in order to bring the area into compliance with federal and State air quality standards. A nonattainment area is considered to have air quality worse than the National Ambient Air Quality Standards (NAAQS) as defined in the federal Clean Air Act. The SCAB is in nonattainment for the federal and State standards for ozone (O_3) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). In addition, the SCAB is in nonattainment for the State standard for particulate matter less than 10 microns in diameter (PM_{10}). The SCAB is in attainment/maintenance for the federal PM_{10}, carbon monoxide (CO), and nitrogen dioxide (NO_2) standards.

Consistency with the 2012 AQMP would be achieved if a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. Per SCAQMD's *CEQA Air Quality Handbook* (1993), there are two main indicators of a project's consistency with the applicable AQMP: (1) whether the project would increase the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the applicable AQMP (2012 AQMP); and (2) whether the project would exceed the AQMP's assumptions for final year (2030 for the 2012 AQMP) or yearly increments based on the year of project build out and phasing. For the proposed Project to be

consistent with the AQMP, the pollutants emitted from the Project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality. Additionally, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, a project may be deemed consistent with the AQMP.

As discussed in Responses 4.3.b, 4.3.c, 4.3.d, and 4.3.e, the proposed Project's emissions would be below the emissions thresholds established in SCAQMD's *CEQA Air Quality Analysis Handbook* (2014a) and would not be expected to result in significant air quality impacts.[1] Additionally, the Project's current zoning designation (R-1; Residential) has been accounted for in the 2012 AQMP. ~~Because the proposed Project would not require a General Plan Amendment, t~~ Therefore, the proposed Project would be consistent with the 2012 AQMP.

Therefore, the proposed Project would not conflict with the AQMP and would not conflict with or obstruct implementation of the AQMP. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(b) Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Specific criteria for determining the significance of potential air quality impacts of a project are set forth in SCAQMD's *Air Quality Analysis Handbook* (2015). The criteria include emission thresholds and compliance with State and national air quality standards. A summary of the specific criteria is presented as follows.

Thresholds for Construction Emissions. The following significance thresholds for construction emissions have been established by SCAQMD:

- 75 pounds per day (lbs/day) of reactive organic gases (ROG)
- 100 lbs/day of nitrogen oxides (NO_X)
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of sulfur oxides (SO_X)

[1] SCAQMD published the *CEQA Air Quality Handbook* in April 1993. SCAQMD is in the process of developing an update to the 1993 Handbook. In the meantime, the *Air Quality Analysis Handbook* on SCAQMD's website includes updated guidance for some of the major areas of analysis. The *CEQA Air Quality Handbook* and the *Air Quality Analysis Handbook* will both hereafter be referred to as the CEQA Handbook within this document.

Thresholds for Operational Emissions. The following significance thresholds for operational emissions have been established by SCAQMD:

- 55 lbs/day of ROG
- 55 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Projects in the SCAB with construction or operation emissions that exceed any of the emission thresholds above would be considered significant by SCAQMD.

Localized Significance Thresholds. Localized significance thresholds (LSTs) represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard. LSTs are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA) and distance to the nearest sensitive receptor. For the proposed Project, LSTs are only applicable to the following criteria pollutants: NOx, CO, $PM_{10,}$ and $PM_{2.5}$.

SCAQMD provides look-up tables to determine a project's SRA and associated mass rate LST by project size (SCAQMD 2014b). The proposed Project is in Source Receptor Area (SRA) 17 (Central Orange County).

The LST levels typically apply to projects that are less than 5 acres in area; however, guidance is provided for projects larger than 5 acres that use the California Emissions Estimator Model (CalEEMod) for the air quality emissions analysis (SCAQMD 2011). Under the SCAQMD guidance, the maximum daily disturbed area should be calculated and used for determining the size of the Project site disturbed acreage. Using SCAQMD's method for calculating the maximum daily disturbed area, construction information provided by the applicant, and CalEEMod default construction equipment lists, the site preparation and grading phase would result in a maximum disturbed area of 3.5 acres as a result of using three dozers (a maximum daily area of 0.5 acres each) and four tractors (a maximum daily area of 0.5 acres each).

The LST look-up tables are only provided for three project sizes: 1 acre, 2 acres, or 5 acres. Because the maximum daily disturbed area for the proposed Project is 3.5 acres, the LST data for the Project site was interpolated between the data set for 2 acres and the data set for 5 acres. This methodology is consistent with SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, which indicates that the size of a project site's disturbed acreage may be reduced given the Project's standard conditions and construction features (i.e., construction activities would be contained within a specific area on

the site).[1] The sensitive receptors closest to the Project site include residences located directly adjacent to the northern boundary of the Project site; therefore, the minimum distance in the mass rate look-up table of 25 meters was used.

The following construction significance thresholds for LSTs would apply to 3.5-acre disturbed acreage in SRA 17 at a distance of 25 meters:

- 149 lbs/day of NO_X
- 984 lbs/day of CO
- 9.5 lbs/day of PM_{10}
- 5.5 lbs/day of $PM_{2.5}$

The following operation significance thresholds for LSTs would apply to the Project site in SRA 17 at a distance of 25 meters:

- 149 lbs/day of NO_X
- 984 lbs/day of CO
- 2.5 lbs/day of PM_{10}
- 1.5 lbs/day of $PM_{2.5}$

Projects in the SCAB with construction or operation emissions that exceed any of the LSTs above are considered significant by SCAQMD.

Short-Term (Construction) Emissions. Air quality impacts could occur during construction of the proposed Project due to soil disturbance and equipment exhaust. Major sources of emissions during grading and site preparation include (1) exhaust emissions from construction vehicles, (2) equipment and fugitive dust generated by construction vehicles and equipment traveling over exposed surfaces, and (3) soil disturbances from grading and backfilling. The following summarizes construction emissions and associated impacts of the proposed Project.

Construction of the proposed Project would include the following tasks: demolition, site preparation, grading, construction, paving, and architectural coating. Emissions were analyzed using CalEEMod (Version 2016.3.1). Project-specific information provided by the applicant was used where available, including land use details, construction schedule, and earthwork requirements. LSA assumed, based on the size of the building area as illustrated on Google Earth satellite images, that approximately 196,000 sf of existing buildings would be demolished. Default CalEEMod inputs were used for the remaining modeling variables in the absence of Project-specific information (e.g., types construction equipment and number of construction vehicles/equipment, number of construction workers, and the duration of

[1] SCAQMD Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2, accessed January 30, 2017.

construction activity). The CalEEMod default inputs are considered a "worst-case" scenario for the purposes of CEQA analysis.

Fugitive dust emissions are generally associated with land clearing, exposure, and cut-and-fill operations. The amount of dust generated daily during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending on prevailing wind conditions. Fugitive dust would also be generated as construction equipment or trucks travel on unpaved areas of the construction site. The PM_{10} and $PM_{2.5}$ fugitive dust emissions are included in Table 4.3.A. Fugitive dust emissions would be substantially reduced by compliance with SCAQMD Rules 402 and 403; compliance with SCAQMD Rules 402 and 403 is required for all projects in the SCAB. The implementation of on-site watering on exposed unpaved surfaces at least three times daily and limiting vehicle speeds to 15 miles per hour (mph) on all unpaved surfaces were accounted for in the Project emission estimates.

Table 4.3.A: Peak Daily Construction Emissions (lbs/day)

	ROG	NO_X	CO	SO_2	PM_{10} (total)	$PM_{2.5}$ (total)
Peak Daily Construction Emissions	9.0	78.6	57.3	0.1	8.8	5.5
SCAQMD Construction Emissions Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Exceed Significance?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emission results assume implementation of SCAQMD Rule 402 and Rule 403.
Source: LSA, November 2016.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxide
PM2.5 = particulate matter less than 2.5 microns in diameter
PM10 = particulate matter less than 10 microns in diameter
ROG = reactive organic gases
SCAQMD = South Coast Air Quality Management District
SO2 = sulfur dioxide

Table 4.3.A summarizes the peak daily construction emissions based on the CalEEMod emission estimates, which includes some overlap of the architectural coating application and the building construction phase. This table shows that construction equipment/vehicle emissions during construction periods would not exceed any of the SCAQMD established daily emissions thresholds. Table 4.3.A also shows that the proposed Project would not exceed SCAQMD emissions thresholds for PM_{10}, and $PM_{2.5}$. Therefore, the proposed Project would not exceed SCAQMD construction emissions thresholds and short-term (construction) air quality impacts would be less than significant. No mitigation is required.

Construction Localized Significance. Table 4.3.B shows the maximum on-site construction emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ during each construction phase. As shown in Table 4.3.B, the proposed Project would not exceed the LSTs for construction emissions. Therefore, impacts from construction-related emissions would be less than significant and no mitigation is required.

Long-Term (Operational) Emissions. Long-term air emission impacts are associated with any change in permanent use of the Project site by on-site stationary and off-site mobile sources that substantially increase emissions. Stationary-source emissions include emissions associated with electricity consumption and natural gas usage. Mobile-source emissions usually result from vehicle trips associated with a project.

Table 4.3.B: LST Thresholds and Construction Emissions

Emissions Source	On-Site Emission Rates (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	42.7	23.0	3.7	2.3
Site Preparation	52.3	23.5	6.0	4.4
Grading	33.9	17.1	2.9	2.2
Paving	73.8	51.4	4.7	4.4
Building Construction + Architectural Coating[1]	25.4	19.5	1.7	1.6
Localized Significance Threshold (3.5 acres site at 25 meters)	**149**	**984**	**9.5**	**5.5**
Significant Impact?	**No**	**No**	**No**	**No**

Note: Emission results assume implementation of SCAQMD Rule 402 and Rule 403.
Source: LSA, November 2016.
[1] The building construction and architectural coating phases overlap for the majority of both phases; therefore, the daily on-site emissions were summed for LST comparison.

CO = carbon monoxide
LST = localized significance thresholds
NOx = nitrogen oxide
SCAQMD = South Coast Air Quality Management District
PM2.5 = particulate matter less than 2.5 microns in diameter
PM10 = particulate matter less than 10 microns in diameter

Operational emissions associated with the proposed Project (including energy use for appliances, landscaping equipment, use of consumer products, and motor vehicles) were calculated using CalEEMod and are included in Table 4.3.C. Trip generation rates were taken from the Traffic Impact Analysis performed for the Project (LSA 2017b). The proposed Project would comply with SCAQMD Rule 445 (Wood Burning Devices), which prohibits wood-burning devices from being installed in new developments; therefore, the "no hearth" option was selected in the area mitigation section of CalEEMod. As shown in Table 4.3.C, the proposed Project would not exceed any operational emissions thresholds established by SCAQMD. Therefore, the proposed Project would not cause any long-term (operational) air quality impacts, and no mitigation is required.

Operation Localized Significance. Table 4.3.D shows the on-site operational emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$. As shown in Table 4.3.D, the calculated emissions rates during operation of the proposed Project are below the LSTs for CO, NO_X, PM_{10}, and $PM_{2.5}$. Therefore, the proposed Project would not cause any long-term LST significant air quality impacts, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

Table 4.3.C: Daily Operational Emissions

Source	Pollutants (lbs/day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area-Source Emissions	4.1	0.1	5.8	0.0	0.0	0.0
Energy-Source Emissions	0.1	0.6	0.2	0.0	0.0	0.0
Mobile-Source Emissions	1.2	5.3	16.2	0.1	4.9	1.4
Total Emissions	**5.4**	**6.0**	**22.2**	**0.1**	**4.9**	**1.4**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA, November 2016.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxide
PM2.5 = particulate matter less than 2.5 microns in diameter
PM10 = particulate matter less than 10 microns in diameter
ROG = reactive organic gases
SCAQMD = South Coast Air Quality Management District
SO2 = sulfur dioxide

Table 4.3.D: Localized Operational Emissions

Emissions Source	Emission Rates (lbs/day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Area Source	0.07	5.82	0.03	0.03
Energy Consumption	0.55	0.23	0.04	0.04
Total	0.62	6.05	0.07	0.07
Localized Significance Threshold (3.5 acres site at 25 meters)	**149**	**984**	**2.5**	**1.5**
Significant Impact?	**No**	**No**	**No**	**No**

Source: LSA, November 2016.

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxide
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter

(c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The SCAB is in nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. In addition, the SCAB is in nonattainment for the State PM_{10} standard, and is in attainment/maintenance for the federal PM_{10}, CO, and NO_2 standards. As discussed in Response 4.3.b, no exceedance of SCAQMD's criteria pollutant emission thresholds would be anticipated for the proposed Project. The projected emissions of criteria pollutants as a result of the proposed Project are expected to be below the emissions thresholds established for the region. In addition, emissions that do not exceed SCAQMD thresholds also are not

cumulatively considerable. Therefore, because Project emissions would not exceed SCAQMD thresholds, the Project would also not cause a cumulatively considerable net increase of criteria pollutant emissions that are in nonattainment status in the SCAB. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(d) Would the Project expose sensitive receptors to substantial pollutant concentrations?

As described in Response 4.3.b, the proposed Project would not significantly increase short-term (construction) emissions, LST emissions, or long-term (operational) emissions in the Project area. Construction of the proposed Project may expose surrounding sensitive receptors to airborne particulates as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions prescribed in SCAQMD's standard construction practices (Rules 402 and 403). Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Some of the applicable dust suppression techniques from Rule 403 are summarized as follows:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least twice daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 ft of freeboard in accordance with the requirements of California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).

Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during construction and potential short-term impacts are considered less than significant. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(e) Would the Project create objectionable odors affecting a substantial number of people?

SCAQMD's *CEQA Handbook* identifies various secondary significance criteria related to odorous air contaminants. Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills, or heavy

manufacturing uses. Pursuant to SCAQMD Rule 402, these sources shall include a quantitative assessment of potential odors and meteorological conditions. The Project does not propose any such uses or activities that would result in potentially significant odor impacts. Some objectionable odors may emanate from the operation of diesel-powered construction equipment during construction of the proposed Project. However, these odors would be limited to the construction period and would disperse quickly; therefore, these odors would not be considered a significant impact.

The proposed Project is a residential development, which does not typically produce objectionable odors. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse and common or residential uses. SCAQMD Rule 402 acts to prevent occurrences of odor nuisances. Consistent with City requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Therefore, no significant impacts related to objectionable odors would result from the proposed Project, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

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4.4 BIOLOGICAL RESOURCES

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
(c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
(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?	☐	☒	☐	☐
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
(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?	☐	☐	☐	☒

Impact Analysis:

(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 Game or U.S. Fish and Wildlife Service?

The Project site is currently developed and is located in an urban area. The Project site is currently developed with a church and school consisting of nine buildings, two play yards (one asphalt-covered and the other on an athletic field), and a parking lot. Ornamental landscaping consisting of trees, shrubs, and turf is located on the Project site in the existing setting. With the exception of the large turf sports field, most of the existing landscaping is located in setbacks along Lewis Street and Garden Grove Boulevard.

While all of the existing on-site landscaping would be removed as part of the proposed Project, there is no native vegetation on the Project site. The Project site does not contain habitat that would support sensitive species, and there are no known candidate, sensitive, or special-status animal species inhabiting the site. According to the Conservation Element in

the 2008 General Plan for the City (page 10-3), biological resources are almost nonexistent in the City due to the urban nature of the City and surrounding areas. Additionally, the United States Fish and Wildlife Service (USFWS) *Threatened & Endangered Species Active Critical Habitat Report (2016b)* does not identify any locations of critical habitat within approximately 4 mi of the Project site. The closest known critical habitat is approximately 4 mi away to the northeast of the Project site.[1] Therefore, no impacts to sensitive or special-status species would result from implementation of the proposed Project, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(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, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The Project site is currently developed and is located in an urban area. As discussed in Response 4.4.a, the USFWS Threatened & Endangered Species Active Critical Habitat Report (2016b) does not identify any locations of critical habitat within approximately 4 mi of the Project site. The closest known critical habitat is approximately 4 mi away to the northeast of the Project site. Therefore, no significant impacts related to riparian habitat or other sensitive natural communities identified in a local or regional plan would result from Project implementation, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(c) Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The Project site is currently developed and is located in an urban area. Based on a review of site photographs and current and historical aerial images, the Project site does not contain federally protected wetlands as defined by Section 404 of the Clean Water Act. Therefore, implementation of the proposed Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pools, and coastal) through direct removal, filling hydrological interruption, or other means, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

[1] The closest known critical habitat is within Peters Canyon Regional Park and contains coastal California gnatcatcher.

(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?

The Project site is currently developed and is located in an urban area. Because urban development surrounds the site, the proposed Project site does not function as a wildlife movement corridor. Species that are found on site either fly onto the site or are able to navigate on the ground through long stretches of urban development. Therefore, the Project site does not contain any native resident or migratory fish, wildlife species, or wildlife corridors. In addition, no portion of the Project site or the immediately surrounding areas contains an open body of water that serves as natural habitat in which fish could exist.

The existing trees on the Project site may, however, provide habitat suitable for nesting migratory birds. All of the existing on-site trees would be removed during construction. Therefore, the proposed Project has the potential to impact active bird nests if vegetation and trees are removed during the nesting season. Nesting birds are protected under the federal Migratory Bird Treaty Act (MBTA) (Title 33, United States Code, Section 703 et seq., see also Title 50, Code of Federal Regulations, Part 10) and Section 3503 of the California Department of Fish and Game Code. Therefore, implementation of the proposed Project would be subject to the provisions of the MBTA, which prohibits disturbing or destroying active nests. Project implementation must be accomplished in a manner that avoids impacts to active nests during the breeding season. Therefore, if Project construction occurs between February 1 and September 15, a qualified biologist shall conduct a nesting bird survey no more than 3 days prior to ground- and/or vegetation-disturbing activities to confirm the absence of nesting birds. As documented in Mitigation Measure BIO-1, avoidance of impacts can be accomplished through a variety of means, including establishing suitable buffers around any active nests. With implementation of Mitigation Measure BIO-1, impacts to nesting birds would be less than significant and no mitigation is required.

Significance Determination: Potentially Significant Impact

Mitigation Measures:

BIO-1 **Migratory Bird Treaty Act.** In the event that vegetation and tree removal should occur between February 1 and September 15, the Developer (or its contractor) shall retain a qualified biologist (meaning a professional biologist that is familiar with local birds and their nesting behaviors) to conduct a nesting bird survey no more than 3 days prior to commencement of construction activities. The nesting survey shall include the Project site and areas immediately adjacent to the site that could potentially be affected by Project-related construction activities such as noise, human activity, and dust, etc. If active nesting of birds is observed within 100 feet of the designated construction area prior to construction, the biologist shall establish suitable buffers around the active nests (e.g., as much as 500 feet for raptors and 300 feet for nonraptors [subject to the recommendations of the qualified biologist]), and the buffer areas shall be avoided until the nests are no longer

occupied and the juvenile birds can survive independently from the nests. Prior to commencement of grading activities, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all Project grading and construction plans are consistent with the requirements stated above, that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field with orange snow fencing.

Significance Determination after Mitigation: Less than Significant Impact

(e) Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Chapter 11.32 of the City's Municipal Code regulates the care and removal of trees on public property. While the proposed Project does include the removal of trees on the Project site, no trees in the public right-of-way would be removed, cut, pruned, broken, injured, or planted. Therefore, the proposed Project would not conflict with the provisions in the City's Municipal Code. The proposed Project would not result in a significant impact related to local policies or ordinances protecting biological resources, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(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 currently developed and is located in an urban area. The Project site is not located in or adjacent to an existing or proposed Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP. More specifically, the City is not located within the boundaries of the Orange County Central/Coastal NCCP/HCP. As such, implementation of the proposed Project would not conflict with the provisions of an HCP, NCCP, or other habitat conservation plan, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.5 CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
(d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Impact Analysis:

The discussion and analysis provided in this section is based on the *Paleontological Analysis of the Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project*[1]*, Cities of Garden Grove and Orange, County of Orange, California (Paleontological Analysis)* (LSA, October 2016b; Appendix B), the *Archaeological Survey of the 9 acre Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project, City of Garden Grove, County of Orange, California (Archaeological Survey)* (LSA, October 2016a; Appendix B), and *Historic Resources Assessment for the Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project*, City of Garden Grove, Orange County, California (LSA, 2017a; Appendix B).

(a) Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

The California Environmental Quality Act (CEQA) defines a "historical resource" as a resource that meets one or more of the following criteria: (1) listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register); (2) listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k); (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) determined to be a historical resource by a project's Lead Agency (PRC Section 21084.1 and *State CEQA Guidelines* Section 15064.5[a]).

The California Register defines a "historical resource" as a resource that meets one or more of the following criteria: (1) associated with events that have made a significant contribution to the broad patterns or local or regional history of the cultural heritage of California or the United States; (2) associated with the lives of persons important to local, California, or national history; (3) embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values; or

[1] The Orange County Local Agency Formation Commission (LAFCO) refers to this Project as the Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO-17-01).

(4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

On August 22, 2016, a records search to identify previously recorded prehistoric and historic cultural resources and cultural resource surveys within 0.5 mi of the Project area was conducted by Michelle Galaz at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System at California State University, Fullerton. The SCCIC houses the pertinent archaeological and historic site and survey information necessary to determine whether cultural resources are known to exist within the Project area. The records search included a review of all recorded historic and prehistoric archaeological sites within the 0.5 mi radius of the Project site, as well as a review of known cultural resource survey and excavation reports. The records search showed that 20 studies have been conducted within 0.5 mi of the Project area. The records search revealed that the Project area had never been previously surveyed and that the Project area contains no previously recorded prehistoric or historic resources. One prehistoric site, P-30-392, was previously recorded nearly 0.5 mi southwest of the current Project, while a historic single-family residence built in 1948, P-30-177026, is recorded on Lewis Street just north of the Project area. While the residence still exists, the prehistoric site was destroyed by development.

Based on a review of historic aerial photographs, it was determined by LSA Historian Elisa Bechtel that the existing on-site church hall was constructed in 1962, followed by the construction of the rectory in 1964, and the school building and its associated classrooms in 1967. Therefore, due to the ages of some of the buildings on the Project site, five of the existing buildings were evaluated for significance as potential historical-period (50 years of age or order) resources in accordance with the California Register criteria. The five buildings that were evaluated were the 1962 church hall, a large school building, two classroom buildings, and a rectory. There is no local cultural resources ordinance or criteria under which to evaluate potential historical resources.

Table 4.5.A, Historical Evaluation of Existing Buildings on the Project Site, provides an evaluation of the property under the California Register criteria. A more detailed history and complete evaluation can be found in the Department of Parks and Recreation Forms included as attachments to the *Historic Resources Assessment for the Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project* (2017a; Appendix B).

As detailed in Table 4.5.A, the property does not meet any of the California Register criteria and the existing buildings on the Project site do not qualify as “historical resources” as defined by CEQA. Therefore, the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As discussed in Response 4.5.a, on August 22, 2016, a records search to identify previously recorded prehistoric and historic cultural resources and cultural resource surveys within 0.5 mi of the Project area was conducted by Ms. Galaz at SCCIC of the California Historical Resources Information System at California State University, Fullerton. The SCCIC houses the pertinent archaeological and historic site and survey information necessary to determine whether cultural resources are known to exist within the Project area. The records search included a review of all recorded historic and prehistoric archaeological sites within the 0.5 mi radius of the Project site, as well as a review of known cultural resource survey and excavation reports. The records search showed that 20 studies have been conducted within 0.5 mi of the Project area. The records search revealed that the Project site had never been previously surveyed and that it contains no previously recorded prehistoric or historic resources. One prehistoric site, P-30-392, was previously recorded nearly 0.5 mi southwest of the current Project, while a historic single-family residence built in 1948, P-30-177026, is recorded on Lewis Street just north of the Project area. While the residence still exists, the prehistoric site was destroyed by development.

On August 24, 2016, LSA archaeologist Ivan Strudwick conducted a pedestrian survey of the Project site. Ground visibility during this survey ranged from 0 to 100 percent, and was best in landscaped areas, planters, and in the open athletic field in the northwest portion of the Project site. No prehistoric resources were identified on the Project site during the pedestrian survey, likely because the Project site has been significantly altered from its original undeveloped condition. The archaeological survey concluded there is little potential for the proposed Project to impact prehistoric resources due to significant prior disturbance from past grading and development activities. In the unlikely event archaeological resources are discovered at any time during construction, those activities would be halted in the vicinity of the find until the find can be assessed for significance by a qualified archaeologist (Mitigation Measure CUL-1). Implementation of Mitigation Measure CUL-1 would reduce any potential impacts to previously undiscovered archaeological resources to a less than significant level.

At the completion of Project construction, the proposed Project would not result in further disturbance of native soils on the Project site. Therefore, operation of the proposed Project would not result in a substantial adverse change in the significance of an archeological resource as defined in Section 15064.5 of the *State CEQA Guidelines*. No mitigation is required.

Table 4.5.A: Historical Evaluation of Existing Buildings on the Project Site

California Register of Historic Resources Criteria	Discussion
Criterion 1: Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.	The property is associated with the post-World War II development boom that made a significant contribution to the broad patterns of local, regional, and even national history. However, the property is a modest example of its type and is no more representative than any other church building dating from this time period. Therefore, this church complex is unimportant and insignificant. No additional information was found to suggest that the church was a cultural or community institution.
Criterion 2: Associated with the lives of persons important to local, California, or national history.	No information was found to suggest that anyone associated with the church complex during the historic period is significant in history.
Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values.	The church complex was designed by a noted architectural firm; however, more elaborate buildings in the area convey a stronger association with this firm. The church is also a departure from the Mediterranean/Spanish Colonial Revival style for which the firm is known and is, therefore, not representative of their work. Consequently, the church complex is not significant for its association with this prominent architectural firm. No evidence was found on architect Ulysses E. Bauer and contractors Gentosi Brothers and John M. Dallas, Jr. to suggest they were significant in history. The buildings that date to the historic period appear to have sustained only minimal alterations, retaining integrity of design, workmanship, and materials. However, these buildings are modest and do not rise above the ordinary. Much of the City of Garden Grove's architecture was constructed in the Modern style during the same time period as the church, and much of it remains today. Therefore, these buildings are not exceptional nor are they rare examples of the style in the City and the buildings are not considered significant under this criterion.
Criterion 4: Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.	This church complex was built between 1962 and 1967 using common building materials and practices. The church complex does not have the potential to yield important information.

Source: Historic Resources Assessment for the Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project (2017a; Appendix B).

Significance Determination: Potentially Significant Impact

Mitigation Measure:

CUL-1 **Unknown Archeological Resources.** In the event that archaeological resources are discovered during excavation, grading, or construction activities, work shall cease within 50 feet of the find until a qualified archaeologist from the Orange County List of Qualified Archaeologists has evaluated the find in accordance with federal, State, and local guidelines to determine whether the find constitutes a "unique archaeological resource," as defined in Section 21083.2(g) of the California Public Resources Code (PRC). Personnel of the proposed Project shall not collect or move any archaeological materials and associated materials. Construction activity may continue unimpeded on other portions of the Project site. The found deposits shall be treated in accordance with federal, State, and local guidelines, including those set forth in PRC Section 21083.2. Prior to commencement of grading activities, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all Project grading and construction plans include specific requirements regarding California PRC (Section 21083.2[g]) and the treatment of archaeological resources as specified above.

Significance Determination after Mitigation: Less than Significant Impact

(c) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As part of the *Paleontological Analysis* prepared for the proposed Project, LSA examined geologic maps of the Project site and reviewed relevant geological and paleontological literature to determine which geologic units are present within the Project site and whether fossils have been recovered within the Project site or from similar geologic units elsewhere in the region. A search for known fossil localities was also conducted through the Natural History Museum of Los Angeles County (LACM) in order to determine the status and extent of previously recorded paleontological resources within and surrounding the Project site.

Results of the literature review indicate that the Project site is located at the northern end of the Peninsular Ranges Geomorphic Province, a 900 mi long northwest-southeast-trending structural block that extends from the Transverse Ranges in the north to the tip of Baja California in the south and includes the Los Angeles Basin.

Geologic mapping of the Project area indicates that the Project site contains Holocene to late Pleistocene in age (less than 126,000 years ago) Young Alluvial Fan Deposits. In addition, the Geotechnical Report for the Project indicates that the Project site is underlain by 5 ft of Artificial Fill. Artificial Fill consists of sediments that have been removed from one location and transported to another location and, therefore, has no paleontological sensitivity. Young Alluvial Fan Deposits are Holocene to late Pleistocene in age (less than 126,000 years ago) and consist of unconsolidated silt, sand, and gravel. Cobble- and boulder-size clasts are also

present and are more abundant closer to the hills and mountains. Although Holocene (less than 11,700 years ago) deposits can contain remains of plants and animals, only those from the middle to early Holocene (4,200 to 11,700 years ago) are considered scientifically important. Moreover, scientifically important fossils from middle to early Holocene deposits are not very common. However, the older Pleistocene deposits that may be reached below a depth of approximately 10 ft have produced scientifically important fossils elsewhere in the County and region. As such, there is a potential to encounter scientifically important resources in the older sediments of this geologic unit at a depth of approximately 10 ft. Therefore, these deposits have a low paleontological sensitivity above 10 ft and a high sensitivity below that mark.

According to the locality search conducted by the Los Angeles County Museum (LACM), there are no known fossil localities on the Project site. The locality search also confirmed that the Project site is underlain by Young Alluvial Fan Deposits with older Quaternary sediments occurring at various depths as part of the Santa Ana River general floodplain. One vertebrae fossil locality (LACM 1652) is located in the younger Quaternary alluvium along Rio Vista Avenue south of the Lincoln Avenue north-northeast of the Project site. This locality produced a fossil specimen of sheep. The closest vertebrate fossil locality in older Quaternary sediments is LACM 4943, located east of LACM 1652 along Fletcher Avenue, east of Glassell Street east of the Santa Ana River. This locality produced a specimen of fossil horse at a depth of 8–10 ft below the surface.

Based on the findings of the Fossil Locality Search, LACM believes the shallow excavations in the younger Quaternary alluvial deposits on the Project site are unlikely to recover any scientifically significant vertebrate remains.

As part of the *Paleontological Analysis* prepared for the proposed Project, LSA conducted a field survey by walking linear transects in areas of the site where ground surface was visible and visually inspecting exposed sediment within plant areas. Built areas were not surveyed. The findings from this field survey indicate that the entire Project site exhibits major disturbance and has been highly altered from its original state. Exposed sediments in the on-site planters consist of silty loam, with some sand and gravel. The exposed sediments in the grassy areas on the site are medium to coarse sand with silt and surrounded by rounded gravel, consistent with the Young Alluvial Fan Deposits mapped on the site. No paleontological resources were encountered during this survey.

The potential for paleontological resources on the Project site is considered low because the site contains Artificial Fill (which has no paleontological sensitivity) and Young Alluvial Fan Deposits (which have low paleontological sensitivity from the surface to a depth of 10 ft and a high sensitivity below that mark). Ground-disturbing activities on the site are not anticipated to extend deeper than 5 ft. Therefore, impacts are anticipated to be less than significant. However, in the unlikely event that fossil remains are encountered on the site, a paleontologist shall be contacted to assess the discovery for scientific significance and to make recommendations regarding the necessity to develop paleontological mitigation (including paleontological monitoring, collection, stabilization, and identification of observed resources; curation of resources into a museum repository; and preparation of a monitoring

report of findings), as required by Mitigation Measure CUL-2. With implementation of Mitigation Measure CUL-2, impacts would be reduced to a less than significant level.

At the completion of Project construction, the proposed Project would not result in further disturbance of native soils on the Project site. Therefore, operation of the proposed Project would not result in a substantial adverse change in the significance of a paleontological resource as defined in Section 15064.5 of the *State CEQA Guidelines* and no mitigation is required.

Significance Determination: Potentially Significant Impact

Mitigation Measure:

CUL-2 **Unknown Paleontological Resources.** In the event that paleontological resources are discovered during excavation, grading, or construction activities, work shall cease within 50 feet of the find until a qualified paleontologist (i.e., a practicing paleontologist that is recognized in the paleontological community and is proficient in vertebrate paleontology) has evaluated the find in accordance with federal, State, and local guidelines. Personnel of the proposed Project shall not collect or move any paleontological materials and associated materials. Construction activity may continue unimpeded on other portions of the Project site. If any fossil remains are discovered in sediments with a Low paleontological sensitivity rating (Young Alluvial Fan Deposits), the paleontologist shall make recommendations as to whether monitoring shall be required in these sediments on a full-time basis. Prior to commencement of grading activities, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all Project grading and construction plans specify federal, State, and local requirements related to the unanticipated discovery of paleontological resources as stated above.

Significance Determination after Mitigation: Less than Significant Impact

(d) Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

No known human remains are present on the Project site, and there are no facts or evidence to support the idea that Native Americans or people of European descent are buried on the Project site. However, as described previously, buried and undiscovered archaeological remains, including human remains, may be present below the ground surface in portions of the Project site. Disturbing human remains could violate the State's Health and Safety Code, as well as destroy the resource. In the unlikely event that human remains are encountered during Project grading, the proper authorities would be notified, and standard procedures for the respectful handling of human remains during the earthmoving activities would be adhered to. Construction contractors are required to adhere to California Code of Regulations (CCR) Section 15064.5(e), PRC Section 5097, and Section 7050.5 of the State's Health and Safety Code. To ensure proper treatment of burials, in the event of an unanticipated discovery

of a burial, human bone, or suspected human bone, the law requires that all excavation or grading in the vicinity of the find halt immediately, the area of the find be protected, and the contractor immediately notify the County Coroner of the find. The contractor, Developer, and the County Coroner are required to comply with the provisions of CCR Section 15064.5(e), PRC Section 5097.98, and Section 7050.5 of the State's Health and Safety Code. Compliance with these provisions (specified in Mitigation Measure CUL-3), would ensure that any potential impacts to unknown buried human remains would be less than significant by ensuring appropriate examination, treatment, and protection of human remains as required by State law.

Significance Determination: Potentially Significant Impact

Mitigation Measure:

CUL-3 **Human Remains.** In the event that human remains are encountered on the Project site, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State 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 (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the City shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of grading permits, the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.

Significance Determination after Mitigation: Less than Significant Impact

4.6 GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☐	☐	☒
(b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
(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?	☐	☐	☐	☒

The discussion and analysis provided in this section is based on the *Preliminary Geotechnical Investigation for St. Callistus Church, City of Garden Grove, California* (Geotechnical Investigation) prepared by Alta California Geotechnical, Inc. (May 2015; Appendix C).

Impact Analysis:

(a)(i) Would the Project expose people or structures to 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? Refer to Division of Mines and Geology Special Publication 42.

As with all of Southern California, the Project site is subject to strong ground motion resulting from earthquakes on nearby faults. There are, however, no known faults crossing the Project site. According to the Geotechnical Investigation, the closest mapped active fault is the San Joaquin fault located 5.7 mi to the northeast and the Project site is not within an Alquist-Priolo Fault Hazard Zone. As such, the chance for surface fault rupture, during or as a consequence, of seismic activity is considered unlikely. Therefore, the proposed Project would not expose people or structures to substantial adverse effects involving the rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(a)(ii) Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The Project site, like all of Southern California, is in an active seismic region. Ground shaking resulting from earthquakes associated with both nearby and more distant faults is likely to occur. The Project site is on the northern portion of the Santa Ana sub-block, approximately 8.7 mi northeast of the Newport-Inglewood fault zone and approximately 10.8 mi southwest of the Whittier segment of the Elsinore fault zone. As discussed in Response 4.6.a.i, the Project site is not located within an "Alquist-Priolo" Special Studies Zone. In addition to the Whittier segment of the Elsinore fault zone and the Newport-Inglewood fault zone, the nearest known active faults are the San Joaquin Hills fault zone, the Puente Hills fault zone, the China fault zone, the San Jose fault zone, and the Palos Verdes fault zone, located approximately 5.7, 6.8, 16.8, 18.2, and 19.3 mi away from the Project site, respectively. During the life of the Project, seismic activity associated with active faults in the area may generate moderate to strong shaking at the Project site.

Ground shaking generated by fault movement is considered a potentially significant impact that may affect the proposed Project. Mitigation Measure GEO-1 requires that the Project applicant comply with the recommendations of the Project Geotechnical Investigation, the most current California Building Code (CBC), and the City Building Code, which stipulates appropriate seismic design provisions that shall be implemented with Project design and construction. With the implementation of Mitigation Measure GEO-1, potential Project impacts related to seismic ground shaking would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact

Mitigation Measures:

GEO-1 **Incorporation of and Compliance with the Recommendations in the Geotechnical Study.** All grading operations and construction shall be conducted in conformance with the recommendations included in the geotechnical documents prepared by Alta California Geotechnical, Inc. (included in Appendix C of this IS/MND). Recommendations found in the geotechnical document address topics including but not limited to:

- Earthwork, including site preparations, soil replacement, compaction standards, groundwater seepage, and fill placement;
- Liquefaction;
- Foundations, including post-tensioned slab design recommendations and foundation design parameters;
- Storm water infiltration systems;
- Seismic design parameters;
- Retaining and garden wall design and construction criteria including backfill requirements;

- Concrete flatwork, including exterior slabs, walkways, and design of these features;
- Soil corrosion; and
- Post-construction considerations, including drainage and burrowing animal maintenance.

Additional site grading, foundation, and utility plans shall be reviewed by the Project Geotechnical Consultant prior to construction to check for conformance with the recommendations of this report. The Project Geotechnical Consultant shall be present during site grading and foundation construction to observe and document proper implementation of the geotechnical recommendations. The Project Applicant shall require the Project Geotechnical Consultant to perform at least the following duties during construction:

- Observe and test the bottom of removals to ensure that more unsuitable ground is not uncovered. If unsuitable soils, such as undocumented artificial fill, are exposed upon the completion of the removals, additional removals may be required, as determined by the Project Geotechnical Consultant;
- Observe and approve all removal/over-excavation bottoms prior to fill placement;
- Review boundary conditions as design progresses;
- Sample, test, and approve location of soils proposed for import;
- Observe the footing excavations prior to the placement of concrete to determine that the excavations are founded in suitably compacted material

Grading plan review shall also be conducted by the City of Garden Grove City Engineer, or designee, prior to the start of grading to verify that requirements developed during the preparation of geotechnical documents (Alta California Geotechnical, Inc., Appendix C) have been appropriately incorporated into the Project plans. Design, grading, and construction shall be performed in accordance with the requirements of the City Building Code and the California Building Code (CBC) applicable at the time of grading, as well as the recommendations of the Project Geotechnical Consultant as summarized in the final Geotechnical Report subject to review by the City Engineer, or designee, prior to the start of grading activities. The final Geotechnical Report shall present the results of observation and testing done during grading activities.

Significance Determination after Mitigation: Less than Significant Impact

(a)(iii) Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction commonly occurs when three conditions are present simultaneously: (1) high groundwater; (2) relatively loose, cohesion lacking (sandy) soil; and (3) earthquake-generated seismic waves. Liquefaction effects can manifest in several ways, including (1) loss of bearing, (2) lateral spread, (3) dynamic settlement, and (4) flow failures.

The liquefaction susceptibility of the on-site subsurface soils was evaluated as part of the *Geotechnical Investigation* prepared for the proposed Project. The Geotechnical Investigation used a standard penetration test (SPT) to analyze the liquefaction potential on the Project site. SPT is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. Although groundwater was encountered at 38 ft below existing ground surface, groundwater was modeled at 30 ft below ground surface for the purposes of the liquefaction analysis. According to the Geotechnical Investigation, the Project site is in an area that has encountered or is susceptible to liquefaction. The results of the liquefaction analysis are as follows:

Loss of Bearing. Liquefaction can potentially cause foundation-bearing failure due to ground softening and near failure in bearing. Based on the depth of the groundwater, requirements for the removal of unsuitable soils (i.e., artificial fill and the upper portions of the young alluvial fan deposits), and the proposed height of the design fills, the potential for loss of bearing would be minimal. Therefore, with the inclusion of Mitigation Measure GEO-1, the impacts of loss of bearing due to liquefaction would be less than significant.

Lateral Spreading. The lateral displacement of surficial blocks of sediment can occur as a result of liquefaction in a subsurface layer. The most pervasive forms of lateral spreading typically involve sites located near a "free-face" (e.g., large slopes and channels), however, lateral spreading can occur on sites with gently sloping (1 percent or more) ground (e.g., the subject site). Determination of the potential for lateral spread is based on the presence of continuous potentially liquefiable soil layers underneath the structures, the presence of lateral confinement, and various analyses (e.g., empirical modeling). Surface manifestation of lateral spread is typically limited to sites with liquefiable soils within 10 meters (32 ft) of grade. Based on the depth to liquefiable soils on site, the potential for lateral spread to occur on site is considered low and within design tolerances of the proposed foundation systems. No mitigation is required.

Dynamic Settlement, Dry Sand Settlement, and Differential Settlement. Settlement due to seismic shaking can occur as a result of both liquefaction of saturated sediments or rearrangement of dry sand particles. The analysis in the *Geotechnical Investigation* was performed utilizing SPT from the hollow-stem auger borings and laboratory test results to analyze the potential amount of settlement. A groundwater level of 30 feet below existing ground surface was assumed. The analysis showed that the amount of dynamic settlement varies to as much as 2.4 inches. Mitigation Measure GEO-1 requires the removal of artificial fill and the upper portions of the young alluvial fan deposits and the recompaction of upper soils. The removal of unsuitable soil and specific design parameters the account for up to 2.0-

inches in 40 feet would reduce impacts related to settlement to a less than significant level. Therefore, with the inclusion of Mitigation Measure GEO-1, potential impacts related to settlement would be less than significant.

Flow Failure. Due to the relatively flat nature of the site, and the relatively horizontal deposition of the underlying deposits, the potential for flow failure on site is considered low. No mitigation is required.

Infiltration. Infiltration testing of the on-site soils using one 5 ft deep boring and one 20 ft deep boring was conducted as part of the *Preliminary Geotechnical Investigation* (Alta California Geotechnical, Inc. 2015). The infiltration rates of the 5 ft and 20 ft borings were 0.9 and 0.6 inches per hour, respectively. The proposed water quality BMPs include measures to maximize the natural infiltration capacity of on-site soils. According to the *Preliminary Geotechnical Investigation* (Alta California Geotechnical, Inc. 2015), infiltration systems would increase the potential for liquefaction of the Project site and other measures (e.g., temporary water storage, sand filters, or permeable pavers) are recommended. The proposed Low Impact Development (LID) BMPs, which include hydrologic source controls (impervious area dispersion and impervious area reduction) and infiltration BMPs (permeable concrete pavers), are consistent with the recommendations of the *Preliminary Geotechnical Investigation*. Therefore, the proposed BMPs are not anticipated to increase the potential for liquefaction.

Seismically Induced Landsliding. Due to a lack of slopes within or nearby the property, seismically induced landsliding is not anticipated to pose a danger to the site. No mitigation is required.

Significance Determination: Potentially Significant Impact

Mitigation Measure: Refer to Mitigation Measure GEO-1

Significance Determination after Mitigation: Less than Significant Impact

(a)(iv) Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landsliding?

Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes in areas with significant ground slopes. According to the *Geotechnical Report* prepared for the Project, the Project site is not located in an earthquake-induced landslide zone. The Project site is generally flat, and no existing or historic landslides are present on the property. Therefore, the proposed Project would not exposure people or structures to substantial adverse effects involving seismically induced landslides, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(b) Would the Project result in substantial soil erosion or the loss of topsoil?

During construction of the proposed Project, soil would be exposed and there would be increased potential for soil erosion and siltation compared to existing conditions. During storm events, erosion and siltation could occur at an accelerated rate. The increased erosion potential could result in short-term water quality impacts as discussed in Section 4.9, Hydrology and Water Quality. As discussed in Mitigation Measure WQ-1 in Section 4.9, the proposed Project would comply with the Construction General Permit which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of construction best management practices (BMPs) to reduce impacts to water quality during construction, including impacts associated with soil erosion and siltation. With incorporation of construction BMPs as required by Mitigation Measure WQ-1, impacts related to erosion during construction would be reduced to a less than significant level.

As discussed in further detail in Section 4.9, the proposed Project would decrease impervious surface area on the Project site by approximately 0.55 acres, which would reduce runoff from the Project site by 0.74 cubic feet per second (cfs) during a 25-year storm event compared to the existing condition. In the proposed condition, 5.61 acres of the site would be impervious surface areas and not prone to erosion or siltation. The remaining portion of the site (3.16 acres) would primarily be landscaping, which would minimize on-site erosion and siltation. Because the Project would not increase storm water runoff from the Project site, and the Project site surfaces would not be prone to erosion, the Project site would not result in substantial soil erosion or the loss of topsoil during operation. Therefore, with incorporation of Mitigation Measure WQ-1, impacts related to erosion and loss of topsoil would be reduced to a less than significant level.

Significance Designation: Potentially Significant Impact

Mitigation Measures: Mitigation Measure WQ-1

Significance Determination after Mitigation: 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 off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips, occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking. Because the Project site is in a relatively flat area, landslides or other forms of natural slope instability do not represent a significant hazard to the Project or the surrounding area. In addition, as discussed in Response 4.6.a.iv, the site is not within a State-designated hazard zone for seismically induced landslides.

Although no indications of landslide activity or gross slope instability were observed at the Project site, grading activities during construction would produce temporary construction slopes in some areas. Unstable cut-and-fill slopes could create significant short-term and long-term hazards on and offsite. All excavations must be performed in accordance with City and State Building Codes, and the State Division of Occupational Safety and Health

requirements. Utility trenches would be supported, either by lay back excavations or shoring, in accordance with Occupational Safety and Health Administration standards. Temporary backcuts, if required during removal of unsuitable soils, would be no steeper than 1:1 unless reviewed and approved by the Project Geotechnical Consultant. With implementation of the recommendations in the Project Geotechnical Report (as required in Mitigation Measure GEO-1), potential impacts related to slope instability would be reduced below a level of significance.

As discussed in Response 4.6.a.iii, structures founded on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support or vertical settlements (both total and differential) and/or undergo lateral spreading. Loss of bearing and ground settlement are of particular concern on the Project site, however, with the inclusion of Mitigation Measure GEO-1, potential impacts would be reduced to a less than significant level.

Subsidence, the sinking of the land surface due to oil, gas, and water production, causes loss of pore pressure as the weight of the overburden compacts the underlying sediments. No subsidence associated with fluid withdrawal is known to have occurred on or in the vicinity of the Project site and no mitigation is required.

Therefore, with implementation of Mitigation Measure GEO-1, potential impacts related to unstable soils or geologic units that would become unstable as a result of the Project, resulting in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse, would be less than significant.

Significance Determination: Potentially Significant Impact

Mitigation Measure: Refer to Mitigation Measure GEO-1

Significance Determination after Mitigation: Less than Significant Impact

(d) Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Expansive soils contain types of clay materials that occupy considerably more volume when they are wet or hydrated than when they are dry or dehydrated. Volume changes associated with changes in the moisture content of near-surface expansive soils can cause uplift or heave of the ground when they become wet or, less commonly, cause settlement when they dry out. Soils with an expansion index of greater than 20 are classified as expansive for building purposes and, therefore, have a potentially significant impact. Based on laboratory testing in the *Geotechnical Report,* the soils on the Project site were classified to have low to very low expansion potential ($0 \leq$ Expansion Index ≤ 50). Therefore, impacts related to expansive soils would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(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 proposed Project does not include construction of septic tanks or connections to septic systems or alternative wastewater disposal systems. Therefore, the proposed Project would not result in impacts related to the soils capability to adequately support the use of septic tanks or alternative wastewater disposal systems, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.7 GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Technical Background:

"Greenhouse gases" (GHGs) (so called because of their role in trapping heat near the surface of the Earth) emitted by human activity are implicated in global climate change, commonly referred to as "global warming." These GHGs contribute to an increase in the temperature of the Earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor. For the purposes of planning and regulation, Section 15364.5 of the CCR defines GHGs to include, but are not limited to, CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second-largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding GHGs. California's major initiative for reducing GHG emissions is outlined in Assembly Bill (AB) 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006. The major components of AB 32 include the following:

- Requiring the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to Statewide emissions.
- Requiring immediate "early action" control programs on the most readily controlled GHG sources.
- Mandating that by 2020, California's GHG emissions be reduced to 1990 levels.
- Forcing an overall reduction of GHGs in California by 25 to 40 percent, from business as usual, to be achieved by 2020.
- Stating that these actions must complement efforts to achieve and maintain federal and State ambient air quality standards and to reduce toxic air contaminants.

To assist public agencies in the mitigation of GHG emissions or analysis of the effects of GHGs under CEQA, including the effects associated with transportation and energy consumption, Senate Bill (SB) 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop *State CEQA Guidelines* on how to minimize and mitigate a project's

GHG emissions. The new CEQA guidelines became State laws as part of Title 14 of the CCR in March 2010.

The *State CEQA Guidelines* encourage Lead Agencies to consider many factors in conducting a CEQA analysis, but preserve the discretion granted by CEQA to Lead Agencies in making their determinations. Section 15064.4 of the *State CEQA Guidelines* specifies how thresholds of significance for GHG emissions are to be evaluated. *State CEQA Guidelines* Section 15064.4 states:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
>
> (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
>
> (2) Rely on a qualitative analysis or performance based standards.
>
> (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
>
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
>
> (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

State CEQA Guidelines Section 15064(b) provides that, "the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further states that an "ironclad definition of significant effect is not always possible because the

significance of an activity may vary with the setting." The *State CEQA Guidelines* also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of the *State CEQA Guidelines* requirements for cumulative impact analysis.

As such, currently the CEQA statutes, the OPR guidelines, and the *State CEQA Guidelines* do not prescribe specific quantitative thresholds of significance or a particular methodology for performing a GHG emissions impact analysis. As with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency.

On December 5, 2008, the SCAQMD Governing Board adopted an Interim Quantitative GHG Significance Threshold for industrial projects where SCAQMD is the Lead Agency (e.g., stationary-source permit projects, rules, and plans) of 10,000 metric tons (MT) of CO_2 equivalent (CO_2e) per year. In September 2010, the GHG CEQA Significance Threshold Working Group released revisions that recommended a threshold of 3,000 MT of CO_2e per year for residential projects. This interim 3,000 MT per year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, Project-related GHG emissions in excess of the interim recommended guideline level (3,000 MT per year) are presumed to trigger a requirement for enhanced GHG reduction at the Project level.

For the purpose of this technical analysis, the concept of CO_2e is used to describe how much global warming a given type and amount of GHG may cause, using the functionally equivalent amount or concentration of CO_2 as the reference. Individual GHGs have varying global warming potentials and atmospheric lifetimes. CO_2e is a consistent methodology for comparing GHG emissions because it normalizes various GHGs to the same metric. The GHG emissions estimates were calculated using CalEEMod, Version 2016.3.1. CalEEMod is an air quality modeling program that estimates air pollution emissions in pounds per day or tons per year for various land uses, area sources, construction projects, and project operations. Mitigation measures can also be specified to analyze the effects of mitigation on Project emissions.

Impact Analysis:

(a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction and operation of the proposed Project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the Project's operation (as opposed to its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent is consumed during construction.

Construction Greenhouse Gas Emissions. Construction activities produce combustion emissions from various sources (e.g., site grading, utility engines, heavy-duty construction vehicles on site, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew). Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. GHG emissions associated with construction of the proposed Project would occur over the short term (approximately 31 months). Appendix A includes the CalEEMod calculations for GHG emissions. The GHG

emission estimates presented in Table 4.7.A show the emissions associated with construction of the proposed Project.

Table 4.7.A: Project Construction Greenhouse Gas Emissions

Year	CO_2e Emissions (metric tons/year)
2017	432.0
2018	478.0
2019	405.5
Total Annual Emissions	**1,315.5**
Amortized	**43.9**

Source: LSA, November 2016.
CO_2e = carbon dioxide equivalent

SCAQMD's GHG emissions policy for construction is to amortize emissions over a 30-year time period. Construction of the proposed Project would result in total emissions of 43.9 MT of CO_2e per year over the course of 30 years. The estimated construction emissions would be well below SCAQMD's threshold criteria of 3,000 MT of CO_2e per year. Therefore, Project construction would be considered to have a less than significant impact related to GHG emissions and would not, directly or indirectly, have a significant impact on the environment, and no mitigation is required.

Notwithstanding the foregoing, the Project would be required to implement construction exhaust control measures consistent with SCAQMD Rules 402 and 403 for other air quality topics discussed above, including minimization of construction equipment idling and implementation of proper engine tuning and exhaust controls. Both of these measures would reduce GHG emissions during the construction period.

Operational Greenhouse Gas Emissions. Long-term operation of the proposed Project would generate GHG emissions from area and mobile sources, and indirect emissions from stationary sources associated with energy consumption. Area-source emissions would be associated with activities that include landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Mobile-source emissions of GHGs would include Project-generated vehicle trips associated with on-site residences. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed Project.

The GHG emission estimates presented in Table 4.7.B show the emissions associated with operation of the proposed Project. Appendix A includes the CalEEMod calculations for GHG emissions.

Operation of the proposed Project would result in average emissions of 1,485.1 MT of CO_2e per year. The estimated operational emissions would be well below SCAQMD's interim threshold criteria of 3,000 MT of CO_2e per year. Therefore, Project operation would be considered to have a less than significant impact related to GHG emissions and would not, directly or indirectly, have a significant impact on the environment. No mitigation is required.

Table 4.7.B: Project Operational Greenhouse Gas Emissions

Emission Source	CO_2e Emissions (metric tons/year)
Area Sources	1.2
Energy Consumption	426.5
Mobile Sources	936.9
Solid Waste Generation	41.2
Water Consumption	35.4
Annualized Construction	43.9
Total Annual Emissions	**1,485.1**
Threshold of Significance	**3,000.0**

Source: LSA, November 2016.
CO_2e = carbon dioxide equivalent

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

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

The City currently does not have an adopted climate action plan to reduce GHG emissions within its jurisdictional boundaries. Absent an adopted climate action plan, City General Plan, California Air Resources Board (ARB), SCAG, and SCAQMD goals and policies related to climate change were used to respond to this threshold.

The Air Quality Element of the City's General Plan (2008) contains policies that are directed at managing the GHG emissions from projects in the City. A discussion of these policies is provided in Table 4.7.C. As shown in this table, the proposed Project would be consistent with the applicable policies in the City's General Plan, and no mitigation is required.

In addition to maintaining consistency with the City's General Plan, the proposed Project would include the following sustainable features that would reduce GHG emissions by reducing energy consumption directly or indirectly through reduced water consumption:

- Low-flow fixtures and appliances including toilets, showerheads, and kitchen faucets;
- Tankless water heaters;
- Light-emitting diode lighting including recessed can lighting, exterior coach lighting, surface mount fixtures, and pendant lighting; and
- Preplumbing to allow for additional future condensing water heaters, electric vehicle car outlets, and solar.

In 2008, the ARB approved a *Climate Change Scoping Plan* as required by AB 32. The *Climate Change Scoping Plan* proposed a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance

Table 4.7.C: Project Consistency with General Plan Policies Related to Greenhouse Gas Emissions

General Plan Policy Summary	Project Consistency
Air Quality Element (Chapter 8)	
AQ-IMP-2B – Require new development or redevelopment projects to provide pedestrian and bicycle trail access to nearby shopping and employment centers.	**Consistent.** The proposed Project would provide pedestrian and bicycle access to and from the project site.
Policy AQ-5.2 – Encourage infill development project within urbanized areas that include jobs centers and transportation nodes.	**Consistent.** The proposed Project is an infill project within an urbanized area. State Route 22 is located less than 1 mile from the Project. Three ~~Four~~ Orange County Transportation ~~Transit~~ Authority (OCTA) routes are operated within 0.5 miles of the Project site (including Route 47 along Lewis Street near the site, a 15-minute frequency rush-hour route; Route 56, a local route along Garden Grove Boulevard near the site; Route 454, a Stationlink route along Lewis Street near the site). ~~and~~ Route 16~~,~~ runs ~~a route~~ along Garden Grove Boulevard between ~~from the~~ nearby hotels and the ~~to~~ Disneyland Transportation Center every 60 minutes. Route 16 is operated by Anaheim Resort Transportation. ~~and~~ A railway station (Anaheim Station) is located approximately 2.3 miles north of the Project site.
Policy AQ-5.6 – Increase residential and commercial densities around bus and/or rail transit stations, and along major arterial corridors.	**Consistent.** See response to Policy AQ-5.2 above. The Project would increase residential use near transit and major arterials.
AQ-IMP-6D – Require new development to comply with the energy use guidelines in Title 24 of the California Administrative Code	**Consistent.** The proposed Project would meet or exceed Title 24 energy use requirements.

Source: Garden Grove, City of, 2008. Op. Cit.

public health." The *Climate Change Scoping Plan* has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms (e.g., a cap-and-trade system), and an AB 32 implementation fee to fund the program. In May 2014, the ARB released the First Update to the Climate Change Scoping Plan (2014 Update). In the 2014 Update, nine key focus areas were identified: energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program. As recommended by ARB's *Climate Change Scoping Plan*, the proposed Project would use green building features as a framework for achieving GHG emissions reductions. The Project's use of green building features to conserve energy make the Project consistent with AB 32 and the *Climate Change Scoping Plan.*

On April 4, 2012, the Regional Council of SCAG adopted the *2012–2015 Regional Transportation Plan/Sustainable Communities Strategy*. The proposed Project would support and be consistent with relevant and applicable GHG emission reduction strategies in SCAG's *Sustainable Communities Strategy*. These strategies include providing residences in an urban infill location and within a relatively short distance of existing transit stops, and supporting alternative and electric vehicles via the installation of on-site electric charging stations.

While SCAQMD does not have an adopted threshold for assessing the significance of GHG emissions, the draft screening value for residential use is 3,000 MT of CO_2e per year. As discussed in Threshold 4.7.a, the proposed Project would result in operational and amortized construction GHG emissions that are well below the suggested 3,000 MT of CO_2e per year. As a result, the proposed Project would be consistent with SCAQMD's adopted plans and policies, which were determined by SCAQMD to be consistent with California's State-level plans, policies, and regulations related to GHG. Therefore, the proposed Project is also consistent with State-level plans based on its consistency with the draft interim threshold of 3,000 MT of CO_2e per year, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

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4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

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

The discussion and analysis provided in this section is based on the Phase I Environmental Site Assessment (Phase I) for the Former St. Callistus Catholic Church Property at 12921 Lewis Street in the City of Garden Grove, California 92840 (Phase I) (Lexington Geoscience, 2015a) (refer to Appendix D of this IS/MND).

Impact Analysis:

(a) Would the Project create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Hazardous materials are chemicals that could potentially cause harm during an accidental release or mishap, and are defined as being toxic, corrosive, flammable, reactive, and irritant, or strong sensitizer.[1] Hazardous substances include all chemicals regulated under the United

[1] A "sensitizer" is a chemical that can cause a substantial proportion of people or animals to develop an allergic reaction in normal tissue after repeated exposure to a chemical (U.S. Department of Labor, 2017).

States Department of Transportation "hazardous materials" regulations and the United States Environmental Protection Agency (EPA) "hazardous waste" regulations. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. The probable frequency and severity of consequences from the routine transport, use, or disposal of hazardous materials is affected by the type of substance, the quantity used or managed, and the nature of the activities and operations.

Construction activities associated with the proposed Project would use a limited amount of hazardous and flammable substances (e.g., oils) during heavy equipment operation for site grading and construction. The amount of hazardous chemicals present during construction is limited and would be in compliance with existing government regulations. The potential for the release of hazardous materials during Project construction is low, and even if a release would occur it would not result in a significant hazard to the public, surrounding land uses, or environment due to the small quantities of these materials associated with construction vehicles. Therefore, no mitigation is required.

The proposed Project includes the development of a gated residential community with 70 single-family detached residential units. Residential uses typically do not present a hazard associated with the accidental release of hazardous substances into the environment because residents are not anticipated to use, store, dispose, or transport large volumes of hazardous materials. Hazardous substances associated with residential uses are typically limited in both amount and use such that they can be contained without impacting the environment.

As a residential development, long-term operational activities typical of the proposed residential uses involve the use and storage of small quantities of potentially hazardous materials in the form of cleaning solvents, fertilizers, and pesticides. For example, maintenance activities related to landscaping include the use of fertilizers and light equipment (e.g., lawn mowers and edgers) that may require fuel. As stated previously, these types of activities do not involve the use of a large or substantial amount of hazardous materials. In addition, such materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations. Any associated risk would be adequately reduced to a less than significant level through compliance with these standards and regulations. Further, operation of the proposed Project would not store, transport, generate, or dispose of large quantities of hazardous substances. Therefore, potential impacts from the routine transport, use, or disposal of hazardous materials resulting from operation of the proposed Project would be less than significant, and no mitigation would be required.

The Orange County Fire Authority (OCFA) is the administering agency for the chemical inventory and business emergency plan regulations for the City. OCFA's disclosure activities are coordinated with the Orange County Health Care Agency. The Health Care Agency is a Certified Unified Program Agency for local implementation of the disclosure program and several other hazardous materials and hazardous waste programs. OCFA's Hazardous Materials Services Section is staffed with technical and administrative personnel who are assigned implementation and management of the disclosure program. All facilities are encouraged to work closely with OCFA in order to eliminate any unnecessary efforts or costs in complying with the disclosure program. The Orange County Waste and Recycling

Department manages four hazardous material and hazardous waste collection centers designed to prevent damage to the environment and reduce risk of accidental poisoning by removing household hazardous materials and medicines from the home. Because these resources are available to anyone in Orange County, it is reasonable to conclude that the residences would use such programs to properly dispose of household hazardous waste. Therefore, impacts associated with the disposal of hazardous materials and/or the potential release of hazardous materials that could occur with the implementation of the proposed Project are considered less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(b) Would the Project create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The purpose of Phase I was to evaluate the Project site for potential Recognized Environmental Concerns (RECs) that may be present and/or off-site conditions that may impact the Project site. The Phase I prepared for the proposed Project included (1) visual inspection of the Project site and the surrounding area; and (2) a review of regulatory agency reports, aerial photographs, and other historic record sources. According to the Phase I, a REC is "the presence or likely presence of any hazardous substances or petroleum products on a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions." No conditions were observed on the Project site that would constitute an REC.

The Phase I also included a vapor encroachment screening test due to the Project site's proximity to potential sources of volatile organic compounds (VOCs) from a former dry cleaning operation located 100 ft east of the Project site across Lewis Street at the southeast corner of Garden Grove Boulevard and Lewis Street, and underground fuel storage tanks located 525 ft northwest of the Project site. In addition, the Phase I identified the presence of a dry cleaning operation at the same property as the former service station at the southeast corner of Garden Grove Boulevard and Lewis Street and a potential former dry cleaning operation west of the site in the Cedar Grove Business Park. The goal of a vapor encroachment screen is to identify a vapor encroachment condition (VEC), which is the presence or likely presence of vapors of chemicals of concern in the subsurface of the Project site caused by the release of vapors from contaminated soil or groundwater either on or near the target property. Chemicals of concern meet specific criteria for volatility and toxicity and include volatile organic compounds, semivolatile organic compounds, petroleum hydrocarbons, and volatile inorganic analyses (e.g., mercury). The presence of VECs could not be ruled out because there are no known properties with releases of chemicals of concern, so no agency records of subsurface conditions exist. The Phase I concluded that subsurface testing of soil vapor at the Project site was required to determine if a VEC exists on the Project site and to determine if vapor barriers are required.

Following preparation of the Phase I, a Soil and Soil Vapor Sampling Report was prepared by Lexington Geoscience (May 2015a). The Soil and Soil Vapor Sampling Report provided the results of soil vapor sampling conducted at five locations on the Project site. Each of these five samples were taken at 5 ft bgs and were generally located at the southeast corner of the Project site in order to evaluate potential vapor migration from underground storage tanks at the former and present dry cleaning stations. The results of the soil gas samples at these five locations indicated that all VOC concentrations were below the reporting limit and were not detected at concentrations above the method detection limit established by the EPA. Because all VOC concentrations were reported as below the reporting limits, VOC concentrations were also determined to be below the California Human Health Screening Levels (CHHSL) for shallow soil gas at residential and commercial/industrial sites. Therefore, no further action or mitigation is required.

The Phase I also recommended that shallow soil sampling for pesticides and CCR Title 22 metals would be required due to activities associated with previous agricultural uses (orchards) on the Project site. As described above, a Soil and Soil Vapor Sampling Report was prepared by Lexington Geoscience (May 2015b) following preparation of the Phase I. Consistent with the recommendations in the Phase I, the Soil and Soil Vapor Sampling Report advanced eight soil borings to approximately 3 ft below ground surface (bgs) to perform a vapor screening investigation to assess the presence of agricultural chemicals on the site. Soil samples were also collected at depths of approximately 1 to 3 ft bgs. Results of the soil sampling at these locations detected the pesticides 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and Dieldrin at concentrations below those that would make the soil a regulated waste if removed from the site and below the CHHSL for residential sites. Metal concentrations were within normal background concentrations, with the exception of one sample which contained lead at a concentration of 97.2 milligrams per kilogram (mg/kg) or parts per million. This concentration of lead is below the concentration that would make the soil a regulated waste if removed from the site, but is above the CHHSL for residential sites. While the total lead concentration of 97.2 mg/kg is above the residential CHHSL, the on-site soil would not be considered hazardous and would require no special handling or disposal or agency. Typical grading requirements are for the removal, replacement, and compaction of on-site soils to a depth of 5 ft below the proposed finish grade. The process thoroughly mixes the soil being handled. Because the average lead concentration of the 16 samples collected is 17.7 mg/kg, which is below the residential CHHSL for lead, the relatively limited quantity of soil with a total lead concentration of 97.2 mg/kg would sufficiently mix and blend the soil and result in fill that would be close to the average concentration of lead and less than the residential CHHSL for lead. Therefore, the Soil and Soil Vapor Sampling Report concluded that grading operations associated with Project construction would mix and blend the soil associated with this concentration of lead, thereby reducing the overall site concentration to less than the CHHSL for residential sites and no further action or mitigation is required.

Construction. The proposed Project would include demolition of the existing on-site structures and the removal of existing foundations, asphalt, and concrete pavement. Lead is a toxic metal that was used for many years in household products. Lead may cause a range of health defects, from behavioral problems and learning disabilities to seizures and death. Lead-based paint (LBP) was used extensively in buildings constructed before 1950. In 1978, LBP was banned by the federal government. Based on the age of the buildings on the

Project site, prior to any construction activities or demolition, a general LBP survey of the proposed Project site would be required. As detailed in Mitigation Measure HAZ-1, the LBP survey shall be performed by appropriately licensed and qualified individuals, in accordance with applicable regulations (i.e., American Society for Testing and Materials (ASTM) E 1527-05, and 40 Code of Federal Regulations (CFR), Subchapter R, Toxic Substances Control Act [TSCA], Part 716).

Similarly, the use of asbestos in many building products was banned by the EPA by the late 1970s. In 1989, the EPA issued a ruling prohibiting the manufacturing, importation, processing, and distribution of most asbestos-containing products. This rule, known as the Ban and Phase-Out Rule, would have effectively banned the use of nearly 95 percent of all asbestos products used in the United States. However, the United States Fifth Circuit Court of Appeals vacated and remanded most of the Ban and Phase-Out Rule in October 1991. Due to this court decision, many asbestos-containing product categories not previously banned (prior to 1989) may still be in use today. Among these common material types found in buildings are floor tile and roofing materials. Asbestos-containing materials (ACMs) represent a concern when they are subject to damage that results in the release of fibers. Friable ACMs, which can be crumbled by hand pressure and are, therefore, susceptible to damage, are of particular concern. Nonfriable ACM is a potential concern if it is damaged by maintenance work, demolition, or other activities. Based on the age of the buildings on the Project site, prior to any construction activities or demolition, a general asbestos survey of the subject property would be required. As detailed in Mitigation Measure HAZ-1, the ACM survey shall be performed by appropriately licensed and qualified individuals, in accordance with applicable regulations (i.e., ASTM E 1527-05, and 40 CFR, Subchapter R, TSCA, Part 716).

Standard equipment suspected of potentially containing polychlorinated biphenyls (PCBs) include industrial-capacity transformers, fluorescent light ballasts, and oil-cooled machinery. An electrical transformer is located on the Project site midway along the south side of the Project site facing Garden Grove Boulevard. Electrical transformers are used as the final step in an electrical distribution system to reduce the voltage of electricity to a level that can be used by the consumer. Electrical transformers have been known to contain PCBs because PCBs were used as coolants and lubricants in transformers before the manufacturing of PCBs were banned by the EPA in 1977 because of evidence that PCBs accumulate in the environment and can cause harmful health effects.[1] Therefore, because of the presence of the transformer on site and due to the age of on-site buildings, a general PCB survey of the subject property would be required prior to any construction activities or demolition. As detailed in Mitigation Measure HAZ-1, this survey shall be performed by appropriately licensed and qualified individuals, in accordance with applicable regulations (i.e., ASTM E 1527-05, and 40 CFR, Subchapter R, TSCA, Part 716).

As detailed above, based on the age of the existing structures on the Project site, the presence of ACMs, LBPs, and PCBs cannot be ruled out without a more focused survey of all on-site structures and equipment. Because such materials generally do not pose a threat to human health until disturbed, focused surveys are required prior to demolition. The proposed Project

[1] United States Environmental Protection Agency, PCBs Questions & Answers. January 10, 2017. https://www3.epa.gov/reg ion9/pcbs/faq.html

would be required to comply with Mitigation Measure HAZ-1. Mitigation Measure HAZ-1 is intended to address the potential for encountering ACMs, LBPs, and PCBs and requires predemolition surveys. Should ACMs, LBPs, or PCBs be discovered prior to demolition of the existing structure, precautions would be necessary to ensure the materials are properly removed and disposed of in accordance with State and federal law. With implementation of Mitigation Measure HAZ-1, possible impacts related to these chemicals would be less than significant.

In addition, in the event that unlikely unknown hazardous materials are discovered on site during Project construction, the Project contractor would be required to comply with a Contingency Plan developed and approved prior to the commencement of grading activities. As stated in Mitigation Measure HAZ-2, in the event that construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the Contingency Plan will require the contractor to stop work, cordon off the affected area, and notify the Garden Grove Fire Department (GGFD). The GGFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of the substance consistent with local, State, and federal regulations. In addition, Caltrans, the California Highway Patrol, and local police and fire departments are trained in emergency response procedures for safely responding to accidental spills of hazardous substances on public roads, further reducing potential impacts to a less than significant level. With implementation of Mitigation Measure HAZ-2, potential risks associated with encountering unknown hazardous wastes during construction would be reduced to a less than significant level.

With implementation of Mitigation Measures HAZ-1 and HAZ-2, construction of the proposed Project would not create a significant hazard to the public or to the environment through reasonable foreseeable upset and accident conditions regarding the release of hazardous materials into the environment.

Operation. As stated previously, hazardous substances associated with the proposed residential uses would be limited in both amount and use such that they can be contained (stored or confined within a specific area) without impacting the environment. Project operation would involve the use of potentially hazardous materials (e.g., solvents, cleaning agents, paints, fertilizers, and pesticides) typical of residential uses that, when used correctly and in compliance with existing laws and regulations, would not result in a significant hazard to residents or workers in the vicinity of the proposed Project. Operation of the proposed Project would not create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment. No mitigation is required.

Significance Determination: Potentially Significant Impact

Mitigation Measures:

HAZ-1 **Predemolition Surveys and Abatement of ACMs and LBPs.** Prior to commencement of demolition activities, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that predemolition surveys for asbestos-containing materials

(ACMs), lead-based paints (LBPs), and polychlorinated biphenyls (PCBs) (including sampling and analysis of all suspected building materials) have been performed. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., American Society for Testing and Materials (ASTM) E 1527-05, and 40 Code of Federal Regulations (CFR), Subchapter R, Toxic Substances Control Act [TSCA], Part 716).

Wherever evidence of ACMs, LBPs, and ACMs are present in areas proposed for demolition, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). During demolition, air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers and the adjacent community. The Project Applicant shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the City of Garden Grove Fire Department showing that abatement of any ACMs, LBPs, and PCBs identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations [CCR] Title 8, Article 2.6). An Operating & Maintenance Plan (O&M) shall be prepared for any ACM-, LBP-, or PCB-containing fixtures to remain in place and shall be reviewed and approved by the City of Garden Grove Fire Department.

HAZ-2 **Contingency Plan.** Prior to commencement of grading activities, the Director of the County Environmental Health Division, or designee, shall review and approve a contingency plan that addresses the procedures to be followed should on-site unknown hazards or hazardous substances be encountered during demolition and construction activities. The plan shall indicate that if construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the contractor shall stop work, cordon off the affected area, and notify the Garden Grove Fire Department (GGFD). The GGFD responder shall determine the next steps regarding possible site evacuation, sampling, and disposal of the substance consistent with local, State, and federal regulations.

Significance Determination after Mitigation: Less than Significant Impact

(c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The proposed residential Project would not produce hazardous emissions or handle acutely

hazardous materials, substances, or waste. The nearest existing school, Riverdale Elementary School, is 0.23 mi southeast of the Project site. Although there is a school within 0.25 mi, there would be no acutely hazardous materials would be produced or handled on the Project site. As noted in Response 4.8.a, the proposed Project is not anticipated to release hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in significant quantities. Construction activities associated with the proposed Project would use a limited amount of hazardous and flammable substances/oils[1] during heavy equipment operation for site excavation, grading, and construction. The amount of hazardous chemicals present during construction is limited and would be in compliance with existing government regulations. Residences would not require the use, storage, disposal, or transport of large volumes of hazardous materials that could cause serious environmental damage in the event of an accident. Although hazardous substances would be present and utilized at these residences, such substances are generally present now in the existing development, typically found in small quantities, and can be cleaned up without affecting the environment. Therefore, impacts related to hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mi of an existing or proposed school would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(d) Would the Project be located on a site which is included on a list of hazardous materials sites complied 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 was prepared for the proposed Project. According to the Phase I, the Project site is not included on any hazardous materials sites pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The proposed Project is not located within an airport land use plan or within 2 mi of a public airport or public use airport. The nearest public airports are the John Wayne International Airport at 3160 Airway Avenue, approximately 6.5 mi south of the Project site; the Fullerton Municipal Airport (FMA), a general aviation airport at 4011 West Commonwealth Avenue, approximately 7.9 mi north of the Project site; and Seal Beach Naval Base at 800 Seal Beach Boulevard, approximately 11 mi west of the Project site. As a result, the proposed Project

[1] Potentially hazardous and flammable materials that may be used during Project construction may include, but are not limited to, aerosols, fuels, oils, solvents (e.g., paints and coatings), and adhesives,

would not result in a safety hazard for people residing or working in the Project area. Therefore, no impacts are anticipated, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

The proposed Project is not located within the vicinity of a private airstrip, and as a result, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Therefore, no impacts are anticipated, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(g) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Construction. During short-term construction activities, the proposed Project is not anticipated to result in any substantial traffic queuing along Lewis Street or Garden Grove Boulevard and all construction equipment would be staged on site. All large construction vehicles entering and exiting the site would be guided by the use of personnel using signs and flags to direct traffic.

The Project does not include any characteristics (e.g., permanent road closure or long-term blocking of road access) that would physically impair or otherwise interfere with emergency response or evacuation in the Project vicinity; however, the proposed Project would require temporary lane closures on Lewis Street to relocate the gas and water lines. Temporary lane closures would be implemented consistent with the recommendations of the California Joint Utility Traffic Control Manual. Among other things, the manual recommends early coordination with affected agencies to ensure that emergency vehicle access is maintained. In this manner, officials could plan and respond appropriately to direct the public away from Lewis Street in the event of an emergency requiring evacuation. In addition, as described in Mitigation Measure HAZ-3, the Project Applicant/Developer would be required to prepare and implement a Construction Staging and Traffic Management Plan, which would be subject to the approval of the Director of the City of Garden Grove Department of Public Works, or designee. The Construction Staging and Traffic Management Plan would require certain conditions (e.g., providing warning signs, lights, and devices) and would require that the City of Garden Grove Police Department be notified a minimum of 24 hours in advance of any lane closures or roadway work. With implementation of Mitigation Measure HAZ-3, potential impacts to emergency response and evacuation plans associated with construction of the proposed Project would be reduce to a less than significant level**.**

Operation. The proposed Project consists of residential uses and would not impair or physically interfere with an adopted emergency response plan. Roads that are used as response corridors and evacuation routes usually follow the most direct path to or from

various parts of the community. For the Project site, the main corridors would be Garden Grove Boulevard, Harbor Boulevard, Bristol Street, and SR-22. Access to and from the Project site would be from Lewis Street on the east side of the Project site.

The proposed Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed Project would be developed in accordance with City emergency access standards. The proposed Project would also be required to comply with all applicable codes and ordinances for emergency vehicle access, which would ensure adequate access to, from, and on site for emergency vehicles.

As discussed in Section 4.9, Hydrology and Water Quality, the streets around the Project site are subject to flooding during a storm event. Garden Grove Boulevard has the capacity to carry storm water generated from a 1-year storm event while leaving a 10 ft wide lane accessible near the median. The maximum estimated flooding on Garden Grove Boulevard during a storm event is anticipated to be approximately 0.8 ft with a velocity of 2 ft per second. The Project would decrease storm water flows to Garden Grove Boulevard and would not exacerbate existing flooding. Emergency vehicles have enough height clearance that they would not be obstructed by the flooding along Garden Grove Boulevard. Additionally, the emergency vehicle access entrance to the Project site would be at a high point; therefore, storm water flows near the entrance would be minimal and would not obstruct emergency vehicle access. Therefore, emergency vehicles would still be able to access the Project site via the emergency vehicle access along Garden Grove Boulevard during a storm event.

As discussed in Section 4.16, Transportation/Traffic, the proposed Project would not result in a significant traffic impact to any study area intersections. Therefore, the proposed Project would not result in long-term traffic impacts that could physically interfere with an adopted emergency response plan or emergency evacuation plan. In addition, during the operational phase of the proposed Project, on-site access would be required to comply with standards established by the City and GGFD. The size and location of fire suppression facilities (e.g., hydrants) and fire access routes would be required to conform to City and GGFD standards. The proposed Project would provide adequate emergency access via the driveway along Lewis Street. Also, in addition to the existing fire hydrants on Lewis Street and Garden Grove Boulevard, the proposed Project includes the installation of three fire hydrants on the Project site, as well as sufficient space and turning radius for fire trucks. As required of all development in the City, the operation of the residential portion of the proposed Project would conform to applicable Uniform Fire Code standards. In addition, a remote gate-opening device consistent with OCFA requirements would be installed on both electronically operated access gates.

Therefore, operation of the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Potential Project impacts would be less than significant, and no mitigation would be required.

Significance Determination: Potentially Significant

Mitigation Measures:

HAZ-3 **Construction Staging and Traffic Management Plan.** Prior to issuance of a grading permit, a Construction Staging and Traffic Management Plan shall be prepared for approval by the Director of the City of Garden Grove Public Works Department, or designee. The Construction Staging and Traffic Management Plan shall ~~will also~~ include the name and phone number of a contact person who can be reached 24 hours a day regarding construction traffic complaints or emergency situations. The Construction Staging and Traffic Management Plan shall ~~may~~ include, but not be limited to, the following:

- Temporary lane closures shall be implemented consistent with the recommendations of the California Joint Utility Traffic Control Manual;
- Flag persons in adequate numbers shall be provided to minimize impacts to traffic flow and to ensure safe access into and out of the site;
- Flag persons shall be trained to assist in emergency response by restricting or controlling the movement of traffic that could interfere with emergency vehicle access;
- All emergency access to the Project site and adjacent areas shall be kept clear and unobstructed during all phases of demolition and construction;
- Providing safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers;
- Scheduling construction-related deliveries, other than concrete and earthwork-related deliveries, so as to reduce travel during peak travel periods (i.e., 6:00 a.m. to 9:00 a.m. and 3:30 p.m. to 7:00 p.m. Monday through Friday);
- Coordination with other construction projects in the vicinity to minimize conflicts;
- If necessary, obtaining a Caltrans transportation permit for use of oversized transport vehicles on Caltrans facilities;
- If necessary, submitting a traffic management plan to Caltrans for review and approval;
- Construction vehicles, including construction personnel vehicles, shall not park on public streets, including streets outside the City of Garden Grove;
- Construction vehicles shall not stage or queue where they interfere with pedestrian and vehicular traffic or block access to nearby businesses;

- If feasible, any traffic lane closures will be limited to off-peak traffic periods, as approved by the City of Garden Grove Department of Public Works; and
- The Orange County Transportation Authority shall be notified a minimum of 24 hours in advance of any lane closures or other roadway work.
- The Garden Grove Police Department shall be notified a minimum of 24 hours in advance of any lane closures or other roadway work.

Level of Significance after Mitigation: Less than Significant

(h) Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The area surrounding the Project site is considered urban and built out. The Project site is bound by commercial, residential, and community facility uses on all sides and is not adjacent to wildland areas. As a result, the proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, no impacts are anticipated, and no mitigation measures would be required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.9 HYDROLOGY AND WATER QUALITY

Would the project:

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

The thresholds provided for Hydrology and Water Quality are based on Appendix G of the CEQA Guidelines. The checklist responses also provide information relevant to obtaining coverage under the applicable Regional Water Quality Control Board (RWQCB) and State Water Resources Control Board permits discussed in this section. The discussion and analysis provided in this section is based on the *Preliminary Water Quality Management Plan* and the *Preliminary Hydrology Report* prepared by Fuscoe Engineering, Inc. (2016a and 2016b) (refer to Appendix E of this IS/MND), and the *Preliminary Geotechnical Investigation for St. Callistus Church, City of Garden Grove, California* (Geotechnical Investigation) prepared by Alta California Geotechnical, Inc. (May 2015; Appendix C).

Impact Analysis:

(a) Would the Project violate any water quality standards or waste discharge requirements?

Pollutants of concern during construction of the proposed Project include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and, potentially, transported via storm water runoff into receiving waters. Construction of the proposed Project would disturb approximately 9 acres of soil. Because the disturbed soil area would exceed 1 acre, the proposed Project is subject to the requirements of the State Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit).

As specified in Mitigation Measure WQ-1, the proposed Project would obtain coverage under the Construction General Permit. The Construction General Permit requires preparation of a SWPPP and implementation of construction BMPs detailed in the SWPPP during construction activities. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion by stabilizing the soil and retain sediment on site by trapping soil particles in storm water; and Good Housekeeping BMPs, which include maintenance practices and proper handling, storage, and disposal of materials to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

The expected pollutants of concern during operation of the proposed Project include suspended solids/sediment, nutrients, pathogens (bacteria and virus), pesticides, oil and grease, and trash and debris. According to the *Preliminary Water Quality Management Plan* (Fuscoe Engineering, Inc., 2016a) prepared for the Project, the proposed Project would reduce impervious surface area from 6.14 acres to 5.61 acres (a reduction of 0.53 acres) on the 8.77-acre Project site. The reduction in impervious surface area would decrease runoff from the Project site and would, therefore, reduce pollutant loading to downstream receiving waters.

The *Preliminary Water Quality Management Plan* details the Site Design, Source Control, and LID BMPs that would be implemented to target pollutants of concern in runoff from the Project site to reduce impacts to water quality during Project operations. The LID BMPs (pervious pavement) would capture and infiltrate approximately 80 percent of the average annual storm water runoff from the Project site, consistent with the requirements of the current fourth-term North Orange County Municipal Separate Storm Sewer System (MS4) Permit and Technical Guidance Document. The LID BMPs are anticipated to meet the requirements of the next North Orange County MS4 Permit, which is expected to require that

retention BMPs (which include infiltration BMPs) be selected for implementation before other types of BMPs unless substantial evidence is provided to support technical infeasibility. It is not anticipated that additional on-site detention would be necessary in order to satisfy the requirements of the subsequent North Orange County MS4 Permit.

The proposed Site Design BMPs include minimizing impervious surfaces, maximizing natural infiltration capacity, preserving existing drainage patterns and time of concentration, disconnecting impervious areas, protecting existing vegetation and sensitive areas and revegetating disturbed areas, and xeriscape landscaping. The nonstructural Source Control BMPs for the proposed Project include education for property owners, tenants, and occupants on pollutant prevention; activity restrictions on activities including handling and disposal of contaminants, fertilizer and pesticide application, and on-site vehicle or equipment repair and maintenance; common area landscape management, which entails reducing the potential pollutant sources of fertilizer and pesticide uses, use of water-efficient landscaping practices, and proper disposal of landscape wastes; BMP maintenance; common area litter control; employee training on maintenance activities that may impact water quality, spill cleanup procedures, proper waste disposal, and housekeeping practices; and street sweeping private streets and parking lots. Structural Source Control BMPs include the use efficient irrigation systems and landscape design, water conservation, smart controllers, and source control. Proposed LID BMPs include hydrologic source controls (impervious area dispersion and impervious area reduction) and infiltration BMPs (permeable concrete pavers).

Permeable pavers would capture and infiltrate low flows to allow for treatment by the soil. Permeable pavers provide a surface suitable for light loads and parking areas in which water can drain through pore spaces to an underlying rock reservoir. The subsurface base allows for physical and microbial filtering processes to take place which remove pollutants (e.g., as particulates, organics, hydrocarbons, and total suspended sediments), including attached heavy metals. Paver sections would be approximately 12 to 14 inches in depth with an infiltration rate of 0.6 inches per hour. The drawdown time for pavers would be less than 48 hours and would allow high flows to bypass the permeable pavers and flow into the downstream storm drain system.

As specified in Mitigation Measure WQ-2, a Final WQMP will be prepared based on the final plans and submitted to the City for review and approval. The Final WQMP will include an Operations and Maintenance Plan which will specify the inspection frequency and maintenance requirements for the BMPs. The homeowners association (HOA) of the community will be responsible for ongoing maintenance of all BMPs. Mitigation Measure WQ-3 requires that the Project Applicant provide proof to the City that all structural BMPs described in the Final WQMP have been constructed and installed in conformance with approved plans and specifications. The Project Applicant must also demonstrate to the City that all nonstructural BMPs described in the Project WQMP will be implemented. As specified in Mitigation Measure WQ-4, the responsibility of BMP maintenance will be transferred to any new HOA that assumes management responsibility of the community.

With implementation and maintenance of construction and post-construction BMPs that target pollutants of concern in storm water runoff, as specified in Mitigation Measures WQ-1

through WQ-4, Project impacts related to waste discharge requirement and water quality standards would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact

Mitigation Measures:

WQ-1 **Construction General Permit.** Prior to issuance of a grading permit, the Project Applicant shall obtain coverage under the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, National Pollutant Discharge Elimination System No. CAS000002) (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent (NOI) for coverage under the permit to the State Water Resources Control Board (SWRCB) via the Storm water Multiple Application and Report Tracking System (SMARTS). Construction activities shall not commence until a Waste Discharge Identification Number (WDID) is obtained from SMARTS. Prior to commencement of construction activities, the Project Applicant shall provide the WDID to the Director of the City of Garden Grove Public Works Department, or designee, to demonstrate proof of coverage under the Construction General Permit. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the proposed Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction Best Management Practices (BMPs), such as Erosion Control, Sediment Control, and Good Housekeeping BMPs, to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities. Upon completion of construction activities and stabilization of the Project site, a Notice of Termination (NOT) shall be submitted via SMARTS to terminate coverage under the Construction General Permit.

WQ-2 **Final Water Quality Management Plan.** Prior to the issuance of any grading or building permits, the Project Applicant shall submit a Final Water Quality Management Plan (WQMP) to the Director of the City of Garden Grove Public Works Department, or designee, for review and approval. The Final WQMP shall be prepared consistent with the Orange County Municipal Separate Storm Sewer System (MS4) Permit, Drainage Area Management Plan (DAMP), Model WQMP, and Technical Guidance Document. The Final WQMP shall specify BMPs to be incorporated into the design of the proposed Project. The BMPs shall include Site Design, Source Control, and Low Impact (LID) BMPs that target pollutants of concern in storm water runoff. The WQMP shall:

- Address Site Design BMPs based on the geotechnical report recommendations and findings for conformance with the required regime of structural BMPs, as outlined in the latest technical guidance document (TGD), such as infiltration, minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas
- Incorporate the applicable Routine Source Control BMPs as defined in the Drainage Area Management Plan (DAMP)
- Incorporate structural and Treatment Control BMPs as defined in the DAMP
- Generally describe the long-term operation and maintenance requirements for the Treatment Control BMPs
- Identify the entity that will be responsible for long-term operation and maintenance of the Treatment Control BMPs.

WQ-3 **BMP Implementation, Operation, and Maintenance.** Prior to building permit closeout, the Director of the City of Garden Grove Public Works Department, or designee, shall verify that the Project Applicant has:

- Demonstrated that all structural BMPs described in the Final WQMP have been constructed and installed in conformance with approved plans and specifications
- Demonstrated that the Project Applicant is prepared to implement all nonstructural BMPs described in the Final WQMP by detailing the activity restrictions, BMP maintenance activities, pollution prevention education, and employee training in the Final WQMP.
- Demonstrated that at least one copy of the approved Final WQMP are available on the Project site
- Submitted an Operations and Maintenance (O&M) Plan for all structural BMPs to the Director of the City of Garden Grove Community and Economic Development Department, or designee, for review and approval. The O&M Plan shall include the following requirements:
    - The HOA shall verify BMP implementation and ongoing maintenance through inspection, self-certification, survey, or other equally effective measure. The certification shall verify that, at a minimum, the inspection and maintenance of all structural BMPs including inspection and performance of any required maintenance in the late summer / early fall, prior to the start of the rainy season.
    - The HOA shall retain operations, inspections, and maintenance records of the BMPs and shall make the records available to the City or County upon request.

- All inspection and maintenance records shall be maintained for at least 5 years after the recorded inspection date for the lifetime of the Project.
- Long-term funding for BMP maintenance shall be funded through fees paid into the HOA. Shea Homes, which will set up the HOA, shall oversee that adequate funding for BMP maintenance is included within the HOA fee structure, including annual maintenance fees and long-term maintenance reserve funds.
- Revisions to the HOA's Covenants, Conditions, and Restrictions (CC&Rs) related to the WQMP and BMPs shall be prohibited except with the review and approval of the Director of the City of Garden Grove Public Works Department, or designee.

- Filed a record of the O&M Plan with the County Recorder's office
- Provided notice by recordation of the Final WQMP with the County Recorder's office prior to sale of the property to notify all future owners that the Final WQMP is bound in perpetuity to the property.
- Coordinate maintenance and other responsibilities with the Project CC&Rs.

WQ-4 **Transfer of WQMP Implementation Responsibility:** Should the maintenance responsibility be transferred at any time during the operational life of the proposed Project, such as when a homeowners association (HOA) is formed for the community or a new HOA assumes management of the community, a formal notice of transfer shall be submitted to the City of Garden Grove Public Works Department, or designee at the time responsibility of the property subject to the Final WQMP is transferred. The transfer of responsibility shall be incorporated into the Final WQMP as an amendment. CC&Rs shall include the WQMP by reference and preclude revisions to the WQMP except as approved by the City.

Significance Determination after Mitigation: Less than Significant Impact

(b) Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

During the subsurface investigation conducted as part of the *Preliminary Geotechnical Investigation* (Alta California Geotechnical, Inc. 2015), groundwater was encountered at a depth of 38 ft bgs. Historic groundwater levels are reported at 30 ft bgs. Excavation for the proposed Project would extend to a depth of 5 ft bgs. Therefore, groundwater would not be encountered during construction and groundwater dewatering would not be required.

The proposed Project would decrease impervious area on the Project site by 0.53 acres. The decrease in impervious area and implementation of pervious pavers would increase on-site infiltration. In addition, the proposed Project does not include the installation of on-site drinking water wells and would, therefore, not require groundwater extraction during operation. Therefore, the proposed Project would not substantially deplete groundwater supplies or interfere with groundwater recharge. Therefore, impacts to groundwater would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(c) 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, in a manner which would result in a substantial erosion or siltation on- or off-site?

During construction of the proposed Project, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be increased potential for soil erosion and siltation compared to existing conditions. During storm events, erosion and siltation could occur at an accelerated rate. As discussed in Response 4.9.a and specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed Project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. With implementation of the construction BMPs as specified in Mitigation Measure WQ-1, construction impacts related to on- or off-site erosion or siltation would be reduced to a less than significant level.

According to the *Preliminary Hydrology Report* (Fuscoe Engineering, 2016b), no existing storm drain systems are located on the Project site. Storm water runoff flows in a southerly direction on the Project site via surface flow toward Garden Grove Boulevard. Runoff then flows west along Garden Grove Boulevard, crosses Garden Grove Boulevard in a cross gutter, then flows south down Fairview Street, west on Downie Place, south on Stephens Avenue, west behind the homes along Bolivar Circle, then south to Ranchero Way. Storm water enters a grate inlet at Ranchero Way where it enters the storm drain system. The storm drain system connects to the East Garden Grove-Wintersburg Channel, which eventually discharges into the Pacific Ocean.

The proposed development would not change the general drainage pattern on the Project site or the downstream area. Storm water runoff would continue to drain south on the Project site and then flow east along Garden Grove Boulevard until it eventually enters the storm drain system. On-site runoff would flow from the residential buildings toward the on-site streets and into the pervious pavers along the parallel parking aisle along the streets. Low flows would flow within the pervious pavers where the flow would infiltrate into the soil. Higher flows would sheet flow over the streets or would flow along the curb before entering one of two culverts in the southwest corner of the Project site. High flows would continue to flow in a westerly direction along Garden Grove Boulevard and from there along the same path as

existing conditions, eventually discharging to the East Garden Grove-Wintersburg Channel and finally into the Pacific Ocean.

In the proposed condition, 5.61 acres of the site would be impervious surface areas and would not be prone to erosion or siltation. The remaining portion of the site (3.16 acres) would primarily be landscaping, which would minimize on-site erosion and siltation. The proposed Project would decrease the impervious surface area on the Project site by 0.53 acres compared to existing conditions, which would reduce peak flow rate from the Project site by 0.74 cfs for a 25-year storm event. As such, the Project would contribute to less runoff to Garden Grove Boulevard during storm events. Therefore, because the Project would not increase the volume of runoff from the Project site, the proposed Project would not contribute to additional downstream erosion or siltation. Finally, the proposed Project would not alter the course of a stream or river. As such, operational impacts related to on-site or off-site erosion or siltation would be less than significant. Therefore, with implementation of Mitigation Measure WQ-1, construction and operational impacts related to alteration of the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on or off site would be less than significant.

Significance Determination: Potentially Significant Impact

Mitigation Measures: Refer to Mitigation Measure WQ-1 in Response 4.9.a

Significance Determination after Mitigation: Less than Significant Impact

(d) 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 substantially increase the rate or amount of surface runoff above pre-development condition in a manner which would result in flooding on- or off-site?

During construction activities, soil would be compacted and drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for flooding compared to existing conditions. As discussed in Response 4.9.a and specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed Project to reduce impacts to water quality during construction, including those impacts associated with flooding. With implementation of the construction BMPs as specified in Mitigation Measure WQ-1, construction impacts related to on- or off-site flooding would be reduced to a less than significant level.

As discussed in Response 4.9.c, the proposed Project would not alter the existing on-site drainage patterns or increase the volume of runoff from the Project site compared to existing conditions. As discussed previously, the proposed Project would reduce the peak flow rate from the Project site by 0.74 cfs for a 25-year storm event. Therefore, the Project would not exceed the capacity of the downstream storm drain lines or result in off-site flooding. In addition, the proposed BMPs and on-site storm water facilities would be sized to accommodate and convey storm water runoff so that on-site flooding would not occur. Finally, the proposed Project would not alter the course of a stream or river. As such,

operational impacts related to on-site or off-site flooding would be less than significant. Therefore, with implementation of Mitigation Measure WQ-1, construction and operation impacts related to alteration of the existing drainage patterns in a manner that would substantially increase the rate or amount of surface runoff or result in flooding on or off site would be reduced to less than significant with implementation of Mitigation Measure WQ-1.

Significance Determination: Potentially Significant Impact

Mitigation Measures: Refer to Mitigation Measure WQ-1 in Response 4.9.a

Significance Determination after Mitigation: Less than Significant Impact

(e) Would the Project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

As discussed previously, storm water discharged from the Project site flows to Garden Grove Boulevard, where it then flows west along Garden Grove Boulevard until it enters the storm drain system and is discharged into the East Garden Grove-Wintersburg Channel. The proposed Project would reduce impervious surface area on the Project site by 0.53 acres which would reduce runoff from the Project site by 0.74 cfs during a 25-year storm event compared to the existing condition. Therefore, because the Project would decrease the volume of runoff from the Project site, the Project would not create or contribute additional runoff water to the downstream storm drain system that would exceed the capacity of the downstream storm drain system or the East Garden Grove-Wintersburg Channel.

As discussed previously, construction of the proposed Project has the potential to introduce pollutants to the storm drainage system from erosion, siltation, and accidental spills. However, as specified in Mitigation Measure WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented during Project construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, and spills. During operation, the proposed Project would reduce the peak flow of runoff and pollutant loading from the Project site compared to existing conditions. In addition, the proposed Project includes implementation and maintenance of Site Design, Source Control, and LID BMPs to target and reduce pollutants of concern in runoff from the Project site during operation, as specified in Mitigation Measures WQ-2 through WQ-4. With implementation of construction and operational BMPs, the proposed Project would not provide substantial additional sources of polluted runoff to the storm drain system. Therefore, with implementation of Mitigation Measures WQ-1 through WQ-4, impacts related to the creation or contribution of runoff water which would exceed the capacity of existing or planned storm water drainage systems or the provision of substantial additional sources of polluted runoff would reduce to a less than significant level.

Significance Determination: Potentially Significant Impact

Mitigation Measures: Refer to Mitigation Measures WQ-1 through WQ-4 in Response 4.9.a

Significance Determination after Mitigation: Less than Significant Impact

(f) Would the Project otherwise substantially degrade water quality?

Refer to Response 4.9.a. The proposed Project would not result in impacts beyond those discussed in Response 4.9.a.

Significance Determination: Potentially Significant Impact

Mitigation Measures: Refer to Mitigation Measures WQ-1 through WQ-4 in Response 4.9.a

Significance Determination after Mitigation: Less than Significant Impact

(g) Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (Map No. 06059C0144J; December 3, 2009), the proposed Project is not located in a 100-year special flood hazard area.[1] According to the FEMA FIRM, the Project site is located in Zone X (dotted), an area protected by levees from a 1 percent annual chance of flood (100-year flood). Zone X (dotted) is designated by FEMA as an Other Flood Area, which is not considered a Special Flood Hazard Area. Impacts related to failure of a levee are discussed in Response 4.9.i. Therefore, because the Project is not located within a special flood hazard area as designated by FEMA, the proposed Project would not place housing within a 100-year special flood hazard area. Therefore, no impacts related to placement of housing in a floodplain would occur and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(h) Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

As stated in Response 4.9.g, the Project site is located in Zone X (dotted), an area protected by levees from a 1 percent annual chance of flood (100-year flood). Zone X (dotted) is designated by FEMA as an Other Flood Area and is not considered a Special Flood Hazard Area. Impacts related to failure of a levee are discussed in Response 4.9.i. Because the Project is not located in a special flood hazard area as designated by FEMA, the proposed Project would not place structures within a 100-year flood hazard area that would impede or redirect flood flows. Therefore, no impacts related to placement of structures in a 100-year floodplain would occur and no mitigation is required.

[1] Land areas that are at high risk for flooding are called Special Flood Hazard Areas (SFHAs), or floodplains. These areas are indicated on Flood Insurance Rate Maps (FIRMs). The 100-year flood is referred to as the 1 percent annual exceedance probability flood, because it is a flood that has a 1 percent chance of being equaled or exceeded in any single year.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(i) Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

According to the Safety Element of the County of Orange *General Plan* (page IX-68), the Project site is located in the Prado Dam flood inundation zone. Prado Dam is a dam along the Santa Ana River in the Chino Hills near the City of Corona in Riverside County. According to the FEMA FIRM, the Project site is protected from the 100-year storm by levees along the Santa Ana River. Therefore, the proposed Project would place housing within an inundation zone, which would pose a risk to the occupants on the Project site in the event that Prado Dam or the Santa Ana levees were to fail.

Prado Dam and the Santa Ana River levees are maintained and inspected to ensure their integrity and to ensure that risks are minimized. In addition, construction of the Santa Ana River Mainstem Project was initiated in 1989 and is scheduled for completion in 2020. The Santa Ana River Mainstem Project will increase levels of flood protection to more than 3.35 million people within Orange, San Bernardino, and Riverside Counties. Improvements to 23 mi of the Lower Santa Ana River channel, from Prado Dam to the Pacific Ocean, are 95 percent complete and are anticipated to be completed by the end of 2016. Improvements to the Santa Ana River channel include construction of new levees and dikes. In addition, the Santa Ana River Mainstem Project includes improvements to Prado Dam, which are currently underway and are estimated to be completed in 2020. Improvements to Prado Dam include raising the spillway crest and increasing reservoir area by approximately 400 acres (Orange County Flood Division 2015).
Although the Project would include construction of a residential community within dam and levee inundation zones, the proposed Project would not increase the chance of inundation from failure of Prado Dam or the Santa Ana River levees. Therefore, Project impacts from exposure of people or structures to loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam, would be less than significant. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(j) Would the Project cause inundation by seiche, tsunami, or mudflow?

Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities (e.g., reservoirs and lakes). Such waves can cause retention structures to fail and flood downstream properties. No unenclosed water retention facilities are in close proximity to the Project site. In addition, the *Garden Grove General Plan* (2008) does not identify any reservoirs with seiching potential within the City limits. The risk associated with possible seiche waves is, therefore, not considered to be a potentially significant impact of the Project, and no mitigation is necessary.

Tsunamis are ocean wave trains generally caused by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rock falls, and exploding volcanic islands. The Project site is approximately 10 mi from the ocean shoreline and, according to the Tsunami Inundation Map for Emergency Planning (California Emergency Management Agency, California Geological Survey, and University of Southern California, 2009), is not in a tsunami inundation area. The risk associated with tsunamis is, therefore, not considered a potential hazard or a potentially significant impact, and no mitigation is required.

Mudslides and slumps are described as a shallower type of slope failure usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. The Project site is located in coastal lowlands on relatively flat topography. According to the *Preliminary Geotechnical Investigation* prepared for the proposed Project, no historic landslides exist on or near the Project site and hazards associated with landslides are not anticipated on the Project site. The risk associated with possible mudflows and mudslides is, therefore, not considered a potential constraint or a potentially significant impact of the proposed Project, and no mitigation is necessary.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.10 LAND USE/PLANNING

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Physically divide an established community?	☐	☐	☐	☒
(b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
(c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Impact Analysis:

(a) Would the Project physically divide an established community?

The Project site (Assessor's Parcel Nos. 231-041-26, 231-041-27, 231-041-28, and 231-255-01) consists of four parcels that, when combined, are approximately 0.901 acres in size. The Project site is bounded by Garden Grove Boulevard to the south, Lewis Street to the east, light industrial uses to the west with SR-22 beyond, and medium-density residential housing along El Prado Avenue to the north with SR-22 beyond.

Low-density residential and light commercial uses are located to the south and southwest along Garden Grove Boulevard. Other local uses include heavy commercial uses to the west and a variety of medium-density residential (Community Garden Towers) and general commercial uses to the east across Lewis Street.

The proposed Project involves the demolition of an existing church and private school and the construction of 70 single family residential units. Vehicular access to the proposed Project would be provided via a gated driveway on Lewis Street which would align with El Rancho Avenue (on the east side of Lewis Street).

The proposed Project would require the reorganization of jurisdictional lines to incorporate approximately 0.901 acre from the City of Orange into the City of Garden Grove. The reorganization would adjust the boundary between the City of Garden Grove and the City of Orange to the centerline of Lewis Street. As shown on Figure 2.8, Area of Reorganization, the boundary between the City of Garden Grove and the City of Orange would follow the centerline of Lewis Street north to the centerline of El Prado Avenue. The area and property to be readjusted include right-of-way associated with South Lewis Street and open space, respectively. The adjusted boundary would rejoin the existing boundary between the two cities (just north of the triangular section of undeveloped land created by the rerouting of Lewis Street as a result of the construction of SR-22).

The demolition of existing buildings on the site, access improvements, and the parcel readjustments included as part of the Project would not result in the physical division of an established community, including the residential communities north, east, and south of the

site. Therefore, the implementation of the proposed Project would not result in the physical division of any established community, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No Mitigation Required

(b) Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The Project site is within the City of Garden Grove and the City of Orange. As discussed previously, the proposed Project includes the reorganization of jurisdictional lines to incorporate 0.901 acre from the City of Orange into the City of Garden Grove. The main documents guiding development and regulating land uses in the City of Garden Grove are the City's General Plan and Zoning Ordinance. The Project site is designated Civic/Institutional in the General Plan and is zoned R-1-6, Single Family Residential, on the City's Zoning Map.

General Plan. The Garden Grove General Plan (2008) is the City's most fundamental planning document. The General Plan is a comprehensive plan intended to guide the physical development of the City and serves as a blueprint for future growth and development. As a blueprint for the future, the plan contains policies and programs designed to provide decision-makers with a solid basis for decisions related to land use and development.

As noted previously, the proposed Project includes a General Plan Amendment to modify the land use designation of the Project site from Civic/Institutional to Low Density Residential. Low Density Residential land use designation allows for the development of living accommodations, including single-family dwelling units. The Project site currently has no residential units. Following Project implementation, the Project site would have a net density of 7.8 dwelling units per acre, which is within the range allowed by the City's General Plan Low Density Residential land use designation.

Table 4.10.A provides a consistency analysis of the relevant goals and policies from the City's General Plan. In order to eliminate repetitive policies and focus on key issues, policies that are not relevant to the proposed Project are not included in Table 4.10.A. As stated in Table 4.10.A, the proposed Project would be consistent with applicable General Plan policies and no mitigation is required.

Zoning Ordinance. The City's Zoning Ordinance is the primary implementation tool for its General Plan Land Use Element and the goals and policies contained therein. For this reason, the Zoning Map must be consistent with the General Plan Land Use Map. The Land Use Map indicates the general location and extent of future land use in the City. The Zoning Ordinance, which includes the Zoning Map, contains more detailed information about permitted land uses, building intensities, and required development standards.

Table 4.10.A: General Plan Consistency Analysis

Select General Plan Policies	Consistency Analysis
Land Use Element	
Policy LU-1.1: Identify appropriate locations for residential and non-residential development to accommodate growth through the year 2030 on the General Plan Land Use Diagram (Exhibit LU-3).	**Consistent.** The proposed Project includes a General Plan Amendment request to modify the land use designation of the Project site from Civic/Institutional to Low Density Residential. The development would be located in an area zoned for residential development (R-1.6) near other residential areas located to the north, south, and east. The proposed Project would provide 70 single-family residential uses. Therefore, the proposed Project would assist with the accommodation of future growth in the City and would be consistent with Policy LU-1.1.
Policy LU-1.9: Designate areas for urban land uses where adequate levels of public facilities and services exist or are planned.	**Consistent.** As discussed further in Section 4.14, Public Services, and 4.17, Utilities, the proposed Project would be located in an area with adequate levels of public services (e.g., fire, police, water, and wastewater). Project impacts to utilities and other public services would be less than significant. Therefore, the proposed Project would be consistent with Policy LU-1.9.
Goal LU-2: Stable, well-maintained residential neighborhoods in Garden Grove.	**Consistent.** The proposed Project includes the development of 70 single-family residential units in a gated neighborhood. The neighborhood would be managed by a homeowners association (HOA) that would enforce CC&Rs to ensure that common areas within the community are maintained. Management by an HOA would help ensure that the neighborhood created by the Project would be a well maintained neighborhood. Therefore, the Project would be consistent with Goal LU-2.
Policy LU-2.2: Strive to provide a diverse mix of housing types, along with uniformly high standards of residential property maintenance to preserve residents' real estate values and their high quality of life.	**Consistent.** The proposed Project includes the development of 70 single-family residential units in a gated neighborhood. These homes would contribute to the diversity of housing options in the City. Therefore, the proposed Project would be consistent with Policy LU-2.2.
Policy LU-2.3: Prohibit uses that lead to deterioration of residential neighborhoods, or adversely impact the safety or the residential character of a residential neighborhood.	**Consistent**. The proposed Project includes the development of 70 single-family residential units in a gated neighborhood. The proposed Project would not modify the existing street network or introduce uses incompatible with existing residential uses to the north, east, or south. Therefore, the proposed Project would be consistent with Policy LU-2.3.
Policy LU-2.4: Assure that the type and intensity of land use shall be consistent with that of the immediate neighborhood.	**Consistent**. The development would be located in an area zoned for residential development (R-1.6) near other residential areas located to the north, south, and east. Therefore, the proposed Project would be consistent with General Plan Policy LU-2.4.
Policy LU-2.6: Ensure that every neighborhood has a unique community image that is incorporated and reflected in public facilities, streetscapes, signage, and entryways proposed for each neighborhood.	**Consistent**. The proposed Project is designed incorporating Santa Barbara, Andalusian, Monterey, and Formal Spanish styles. These styles include the use of specific design choices to create a unified and unique neighborhood. Therefore, the community has a unique image reflected in all aspects of the Project. Therefore, the

Table 4.10.A: General Plan Consistency Analysis

Select General Plan Policies	Consistency Analysis
	proposed Project would be consistent with General Plan Policy LU-2.6.
Policy LU-4.2: Ensure that infill development is well-planned and allows for increased density in Focus Areas along established transportation corridors.	**Consistent**. The proposed Project is a planned development that would introduce housing to the Project site. The Project is being built along Garden Grove Boulevard, which is a main transportation corridor in the City of Garden Grove. The Project would be considered in-fill development because the Project site is surrounded on all sites by existing development and would replace an existing use on the Project site. Further, the proposed Project would result in increased density on the Project site. Therefore, the proposed Project would be consistent with General Plan Policy LU 4.2.
Circulation Element	
Policy CIR-1.8: Ensure that new development can be accommodated within the existing circulation system, or planned circulation improvements, such that the standard of Level of Service (LOS) D is maintained.	**Consistent.** As discussed further in Section 4.16, the traffic analysis conducted for the proposed Project determined that the Project would not result in a significant impact to any study area intersection. The proposed Project would be accommodated by the existing circulation system and, therefore, would be consistent with Policy CIR-1.8.
Infrastructure Element	
Policy INFR-1.2: New development and redevelopment projects shall ensure that water infrastructure systems are adequate to serve the development.	**Consistent.** As discussed further in 4.17, Utilities, the proposed Project would be located in an area currently served by all utilities. The proposed Project would connect to existing facilities in Lewis Street and Project impacts related to water infrastructure systems would be less than significant. Therefore, the water infrastructure systems are adequate to serve the development and the Project is consistent with Policy INFR-1.2.
Noise Element	
Policy N-1.1: Require all new residential construction in areas with an exterior noise level greater than 55 dBA to include sound attenuation measures.	**Consistent.** As discussed in Section 4.12, among other things, the proposed Project would require the construction of a sound attenuation wall along Garden Grove Boulevard and the residential units would be required to meet ventilation standards required by the California Building Code (CBC) with the windows closed. With incorporation of these measures, the proposed Project would comply with the City's Noise Ordinance. Therefore, the proposed Project would be consistent with Policy N-1.1
Policy N-1.2: Incorporate a noise assessment study into the environmental review process, when needed for a specific project for the purposes of identifying potential noise impacts and noise abatement procedures.	**Consistent**. A noise assessment was prepared as part of this IS/MND (refer to Section 4.12). The analysis herein identified potential noise impacts and appropriate noise mitigation measures. With incorporation of these measures, the proposed Project would comply with the City's Noise Ordinance. Therefore, the Project would be consistent with Policy N-1.2.

Table 4.10.A: General Plan Consistency Analysis

Select General Plan Policies	Consistency Analysis
Parks, Recreation, and Open Space Element	
Policy PRK-1.4: Encourage the provision of parks and recreation space in new development and redevelopment projects.	**Consistent**. The proposed Project would include the development of a private recreation area that would be located near the entrance of the residential community. The recreation area would feature the following amenities: a playground, an open turf area, two covered barbeque dining areas, and a shade structure with bench seating. Therefore, the Project is consistent with Policy PRK-1.4.
Conservation Element	
Policy CON-1.3: Promote water conservation in new development or redevelopment project design, construction, and operations.	**Consistent**. The proposed Project would be consistent with California's Title 24 energy code and the California Green Buildings Standards codes. As such, the proposed Project would incorporate the following sustainability features: low-flow toilets; low-flow showerheads; low-flow kitchen faucets; and tankless water heaters. Therefore, the proposed Project would be water efficient and the proposed Project would be consistent with the intent of Policy CON-1.3.
Goal CON-7: Significant historical, architectural, archeological, and cultural value resources shall be preserved and protected.	**Consistent**. As discussed in Section 4.5, there are no known archaeological, historical, or paleontological resources on the Project site. Mitigation has been included to address the discovery of buried resources during construction. Therefore, the Project would be consistent with Goal CON-7.
Safety Element	
Policy SAF-5.1: Continue to develop and enforce construction and design standards related to fire prevention.	**Consistent**. The proposed Project would provide fire sprinklers in all residential units and would construct/install three new fire hydrants on the Project site. Therefore, the Project would be consistent with Policy SAF-5.1.
Policy SAF-6.3 Ensure that new structures are seismically safe through the proper design and construction. The minimum level of design necessary would be in accordance with seismic provisions and criteria contained in the most recent version of the State and County Codes. Construction shall require effective oversight and enforcement to ensure adherence to the earthquake design criteria.	**Consistent.** New structures at the proposed Project site would be constructed in accordance to State and County building codes to ensure that structures are designed with greater than the minimum level of seismic safety. Therefore, the Project would be consistent with Policy SAF-6-3.

Source: City of Garden Grove Central Plan (2008).
CBC = California Building Code
CC&Rs = Covenants, Conditions, and Restrictions
City = City of Garden Grove
dBA = A-weighted decibel(s)
HOA = homeowners association
IS/MND = Initial Study/Mitigated & Negative Declaration

The Project site currently has the zoning designation of R-1-6, Single Family Residential. The Project proposes to rezone the Project site to a Residential Planned Unit Development. A planned unit development (PUD) is a precise plan, adopted by ordinance, which provides the

means for the regulation of buildings, structures, and uses of land in order to facilitate the implementation of the General Plan. The regulations of the planned unit development are intended to provide for a diversity of uses, relationships, and open spaces in an innovative land plan and design, while ensuring compliance with the provisions of the Municipal Code.

Section 9.08.030.020 of the City's Municipal Code prohibits PUDs less than 3 acres in size for residential uses. The proposed Project site is 9.01 acres. Section 9.08.030.020 also requires that PUDs be in conformity with all elements of the General Plan, and any other ordinances of the City. As discussed above, the proposed Project would be consistent with the Goals and Policies contained in the City's General Plan. The proposed Project includes a General Plan Amendment to modify the land use designation of the Project site from Civic/Institutional to Low Density Residential. The Low Density Residential land use designation allows for the development of living accommodations including single-family dwelling units. The Project site currently has no residential units. Following Project implementation the Project site would have a net density of 7.8 dwelling units per acre, which is within the range allowed by the City's General Plan Low Density Residential land use designation. Therefore, the proposed Project would be consistent with the requirements of the Garden Grove Municipal Code (GGMC) regarding consistency with the General Plan.

The City's Municipal Code also requires that PUDs be in full conformance with the following:

2) That the location, design and proposed uses are compatible with the character of existing development in the vicinity and will be well integrated into its setting;
3) That the plan will produce a stable and desirable environment and will not cause undue traffic congestion on surrounding or access streets;
4) That the provision is made for both public and private open spaces;
5) That provision is made for the protection and maintenance of private areas reserved for common use; and
6) That the quality of the project achieved through the planned unit development zoning is greater than could be achieved through traditional zoning.

The proposed Project would be located in an area with existing residential development. Residential uses would be located to the north, east, and south of the Project site. As discussed further in Section 4.16, the traffic analysis conducted for the proposed Project determined that the Project would not result in a significant impact to any study area intersection. The proposed Project would be accommodated by the existing circulation system. The proposed Project would include the development of a 14,089 sf private recreation area that would be located near the entrance of the residential community. The recreation area would feature the following amenities: a playground, an open turf area, two covered barbeque dining areas, and a shade structure with bench seating. Common areas, including the recreation area, would be managed by an HOA to ensure adequate maintenance and security. Management by an HOA would help ensure that the neighborhood created by the Project would be a well-maintained neighborhood. Overall, the PUD allows for a unique

and high quality small lot subdivision project that would not otherwise be possible in the City.

For the reasons outlined above, the proposed Project would be consistent with applicable zoning code development standards, and no mitigation is required.

Reorganization. The Project site is within the City of Garden Grove and the City of Orange. As discussed previously, the proposed Project includes the reorganization of jurisdictional lines to incorporate 0.901 acre from the City of Orange into the City of Garden Grove. As previously stated, the Project site is designated Civic/Institutional to Low Density Residential in the City of Garden Grove General Plan and is zoned R-1-6, Single Family Residential. Comparatively, areas immediately west of the Project site located in the City of Orange are designated Medium-Density Residential. The City of Orange classifies the area to be reorganized into the City of Garden Grove as Office Professional (O-P).

The proposed Project includes the reorganization of jurisdictional boundaries to incorporate 0.901 acres of land from the City of Orange into the City of Garden Grove. This process would be organized through coordination with the Orange County LAFCO in conjunction with both the City of Orange and City of Garden Grove. The reorganization would require an agreement of property tax exchange between the Cities and would require discretionary action from LAFCO. Under the condition in which the reorganization is approved, the jurisdictional control of the land would change and regulation of the reorganized area would change from the City of Orange General Plan to the City of Garden Grove General Plan (State of California 2012). As stated in Tables 4.10.A and 4.10.B, the proposed Project would be compliant with City of Garden Grove regulations and would not conflict with plans, policies, or regulations instated to prevent adverse effects. Therefore, the reorganization of land from the City of Orange to the City of Garden Grove would create a less than significant impact and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(c) Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan?

The Project site is currently developed and located in an urban area. The Project site is not located in or adjacent to an existing or proposed HCP, NCCP, or other approved local, regional, or State HCP. More specifically, the City of Garden Grove is not within the boundaries of the Orange County Central/Coastal NCCP\HCP. As such, implementation of the proposed Project would not conflict with the provisions of an HCP, NCCP, or other habitat conservation plan, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

Table 4.10.B Zoning Ordinance Development Standards Consistency Analysis

City of Garden Grove Zoning Standards Chapter 9.12.040.060 Special Requirements—Small Lot Subdivisions	Project Consistency Analysis
Minimum Lot Size The minimum lot size for a small lot subdivision shall be one acre. GGMC Sec. 9.12.040.060 (A)	The lot size is 9.01 acres. Therefore, the Project is compliant with the GGMC requirement for minimum lot size.
Minimum Number of Lots There shall be a minimum of six lots for a small lot subdivision. GGMC Sec. 9.12.040.060 (A)	The Project consists of 70 lots. Therefore, the Project is compliant with the GGMC requirement regarding the minimum number of lots.
Development Perimeter Block Wall Each development shall provide a decorative masonry perimeter wall with a minimum height of six feet but not to exceed a maximum height of eight feet. GGMC Sec. 9.12.040.060 (C)	The proposed Project would include 6-foot walls along the north, east, and west perimeter of the site and an 8-foot wall along the southern site perimeter (along Garden Grove Boulevard). Therefore, the proposed Project would be consistent with the regulations set forth in the GGMC.
Development Entrance. • The development's entrance shall be enhanced to provide a sense of neighborhood arrival. • Entrance enhancement may include such elements as signage, special landscaping, decorative pavement, enhanced fence wall details, water features utilizing reclaimed water, boulevard median, and similar aesthetic improvements. • If the development includes a security gate, the setback shall comply with the required setbacks established by the Public Works Engineering Division. GGMC Sec. 9.12.040.060(D)	The Project entrance would feature distinct pavers and an entrance gate as well as date palms, which are not used elsewhere on the property. This creates a sense of neighborhood arrival for the Project. Additionally, the gate would be set back 75.9 feet and feature aesthetic improvements to set it apart from the rest of the community. The security gate setback would comply with the requirements of the Public Works Planning Division. Therefore, the Project would be consistent with the GGMC.
Common Recreational Space 200 square feet per dwelling unit GGMC Sec. 9.12.040.060 (E)	The proposed Project would include the development of a 14,089-square-foot private recreation area that would be located near the entrance of the residential community. The recreation area would feature the following amenities: a playground, an open turf area, two covered barbeque dining areas, and a shade structure with bench seating. The required common recreation space for any development over 10 units is 200 square feet per unit, so this development would require 14,000 square feet. Therefore, the proposed Project would be consistent with the GGMC.
Internal Streets 36 ft wide with 2 sided parking 28 ft wide with 1 sided parking GGMC Sec. 9.12.040.060 (F)	All streets with parking on both sides within the Project are 36 feet wide and all streets with parking on one side are 28 feet wide. Therefore, the proposed Project would be consistent with the GGMC.
Project Sidewalks 48 inches wide GGMC Sec. 9.12.040.060 (G)	All sidewalks proposed as part of the Project would be at least 4.5 feet wide, which is greater than the required 48 inches. Therefore, proposed Project would be consistent with the GGMC.

Table 4.10.B Zoning Ordinance Development Standards Consistency Analysis

City of Garden Grove Zoning Standards Chapter 9.12.040.060 Special Requirements—Small Lot Subdivisions	Project Consistency Analysis
Group Mailboxes. If group mailboxes are part of the project design, the mailboxes should be located conveniently and in a safe location within the community. The City shall determine and approve the location of the group mailboxes. • The group mailboxes shall be designed with the architectural character of surrounding buildings, and be similar in form, materials, and colors. • Group mailboxes shall be illuminated with lights and fixtures similar to those used externally throughout the development. • Design and location of group mailboxes must conform to US Post Office requirements. GGMC Sec. 9.12.040.060 (H)	The group mailboxes would be designed with character similar to that of the surrounding community. They would be located near the recreation area for a centralized location and would be lit with interior development lights. The mailboxes would also be consistent with all U.S. Post Office requirements for mailboxes. Therefore, the proposed Project would be consistent with the GGMC.
Dwelling Open Space 15 ft x 20 ft area (GGMC Sec. 9.12.040.060 (H)	All dwellings have a minimum of 300 square feet of open space consisting of a 15 foot x 20 foot area. Therefore, the proposed Project would be consistent with the GGMC.
Front Setbacks 10 ft minimum when adjacent to private roads GGMC Sec. 9.12.040.060 (I)	The minimum front setback for any design would be 10 feet from the sidewalk. Therefore, the proposed Project would be consistent with the GGMC.
Dwelling Height Not to exceed 30 ft if 2 stories tall GGMC Sec. 9.12.040.060 (L)	All buildings are no more than two stories tall and are less than 30 feet tall. Therefore, the proposed Project would be consistent with the GGMC.
Parking Requirements 3.75 spaces per unit 2 spaces in an enclosed garage 1 guest parking space in driveway 0.75 unassigned guest parking space in parking lot or street GGMC Sec. 9.12.040.060 (O)	All units include a two-car garage and a one-car guest driveway. In addition, there are 53 street spaces within the Project site. This would be a total of 263 spaces provided on site, which meets the minimum requirements. Therefore, the proposed Project would be consistent with the GGMC.
Landscaping. All setback areas, and all areas not designated for walkways, parking, drive aisle, and private recreation areas, shall be fully landscaped and irrigated. • All unpaved areas shall be planted with an effective combination of trees, grass berms, ground cover, lawn, shrubbery, and/or approved dry decorative landscaping material. • Water-efficient landscape documentation shall be required for all new and rehabilitation landscaping. • Adjacent uses shall be considered when designing landscaping to mitigate negative impacts on parking areas, outdoor activities, storage, or other structures by appropriate	All unpaved areas in the proposed Project would feature drought tolerant or native vegetation. Streets would feature tree wells and dwelling units would each have a lawn area and landscaped zones in their respective private yards. Water-efficient irrigation would be used for all landscaped areas and all areas around the Project site would be observed for incorporation in landscaping design. The existing landscaping would be removed during construction and, therefore, would not be incorporated in the proposed Project. Therefore, the proposed Project would be consistent with the GGMC.

Table 4.10.B Zoning Ordinance Development Standards Consistency Analysis

City of Garden Grove Zoning Standards Chapter 9.12.040.060 Special Requirements—Small Lot Subdivisions	Project Consistency Analysis
screening methods. • Where existing mature landscaping is in good, healthful condition, every effort shall be made to retain and to incorporate said landscaping into the overall landscaping theme. GGMC Sec. 9.12.040.060 (S)	

GGMC = Garden Grove Municipal Code

4.11 MINERAL RESOURCES

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
(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?	☐	☐	☐	☒

Impact Analysis:

(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?

In 1975, the California Legislature enacted the Surface Mining and Reclamation Act which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZ):

- **MRZ-1:** an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence
- **MRZ-2:** an area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence
- **MRZ-3:** an area containing mineral deposits, the significance of which cannot be evaluated
- **MRZ-4:** an area where available information is inadequate for assignment to any other MRZ zone

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are designated by the Mining and Geology Board as being "regionally significant." Such designations require that a Lead Agency's land use decisions involving designated areas be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency's jurisdiction.

The Project site has been classified by the California Department of Mines and Geology as being located in MRZ-3, indicating that the Project site is located in an area where there are mineral deposits, the significance of which cannot be evaluated. Although the California Department of Mines and Geology classified the site as MRZ-3, the site has never been associated with an mineral resources or mineral resource extraction activities. Therefore, because no known mineral resources are present on the Project site, the Project would not result in the loss of a known commercially valuable mineral resource that would be of value

to the region and the residents of the State. Therefore, no impacts to known mineral resources would occur and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(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?

As stated in Section 4.11.a, no known valuable mineral resources exist on or near the Project site. The Project site is currently developed with a church and school and no mineral extraction activities occur on site. In addition, the Project site is not identified on a local General Plan, Specific Plan, or other land use plan as a location of a locally important mineral resource. The proposed Project would not result in the loss of a locally important mineral resource recovery site. Therefore, no significant impacts related to mineral resources would result from Project implementation, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.12 NOISE

Would the project result in:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Technical Background

The following provides an overview of the characteristics of sound and the regulatory framework that applies to noise within the vicinity of the Project site.

Characteristics of Sound. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements, which better represent how humans are more sensitive to sound at night.

As noise spreads from a source, it loses energy; therefore, the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise-sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noise occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The noise adjustments are added to noise events occurring during the more sensitive hours.

Characteristics of Vibration. Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors where the motion may be discernible. However, without the effects associated with the shaking of a building, there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Building damage is not a factor for normal transportation projects, including rail projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 VdB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with groundborne vibration and noise from these sources are usually localized to areas within approximately 100 ft of the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 ft (Federal Transit Administration [FTA] 2006). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. For most projects, it is assumed that the roadway surface will be smooth enough that groundborne vibration from street traffic will not exceed the impact criteria; however, construction of the Project could result in groundborne vibration that could be perceptible and annoying. Groundborne noise is not likely to be a problem because noise arriving via the normal airborne path usually will be greater than groundborne noise.

Groundborne vibration has the potential to disturb people as well as damage buildings. Although it is very rare for groundborne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2006). Groundborne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). RMS is best for characterizing human response to building vibration, and

PPV is used to characterize the potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where L_v is the velocity in decibels (VdB), "V" is the RMS velocity amplitude, and "V_{ref}" is the reference velocity amplitude, or 1×10^{-6} inches per second used in the United States. Table 4.12.A illustrates the human response to various vibration levels, as described in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

Table 4.12.A: Human Response to Different Levels of Ground-Borne Noise and Vibration

Vibration Velocity Level	Noise Level		Human Response
	Low Freq[1]	Mid Freq[2]	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level unacceptable. Low-frequency noise acceptable for sleeping areas; mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise unacceptable for sleeping areas; mid-frequency noise unacceptable even for infrequent events with institutional land uses (e.g., schools and churches).

Source: Table 7-1. *Transit Noise and Vibration Impact Assessment*, Federal Transit Administration (2006).
[1] Approximate noise level when vibration spectrum peak is near 30 Hz.
[2] Approximate noise level when vibration spectrum peak is near 60 Hz.
dBA = A-weighted decibels Hz = Hertz
Freq = Frequency VdB = vibration velocity decibels

Factors that influence groundborne vibration and noise include the following:

- **Vibration Source:** Vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with groundborne vibration indicates that (1) vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at large distances from the track. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

Applicable Noise Standards. The applicable noise standards governing the Project site are the criteria in the City's Noise Element of the General Plan (Noise Element) and Chapter 8.47 of the City's Municipal Code. In accordance with the Municipal Code, a noise level increase of 5 dBA over the ambient base noise level or existing average ambient noise level at an adjacent property line is considered a noise violation.

General Plan. California Government Code Section 65302(g) requires that a noise element be included in the General Plan of each county and city in the State. The Noise Element of the City General Plan is intended to identify sources of noise and provide objectives and policies that ensure that noise from various sources does not create an unacceptable noise environment. Overall, the City's Noise Element describes the noise environment (including noise sources) in the City, addresses noise mitigation regulations, strategies, and programs, as well as delineating federal, State, and City jurisdiction relative to rail, automotive, aircraft, and nuisance noise.

The City's noise standards are correlated with land use categories in order to maintain identified ambient noise levels and to limit, mitigate, or eliminate intrusive noise that exceeds the ambient noise levels within a specified zone. The City uses the community noise compatibility guidelines established by the State Department of Health Services as a tool for use in assessing the compatibility of various land use types with a range of noise levels. These guidelines are set forth in the City's General Plan Noise Element in terms of the CNEL.

In accordance with the Noise and Land Use Compatibility Matrix from the State of California Office of Planning and Research, found in Table 7-1 of Noise Element of the City's General Plan, a noise exposure of up to 60 dBA CNEL is considered the most desirable target for the exterior of noise-sensitive land uses or sensitive receptors (e.g., homes, schools, churches, and libraries). It is also recognized that such a level may not always be possible in areas of substantial traffic noise intrusion. Exposures up to 70 dBA CNEL for noise sensitive uses are considered conditionally acceptable if all measures to reduce such exposure have been taken. Noise levels above 70 dBA CNEL are normally unacceptable for sensitive receptors except in unusual circumstances. Based on this guidance, a typical exterior noise level of 65 dBA CNEL will be used to assess potential traffic noise impacts within this analysis.

Municipal Code. Section 8.47.040, Ambient Base Noise Levels, provides ambient base noise levels that can be used to determine noise level exceedances. The City's ambient base noise levels are shown in Table 4.12.B.

Table 4.12.B: Ambient Base Noise Levels

Use Categories	Use Designations	Ambient Base Nosie Levels	Time of Day
Sensitive	Residential Use	55 dBA	7 a.m. to 10 p.m.
		50 dBA	10 p.m. to 7 a.m.
Conditionally Sensitive	Institutional Use	65 dBA	Any Time
	Office – Professional Use	65 dBA	Any Time
	Hotels & Motels	65 dBA	Any Time
Non-Sensitive	Commercial Uses	70 dBA	Any Time
	Commercial / Industrial uses within 150 feet of Residential	65 dBA	7 a.m. to 10 p.m.
		50 dBA	10 p.m. to 7 a.m.
	Industrial Uses	70 dBA	Any Time

Source: *City of Garden Grove Municipal Code* (2011).
dBA = A-weighted decibels

The ambient base noise levels contained in Table 4.12.B can be used as the basis for determining noise levels in excess of those allowed by the City's Municipal Code, unless the actual measured ambient noise level occurring at the same time as the noise under review is being investigated exceeds the ambient base noise level contained in the table. According to the Municipal Code, when the actual measured ambient noise level exceeds the ambient base noise level, the actual measured ambient noise level should be used as the basis for determining whether or not the subject noise exceeds the level allowed by this section.

In situations where two adjoining properties exist within two different use designations, the most restrictive ambient base noise level applies. The City's Municipal Code also permits any noise level that does not exceed either the ambient base noise level or the actual measured ambient noise level by 5 dBA, as measured at the property line of the noise-generating property.

Additionally, subsection C of Section 8.47.050, General Noise Regulation, provides the following criteria used when the operation in question occurs for less than 30 minutes in an hour:

1. The noise standard for a cumulative period of more than 30 minutes in any hour;
2. The noise standard plus five dBA for a cumulative period of more than 15 minutes in any hour;
3. The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour;
4. The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
5. The noise standard plus 20 dBA for any period of time.

According to the City's Municipal Code, in the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth

noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Section 8.47060, Special Noise Sources, Subsection D, Construction of Buildings and Projects, states:

> It shall be unlawful for any person within a residential area, or within a radius of 500 feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects, or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 10:00 p.m. of one day and 7:00 a.m. of the next day in such a manner that a person of normal sensitiveness, as determined utilizing the criteria established in Section 8.47.050(B), is caused discomfort or annoyance unless such operations are of an emergency nature.

Additionally, Subsection I, Loading/Unloading, of the same section states:

> It shall be unlawful for any person in any commercial or industrial area of the City that abuts or is located adjacent to any residential property between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day to load or unload any vehicle, or operate any dollies, carts, forklifts, or other wheeled equipment that causes any noise that disturbs the peace or quiet of the residential neighborhood.

Because the City's Municipal Code does not establish construction noise thresholds, for the purposes of analyzing the significance under CEQA, the *Transit Noise and Vibration Impact Assessment* (FTA 2006) criteria will be used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction when the noise criteria are exceeded. For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period. In compliance with the City's Municipal Code, it is assumed construction would not occur during the noise-sensitive nighttime hours.

Applicable Vibration Standards

Due to the lack of vibration standards developed for projects similar to the proposed Project, vibration standards included in FTA Manual are used in this analysis for groundborne vibration impacts, as shown in Table 4.12.C.

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table 4.12.B lists the potential vibration damage criteria associated with construction activities, as suggested in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

Table 4.12.C: Construction Vibration Damage Criteria

Building Category	PPV (inch/sec)	Approximate L_V (VdB)[1]
Reinforced concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Nonengineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: Table 12-3. *Transit Noise and Vibration Impact Assessment*, Federal Transit Administration (2006).
[1] RMS vibration velocity in decibels (VdB) re 1 micro-inch/second.
inch/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity in decibels

FTA guidelines show that a vibration level of up to 102 vibration velocity in decibels (VdB) (an equivalent to 0.5 inch per second [inch/sec] in PPV) (FTA 2006) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a nonengineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 inch/sec in PPV). The PPV values for building damage thresholds referenced above are also shown in Table 4.12.D, taken from the *Transportation and Construction*

Table 4.12.D: Guideline Vibration Potential Threshold Criteria

Structure and Condition	Maximum PPV (inch/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[2]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Source: Table 19. *Transportation and Construction Vibration Guidance Manual*, California Department of Transportation (2013).
[1] Transient sources create a single, isolated vibration event (e.g., blasting or drop balls).
[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
inch/sec = inches per second
PPV = peak particle velocity

Vibration Guidance Manual (Caltrans 2013), which included additional building definition and vibration building damage thresholds. Vibration impacts are discussed under Threshold 4.12.(b).

Existing Noise Environment

The Project site is south and southeast of SR-22 and is bordered to the west by existing commercial/industrial uses, to the south by Garden Grove Boulevard, to the east by South Lewis Street and to the north by existing multifamily residences. The noise levels at the Project site are dominated by traffic on the surrounding streets. In order to assess the existing noise conditions in the area, noise measurements were gathered along the western, eastern, and southern property line of the proposed Project. Four long-term 24-hour measurements were taken from November 3, 2016, to November 4, 2016. The location of the noise measurements are shown on Figure 4.12.1 with the results shown in Table 4.12.E.

Impact Analysis:

(a) Would the Project result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Standards and ordinances applicable to the proposed Project would be associated with construction, long-term traffic, and stationary noise. The proposed Project consists of construction and operation of 70 single-family detached residential units. The Project also includes the development of a private recreation area that would be located near the entrance of the residential community.

Table 4.12.E: Existing Noise Level Measurements

Location	Description	Daytime Noise Levels (dBA L_{eq})	Evening Noise Levels (dBA L_{eq})	Nighttime Noise Levels (dBA L_{eq})	Daily Noise Levels (dBA CNEL)
LT-1	Located approximately 180 feet from the edge of SR-22 on the northwest portion of the Project site.	54.5 – 63.3	60.7 – 61.1	57.0 – 63.4	67.0
LT-2	Located approximately 360 feet southeast from the edge of SR-22 and 395 feet north of the edge of Garden Grove Boulevard along the western property line of the Project site.	55.1 – 65.7	59.5 – 61.6	57.9 – 66.4	68.5
LT-3	Located 95 feet north of the edge of Garden Grove Boulevard near the southwestern corner of the Project site.	63.1 – 66.7	61.4 – 63.3	56.9 – 64.6	68.3
LT-4	Located approximately 25 feet west of the edge of South Lewis Street near the eastern property line of the Project site.	66.5 – 73.3	67.3 – 68.4	60.2 – 69.9	72.7

Source: LSA, November 3–4, 2016.
Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.
Evening Noise Levels = noise levels during the hours of 7:00 p.m. to 10:00 p.m.
Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
L_{eq} = the average noise level during a specific hour
LT = long-term measurement
SR-22 = State Route 22

Figure 4.12.1: Noise Monitoring Locations

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Short-Term Construction Noise Impacts. Short-term noise impacts would be associated with demolition of the existing structures, excavation, grading, and construction of the proposed structures. Construction-related short-term noise levels would be higher than existing ambient noise levels in the Project area at the present time, but would no longer occur once construction of the Project is completed.

Two types of short-term noise impacts could occur during construction of the proposed Project.

The first type of short-term construction noise would result from the transport of construction equipment and materials to the Project site and construction worker commutes. These transportation activities would incrementally raise noise levels on access roads leading to the site. Larger trucks used in equipment delivery are expected to generate higher noise impacts than trucks associated with worker commutes. The single-event noise from equipment trucks passing at a distance of 50 ft from a sensitive noise receptor would reach a maximum level of 84 dBA L_{max}. However, the pieces of heavy equipment for grading and construction activities would be moved on site just one time and would remain on site for the duration of each construction phase. This one-time trip, when heavy construction equipment is moved on and off site, would not add to the daily traffic noise in the Project vicinity. Furthermore, the projected traffic from the construction worker commutes would be minimal when compared to existing traffic volumes on the affected streets, and its associated long-term noise level change would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts would be short term and would not result in a significant off-site noise impact.

The second type of short-term noise impact is related to noise generated during excavation, grading, and building erection on the Project site. Construction is completed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.12.F lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receptor, taken from the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM; FHWA 2006).

Typical noise levels range up to 90 dBA L_{max} at 50 ft during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because earthmoving equipment is the noisiest construction equipment. Earthmoving equipment includes excavating machinery (e.g., backfillers, bulldozers, draglines, and front loaders) and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Table 4.12.F: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Air Compressor	40	80
Backhoe	40	80
Cement Mixer	50	80
Concrete/Industrial Saw	20	90
Crane	16	85
Excavator	40	85
Forklift	40	85
Generator	50	82
Grader	40	85
Loader	40	80
Paver	50	85
Roller	20	85
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84
Welder	40	73

Source: Federal Highway Administration, *Highway Construction Noise Handbook* (2006).
dBA = A-weighted decibel
ft = feet
L_{max} = maximum noise level

Based on the information in Table 4.12.F, the maximum noise level generated by each scraper on the proposed Project site is assumed to be 85 dBA L_{max} at 50 ft from the scraper. Each bulldozer would also generate 85 dBA L_{max} at 50 ft. The maximum noise level generated by water and pickup trucks is approximately 84 dBA L_{max} at 50 ft from these vehicles. As presented in Appendix H, the combination of this equipment, taking into account the usage factor of each piece of equipment, would result in a combined noise level of 88.6 dBA L_{eq} at a distance of 35 ft, which represents the distance from equipment at the Project site to the nearest noise-sensitive uses to the north.

Noise level projections were also calculated from the center of the construction activity to the nearest residences due to the spreading of equipment expected. At a distance of 300 ft from the nearest property line, construction noise levels would be expected to approach 69.9 dBA L_{eq} while noise levels may approach 88.6 dBA L_{eq} at the nearest off-site residential uses (to the north) when construction activities occur near the Project site boundary. Compliance with the City's Noise Ordinance would ensure that construction noise does not disturb residents during the times they are most likely to be home or during hours when ambient noise levels are likely to be lower (i.e., at night). As stated above, the FTA's daytime construction noise criteria or threshold for residential uses is 80 dBA L_{eq} for an 8-hour period. Because construction noise levels would exceed the hourly noise level standard, mitigation would be required to address potential impacts related to construction noise. Mitigation Measure NOI-1 would limit construction hours and require the construction contractor to implement noise reducing measures during construction. Although construction noise would be higher than the

ambient noise in the Project vicinity, it would cease to occur once Project construction is completed. Vibration impacts are discussed under Threshold 4.12.(b).

The temporary perimeter wall and duration of heavy equipment operations as required by Mitigation Measure NOI-1 would be expected to reduce noise at ground level sensitive receptors by approximately 9.3 dBA. With the inclusion of Mitigation Measure NOI-1, construction noise levels would no longer exceed the 80 dBA L_{eq} noise criteria at residential uses. Additionally, Mitigation Measure NOI-1 includes further feasible and reasonable construction operational measures to reduce construction noise. Therefore, construction activity would comply with the FTA criteria, and a less than significant impact would occur.

Long-Term Off-Site Traffic Noise Impacts. The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the Project site. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The existing and future traffic volumes along the roadways analyzed in the study area were obtained from the traffic analysis prepared for the proposed Project (LSA January 2017b; Appendix F of this Initial Study/Mitigated Negative Declaration [IS/MND]). Tables 4.12.G through 4.12.J list the existing and future traffic noise levels for these roadway segments in the Project vicinity. These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix H of this IS/MND.

Tables 4.12.G through 4.12.J show the traffic noise levels for the Existing Year (2016) with and without the Project as well as Future Year (2019) with and without the Project. Traffic noise levels would be low to moderately high. The increase in Project-related traffic noise levels would be very small, ranging from 0.0 to 0.2 dBA along the segments analyzed. These noise level increases are small and not perceptible by the human ear, therefore, off-site traffic noise impacts would be less than significant, and no mitigation is required.

Long-Term On-Site Traffic Noise Impacts. The proposed on-site residential uses would be exposed to traffic noise impacts from primarily SR-22, approximately 250 ft to the northwest at the closest point, and South Lewis Street and Garden Grove Boulevard, both located adjacent to the Project site, as well as minor noise impacts from other surrounding properties and streets. Although CEQA does not generally require an analysis of the effects of the environment on the Project, the following analysis is provided to disclose noise levels experienced by future residents. Based on the noise levels presented in Table 4.12.K, existing noise levels at the rear yards along the southern and eastern property line as well as the northwest corner of the Project site exceed the 65 dBA CNEL exterior noise level standard. In order to calibrate the noise model, Table 4.12.K shows the difference in the measured existing levels and modeled existing levels. These differences are associated with shielding from buildings and existing freeway walls as well as surrounding commercial and industrial uses that provide noise impacts to the Project site. These differences will be applied to the

Table 4.12.G: Existing Baseline Traffic Noise Levels

Roadway Segment	Average Daily Traffic	Center line to 70 CNEL (ft)	Center line to 65 CNEL (ft)	Center line to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
South Lewis Street, North of Lampson Avenue	17,200	< 50	91	190	66.5
South Lewis Street, Lampson Avenue to Garden Grove Boulevard	14,300	< 50	81	169	65.7
South Lewis Street, South of Garden Grove Boulevard	2,400	< 50	< 50	51	59.4
Lampson Avenue, West of South Lewis Street	11,400	< 50	57	117	63.7
Lampson Avenue, East of South Lewis Street	10,100	< 50	< 50	108	63.2
Garden Grove Boulevard, West of South Lewis Street	24,100	56	112	238	67.9
Garden Grove Boulevard, East of South Lewis Street	18,300	< 50	94	198	66.7

Source: Compiled by LSA (November 2016).
[1] Traffic noise within 50 ft of roadway centerline requires site-specific analysis.
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
ft = feet

Table 4.12.H: Existing Plus Project Traffic Noise Levels

Roadway Segment	Average Daily Traffic	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Outermost Lane	Change from No Project Level (dBA)
South Lewis Street, North of Lampson Avenue	17,400	< 50	92	192	66.5	0.0
South Lewis Street, Lampson Avenue to Garden Grove Boulevard	14,700	< 50	82	172	65.8	0.1
South Lewis Street, South of Garden Grove Boulevard	2,400	< 50	< 50	51	59.4	0.0
Lampson Avenue, West of South Lewis Street	11,500	< 50	57	118	63.7	0.0
Lampson Avenue, East of South Lewis Street	10,300	< 50	53	109	63.2	0.0
Garden Grove Boulevard, West of South Lewis Street	24,300	57	113	239	68.0	0.1
Garden Grove Boulevard, East of South Lewis Street	18,400	< 50	95	199	66.8	0.1

Source: Compiled by LSA (November 2016).
[1] Traffic noise within 50 ft of roadway centerline requires site-specific analysis.
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
ft = feet

Table 4.12.I: Future Conditions (Year 2019) Without Project Traffic Noise Levels

Roadway Segment	Average Daily Traffic	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
South Lewis Street, North of Lampson Avenue	18,400	< 50	95	199	66.8
South Lewis Street Lampson Avenue to Garden Grove Boulevard	14,900	< 50	83	173	65.8
South Lewis Street, South of Garden Grove Boulevard	2,400	< 50	< 50	51	59.4
Lampson Avenue, West of South Lewis Street	11,900	< 50	58	120	63.9
Lampson Avenue, East of South Lewis Street	11,200	< 50	56	116	63.6
Garden Grove Boulevard, West of South Lewis Street	25,000	57	115	243	68.1
Garden Grove Boulevard, East of South Lewis Street	19,000	< 50	97	203	66.9

Source: Compiled by LSA (November 2016).
[1] Traffic noise within 50 ft of roadway centerline requires site-specific analysis.
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
ft = feet

Table 4.12.J: Future Conditions (Year 2019) With Project Traffic Noise Levels

Roadway Segment	Average Daily Traffic	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Outermost Lane	Change from No Project Level (dBA)
South Lewis Street, North of Lampson Avenue	18,600	< 50	95	200	66.8	0.0
South Lewis Street, Lampson Avenue to Garden Grove Boulevard	15,300	< 50	85	176	66.0	0.2
South Lewis Street, South of Garden Grove Boulevard	2,400	< 50	< 50	51	59.4	0.0
Lampson Avenue, West of South Lewis Street	12,000	< 50	58	121	63.9	0.0
Lampson Avenue, East of South Lewis Street	11,400	< 50	57	117	63.7	0.1
Garden Grove Boulevard, West of South Lewis Street	25,200	58	116	245	68.1	0.0
Garden Grove Boulevard, East of South Lewis Street	19,100	< 50	97	204	66.9	0.0

Source: Compiled by LSA (November 2016).
[1] Traffic noise within 50 ft of roadway centerline requires site-specific analysis.
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
ft = feet

Table 4.12.K: On-Site Unmitigated Exterior Noise Levels (dBA CNEL)

Location	Major Source of Noise	Measured Existing	Modeled Existing	Difference[1]	Modeled Future Levels Prior to Adjustment	Adjusted Future Noise Levels
Northwest Corner of Site	SR-22	67.0	75.1	-8.2	75.4	67.2
Southern Property Line	Garden Grove Boulevard	68.3	65.7	2.3	69.7	72.0
Eastern Property Line	South Lewis Street	72.7	67.7	-[2]	67.8	67.8

Source: Compiled by LSA (November 2016).
[1] The difference shown accounts for shielding from existing walls and buildings as well as other sources in the surrounding community, including commercial and industrial uses.
[2] The difference at this location was not carried forward due to change in sources of noise from existing to future conditions
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
SR-22 = State Route 22

future modeled noise levels to accurately assess the impact on site. The difference between existing and modeled noise levels along the eastern property line were not carried forward due to the change in noise sources in the area. The measurement gathered was highly influenced by activities at the school which would not occur once the proposed Project is developed.

In addition to the traffic information presented in the traffic analysis, data from the Caltrans Census Data website was used to analyze impacts from SR-22. As presented on the Caltrans website, the existing average daily traffic for this segment of SR-22 is 229,800 vehicles per day. Future traffic noise levels were calculated assuming a 0.04 percent increase in traffic volume on SR-22 per year based on recent trends and a 1 percent increase per year in traffic volume on the surrounding roadways.

The results of the analysis shown in Table 4.12.K identify exterior noise levels that exceed the City's 65 dBA CNEL exterior noise level standard after adjustment.

After identifying the exterior noise levels at the single-family homes along the property line of the proposed Project which exceed the City's exterior noise level standard, perimeter walls were modeled to provide noise reduction. As shown Table 4.12.L, as well as the printouts in Appendix H, calculations were completed assuming the proposed 6 ft high wall as well as a slightly taller 8-ft high wall. With the construction of the perimeter wall, as presented in Mitigation Measure NOI-2 and shown on Figure 4.12.2, exterior noise levels would be reduced to a less than significant level. The Project Applicant/Developer shall install a solid gate at the emergency vehicle entrance on Garden Grove Boulevard or install "curved" walls as shown in Figure 4.12.2.

Figure 4.12.2: Perimeter Wall Location

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Table 4.12.L: Future On-Site Exterior Noise Levels (dBA CNEL)

Location	Unmitigated Noise Levels	Noise Reduction From 6-foot Perimeter Barrier	Mitigated Noise Level with 6-foot Perimeter Barrier	Noise Reduction From 8-foot Perimeter Barrier	Mitigated Noise Level with 8-foot Perimeter Barrier
Northwest Corner of Site	**67.2**	5.7	61.5	8.4	58.8
Southern Property Line	**72.0**	6.3	**65.7**	9.2	62.8
Eastern Property Line	**67.8**	6.3	61.5	9.2	58.6

Source: Compiled by LSA (November 2016).
Numbers in **bold** exceed the City's exterior noise level standard of 65 dBA CNEL
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel

In addition to showing compliance with the exterior noise levels standards, the analysis below addresses potential interior noise impacts. As presented above, noise levels at the exterior of the first floor façade would range from 61.5 to 62.8 dBA CNEL while noise levels at second floor façades would range from 67.2 to 72.0 dBA CNEL. In order to comply with the City's interior noise level standard of 45 dBA CNEL, a reduction ranging from 16.5 to 17.8 dBA CNEL and 22.2 to 27 dBA CNEL would be required at first and second floor façades, respectively.

Based on the ratings provided in Sound Control For Commercial And Residential Buildings (North American Innovation Manufacturers Association 1997), standard building construction used in Southern California consisting of 7/8-inch stucco, 1-inch woven mesh and No. 15 felt paper, 2-inch x 4-inch studs, 0.5-inch gypsum board, and standard insulation batt provides an Sound Transmission Class (STC) rating of 46. In combination with standard wall construction, it is expected that windows with a rating of STC-27 (ABC 2008) would provide an overall noise reduction of 27.4 dBA CNEL. With a windows closed condition, interior noise levels would be approximately 44.6 dBA (i.e., 72.0 dBA – 27.4 dBA = 44.6 dBA), which is below the 45 dBA CNEL interior noise standard with windows closed for noise-sensitive land uses. Therefore, in addition to perimeter walls, Mitigation Measure NOI-2 requires the Project to incorporate measures necessary to meet the interior noise standard of 45 dBA CNEL. Specifically, Mitigation Measure NOI-2 requires all residential units on the Project site to have windows with a minimum STC rating of 27 and that all residential units be able to meet the ventilation standards required by the CBC with windows closed. This would likely require installation of air-conditioning systems or another form of mechanical ventilation to ensure that windows can remain closed for a prolonged period of time. With implementation of Mitigation Measure NOI-2, the proposed Project would comply with interior noise standards and long-term on-site traffic noise impacts would comply with applicable requirements.

Long-Term Stationary Noise Impacts. As shown on Figure 2.5, the proposed Project also includes the development of a private recreation area that would be located near the entrance of the residential community. The recreation area would feature the following amenities: a playground, an open turf area, two covered barbeque dining areas, and a shade structure with

bench seating. Activities at the recreation area are expected to produce minimal noise impacts and any impacts created would be shielded by the homes located between the recreation area and the multifamily residential uses to the north. In addition, activities at the recreation area are expected to be governed by HOA rules that would limit the hours of use to 7:00 a.m. to 10:00 p.m. Therefore, due to shielding, distance, and anticipated limitations on hours of operation, potential impacts to off-site residential uses from the proposed recreation area would be less than significant. Mitigation Measure NOI-3 requires the HOA to limit the hours of use at the recreation area to the hours between 7:00 a.m. and 10:00 p.m. The HOA may choose to further restrict hours at its discretion.

In addition to traffic noise impacts from the northwest, east, and south, the proposed Project could be potentially impacted by operations at the commercial/industrial uses to the west. The results of the long-term noise measurement at LT-2 show that maximum noise levels from activities at the neighboring uses reach 73.7 dBA L_{max}. As compared to the City's maximum nighttime noise level standard of 70 dBA L_{max}, noise impacts would exceed the maximum nighttime noise level standard by 3.7 dBA L_{max}. With the construction of the 6 ft high perimeter wall, noise levels associated with operations at the commercial/industrial uses to the west would be reduced to below 70 dBA L_{max}.

Significance Determination: Potentially Significant Impact

Mitigation Measures:

NOI-1 **Construction Noise and Vibration:** Prior to issuance of building permits, the Director of the Garden Grove Community and Economic Development Department, or designee, shall verify that grading and construction plans include the following requirements:

- Construction activities occurring as part of the project shall be subject to the limitations and requirements of the City of Garden Grove Municipal Code, which states that construction activities shall occur only between the hours of 7:00 a.m. and 10:00 p.m.
- A temporary 8-ft-high perimeter wall shall be placed along the northern perimeter of the project site such that the line of sight from ground-level construction equipment and sensitive receptors would be blocked. The construction barrier shall be composed of a material that has a minimum Sound Transmission Class (STC) rating of 27.
- Limit the operations of heavy equipment, specifically scrapers and bulldozers, to less than six (6) hours in duration when activities occur within 50 ft of the northern property line.
- Ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved:
- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.

- Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site whenever feasible.
- The construction contractor shall use on-site electrical sources to power equipment rather than diesel generators where feasible.
- All residential units located within 500 ft of the construction site shall be sent a notice regarding the construction schedule. A sign, legible at a distance of 50 ft shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities, as well as provide a telephone number for the "noise disturbance coordinator."
- A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures to reduce noise levels. All notices that are sent to residential units within 500 ft of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.
- The construction contractor shall schedule high vibration producing activities between the hours of 8:00 a.m. and 5:00 p.m. to minimize disruption to sensitive uses.
- Grading and construction contractors shall use equipment that generates lower vibration levels such as rubber-tired equipment rather than metal-tracked equipment when construction is located near existing sensitive uses.

NOI-2 **Long-Term On-Site Traffic Noise.** Prior to issuance of building permits, the Director of the Garden Grove Community and Economic Development Department, or designee, shall verify that construction plans include the following:

- Construction an 8 foot-high wall along the southern perimeter of the Project site (adjacent to Garden Grove Boulevard) and 6 foot-high walls along the northern, western and eastern perimeters of the Project site. The Project Applicant/Developer shall install a solid gate at the emergency vehicle entrance on Garden Grove Boulevard or install "curved" walls as shown in Figure 4.12.2.
- All residences, including all bedrooms and living rooms, shall have windows with a minimum STC rating of 27.
- All exterior windows and doors shall be well-sealed and free of gaps or air spaces.

- Prior to the issuance of building permits, documentation shall be provided to the Director of the City of Garden Grove Community and Economic Development Department, or designee, demonstrating that project buildings meet ventilation standards required by the California Building Code (CBC) with the windows closed. It is likely that a form of mechanical ventilation, such as an air-conditioning system, will be required as part of the project design for all residences.

NOI-3: **Recreation Area Municipal Code Compliance.** Prior to the issuance of any certificates of occupancy, the Project Applicant/Developer shall submit documentation to the Director of the City of Garden Grove Community and Economic Development Department, or designee, demonstrating that, at a minimum, the homeowners association (HOA) shall limit the hours of use in the private on-site recreation area to the hours between 7:00 am and 10:00 pm. The HOA shall post signs with the hours of access or use in conspicuous places within the recreation area. This requirement shall be included in the Declaration of Covenants, Conditions, and Restrictions (CC&Rs) for the community and shall not be removed.

Significance Determination after Mitigation: Less than Significant Impact

(b) Would the Project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction of the proposed Project would use heavy equipment (e.g., bulldozers), which would be considered the primary source of vibration during the construction phase. No pile driving is proposed to occur on site during construction. The level of impact at which vibration impacts occur to surrounding uses is dependent primarily on distance. Based on information provided in the *FTA Transit Noise and Vibration Assessment Manual* (FTA 2006), vibration impacts created by heavy construction activities would approach 0.089 inch per second at a distance of 25 ft. This level would not exceed the 0.12 inch per second threshold at which there is virtually no risk resulting in architectural damage to buildings extremely susceptible to vibration damage, and therefore, construction vibration impacts would be less than significant.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(c) Would the Project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project

A substantial permanent increase in ambient noise levels in the project vicinity above existing levels would occur if the Project would cause noise levels to increase by 3 dBA or more. As discussed in Response 4.12.a, neither the long-term traffic nor stationary noise sources would cause an increase in ambient noise levels of more than 3 dBA at sensitive receptors in the

vicinity of the Project site, thus the impact would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(d) Would the Project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed in Response 4.12.a, implementation of the proposed Project would include construction activities that would result in a substantial temporary increase in ambient noise levels in the Project site vicinity above levels existing without the Project, but would no longer occur once construction is completed. Sensitive receptors in the Project vicinity are as close as 25 ft from proposed construction areas. Compliance with the hours specified in the City's Municipal Code regarding construction activities, as well as implementation of Mitigation Measure NOI-1, would reduce construction noise impacts on adjacent noise-sensitive land uses when construction occurs near the Project boundaries.

Significance Determination: Potentially Significant Impact

Mitigation Measure: Refer to Mitigation Measure NOI-1

Significance Determination after Mitigation: 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 expose people residing or working in the project area to excessive noise levels?

The Project is approximately 7 mi north of John Wayne Airport (SNA). The proposed Project is over 6 mi outside of the 65 dBA noise contours of this airport; therefore, the noise-related impact due to airport activities would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The Project site is not in the vicinity of a private airstrip. No impacts related to private airstrips are anticipated, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

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4.13 POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
(b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis:

(a) Would the Project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Project includes the development of a gated residential community consisting of 70 single-family detached homes, which may slightly increase the residential population in the City. According to the California Department of Finance City/Population and Housing Estimates (May 2016), the average number of persons per dwelling unit in the City in 2015 was 3.73 persons. Based on the City's average occupancy rate of 3.73 persons per unit, the proposed Project would introduce approximately 261[1] persons into the Project area. The addition of 261 new residents would be approximately 0.15 percent of the 2010 population of 170,883 (U.S. Census Bureau 2010), 0.15 percent of the City's population in 2015 of 176,262 (California Department of Finance 2016), and 0.15 percent of the 2040 population of 178,200.[2]

The Project proposes to change the General Plan land use designation from Civic/Institutional to Low Density Residential, which allows for a maximum of 9 dwelling units per acre. The proposed Project would include approximately 7.8 dwelling units per acre, which would be less than the maximum allowed. The increase in population resulting from the proposed Project is not considered significant because it only comprises a small portion (less than 1 percent) of the total population of the City and does not represent a substantial increase in population.

In addition, the Regional Housing Needs Assessment Allocation Plan (RHNA), mandated by the California State Housing Element law, as part of the process of updating local housing elements of the General Plan, has quantified a range of housing needs by income groups for each jurisdiction during specific planning periods. According to the City's 2014–2021

[1] 70 dwelling units x 3.73 persons = 261.1

[2] Southern California Association of Governments, 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, Demographics and Growth Forecast, Table 11 Jurisdictional Forecast. April 2016. http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf

General Plan Housing Element, SCAG has established a RHNA goal for the City to develop 747 new housing units by the year 2021. Of these 747 units, 164 would be set aside for Extremely Low/Very Low Income groups, 120 units for Low Income Groups, 135 for Moderate Income Groups, and 328 for Above Moderate Groups. The proposed Project would develop the Project site with 70 new market-rate housing units, which would help to meet the City's current housing needs and RHNA goal.

Additionally, the proposed Project is bordered on all sides by urban uses, including single- and multifamily residential, industrial, and commercial development. The Project does not propose to expand any surrounding utility infrastructure in the Project vicinity. Therefore, the proposed Project would not directly or indirectly induce population growth through the extension of roads or other infrastructure. Therefore, potential impacts related to substantial inducement of population growth, either directly or indirectly, would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The Project site is currently developed with a church and school. No housing currently exists on the Project site, and housing displacement would not occur as a result of Project implementation. Therefore, the proposed Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Project site is currently developed with a church and school. No housing currently exists on the Project site, and no people would be displaced as a result of Project implementation. Therefore, the proposed Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.14 PUBLIC SERVICES

Would the project:

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project result in substantial adverse physical impacts associated with the provision of or 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:				
	i) Fire Protection?	☐	☐	☒	☐
	ii) Police Protection?	☐	☐	☒	☐
	iii) Schools?	☐	☐	☒	☐
	iv) Parks?	☐	☐	☒	☐
	v) Other public facilities?	☐	☐	☒	☐

Impact Analysis:

(a) (i) Would the project result in substantial adverse physical impacts associated with the provision of or 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: Fire Protection?

The GGFD provides fire protection and emergency services throughout the City. The GGFD provides a wide array of services to the community, including emergency medical service, fire suppression and prevention, response to hazardous and toxic material release, and technical rescue. The GGFD operates 7 fire stations and has 29 firefighters on duty daily. The GGFD's total emergency activity includes 25 percent fire protection and 75 percent emergency medical services (City of Garden Grove 2016).

The GGFD is divided into two primary divisions: the Fire Operations Division and the Administrative Services/Fire Marshal Division. The Fire Operations Division consists of the fire training and emergency services operations, whereas the Administrative Services/Fire Marshal Division consists of fire investigation activities and the Fire Prevention Bureau (i.e., plan check, public information, and public education services and activities).

Fire Station No. 3 is the closest fire station to the proposed Project site and is located at 12132 Trask Avenue. The Project site, which is northwest of the Lewis Street/Garden Grove Boulevard intersection, is approximately 1.3 mi northeast of Fire Station No. 3. Because of its location, Fire Station No. 3 would likely be the first to respond to a call for service at the Project site and would, therefore, be designated the "first-in" station. Fire Station No. 3 is equipped with one Paramedic Assessment Engine Company (consisting of a captain, engineer, firefighter, and paramedic) and one reserve engine company.

The GGFD is currently in the process of submitting plans for a new fire station to replace a single-bay fire station at Chapman Avenue and Debbie Lane. The new station is proposed to

be located at West Haven Park. There also are plans to increase staffing at Station No. 5, Station No. 3, and the Truck Company. While these stations do not directly serve the Project site, increased resources at these stations would ensure that the City continues to be able to meet Citywide response time goals.

In 2014, the GGFD responded to 12,349 calls for service with an average response time of 4 minutes, 47 seconds (City of Garden Grove 2015a).The City's current response time goal is no more than 8 minutes 90 percent of the time for firefighting services and no more than 6 minutes 90 percent of the time for emergency medical services (Spargur 2016). As such, the City is currently meeting its current response time goals. Written correspondence with the Operations Division Chief at the GGFD confirmed that the proposed Project would not significantly impact response times at the Project site.[1] As a residential Project, the proposed Project would not be anticipated to result in an excessive increase in calls for service. In addition, as discussed in Section 4.16 of this IS/MND, the proposed Project would not result in a substantial increase in traffic congestion or significant impacts at local intersections that would delay emergency vehicles. However, as previously stated, the GGFD is currently pursuing increased staffing efforts at several stations to ensure that response times will continue to meet or exceed response time goals for firefighting and emergency medical services.

In order to meet GGFD standards and to comply with the California Fire Code (in effect at the time of the application for the building permit) the proposed Project would include, but not be limited to, the following safety measures:

- All buildings on the Project site would include automatic fire sprinkler systems.
- The proposed Project would include the installation of three new on-site hydrants.
- Emergency vehicles would be able to enter and exit the Project site via the gated access driveway off Lewis Street and/or the gated access driveway on Garden Grove Boulevard. The gated access driveways shall be installed with emergency opening devices as approved by the GGFD.

Project compliance with requirements set forth in the Fire Code would provide fire protection for people and structures, as well as emergency medical services on site. In addition, as discussed in Section 4.16, the proposed Project would not result in a significant traffic impact to any study area intersections. Therefore, the proposed Project would not impair emergency response vehicles, and average response times in the area would remain within acceptable response time limits.

The proposed Project is a residential community, which would increase the number of on-site visitors and personnel. The addition of 70 residential units as a result of the proposed Project would result in a small increase in demand for fire protection services, but it would not trigger the need for new or altered facilities. No new facilities would be required to be constructed to accommodate the proposed Project. As stated above, the proposed Project would be designed to comply with all Fire Department access requirements and California

[1] Email correspondence with the Jeff Spargur, Division Chief-Operations, of the GGFD on Monday, November 7th, 2016.

Fire Code requirements, would not impair emergency response vehicles or increase response times, and would not substantially increase calls for service, thereby triggering the need for new or altered facilities. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(a) (ii) Would the project result in substantial adverse physical impacts associated with the provision of or 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: Police Protection?

The GGPD provides police protection services throughout the City. The GGPD has one station located within the Civic Center Complex at 11301 Acacia Parkway, approximately 2.19 mi west of the Project site. Police service needs are determined by performing periodic analysis of various factors including officer-per-capita ratio, number of calls for service, and officer unstructured time.

The current GGPD staffing level is 159 officers to 176,262 residents, (California Department of Finance 2016) or a ratio of 0.90 GGPD staff per 1,000 residents.[1] Response times are calculated from time of dispatch to first officer on the scene. During the 2014–2015 Fiscal Year, the GGPD responded to 46,072 calls for service with an average response time of 4 minutes, 12 seconds for priority calls (City of Garden Grove 2015a).

As previously stated in Section 4.13, Population and Housing, the proposed Project would increase the City's population by 261 residents. When considered with the existing population, the Project-related population increase would have no impact on the GGPD's ratio of police officers per 1,000 residents.[2] Therefore, the increase in population associated with the proposed Project would be minimal compared to the number of police officers currently employed by the City, and would not trigger the need for new or physically altered police facilities. Although the proposed Project would incrementally contribute to demand for additional police protection services, impacts to police services would be less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(a) (iii) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to

[1] City of Garden Grove, Police Department. http://www.ci.garden-grove.ca.us/police (accessed September 28, 2016).

[2] 176,262 (2015 population) + 262 = 176,523 persons. 159 police officers per 176,523 = 0.90 officers per 1,000 residents.

maintain acceptable service ratios, response times or other performance objectives for any of the public services: Schools?

While the Project site is in the geographic boundaries of the City, the Project property is in the jurisdictional boundaries of Orange Unified School District (OUSD).[1] The OUSD currently serves approximately 30,000 students in grades kindergarten through 12. The OUSD's boundaries encompass all or part of the Cities of Anaheim, Garden Grove, Orange, Santa Ana, and Villa Park. The OUSD operates 49 schools/programs: 27 elementary schools, 6 middle schools, and 5 high schools, in addition to 11 additional schools and programs (e.g., alternative education, preschools, and continuing education). The closest elementary, middle, and high schools to the Project site are Lampson Elementary (0.42 mi northwest of the site), Portola Middle (1.97 mi northeast of the site), and Orange High School (3.16 mi northeast of the site).

The current student capacity for the schools nearest to the Project site are shown in Table 4.14.A, School Capacities and Enrollment.

Table 4.14.A: School Capacities and Enrollment

School	Grade	Current Enrollment[1]	Current Capacity[2]	Resident Enrollment[3]	Under Capacity
Lampson Elementary School	K–5	846	960	954	114
Portola Middle School	6–8	735	1,112	1,211	377
Orange High School	9–12	1,927	2,580	2,782	653

Source: Matthew Strother, Executive Director, Facilities and Planning, OUSD, written correspondence on October 7, 2016.

1 Current enrollment includes the number of students actually attending the school in 2014–2015.

2 Current capacity includes the school's current operating capacity or the number of students the school can serve while operating during the current calendar year.

3 Resident enrollment includes the total number of students living in the school's attendance area who are eligible to attend the school.

K = kindergarten

OUSD student generation rates for single-family residential units were used to analyze the estimated students generated as a result of Project implementation. Based on these generation factors, it is assumed that the 70 single-family units proposed would generate approximately 23 elementary school children, 5 middle school children, and 9 high school students (refer to Table 4.14.B, Projected School Enrollments).

Table 4.14.B: Projected School Enrollment

Grade Levels	Student Generation Factor	Projected Enrollment
Elementary School	0.325 students/unit	22.75 students
Middle School	0.063 students/unit	4.41 students
High School	0.123 students/unit	8.61 students

1 Orange Unified School District (OUSD). https://www.orangeusd.org/news/2008/ORMaps_08.pdf (accessed November 18, 2016).

Table 4.14.B: Projected School Enrollment

Grade Levels	Student Generation Factor	Projected Enrollment
Total	**-**	**35.77 students**

Source: City of Orange. 2010 General Plan EIR.
Note: The Projected Enrollment is based on the proposed Project size of 70 detached residential units

The small increase in students projected as a result of Project implementation would incrementally increase the demand for school facilities. As illustrated by Tables 3.14.A and 3.14.B, the existing elementary, middle, and high schools serving the Project site would have sufficient capacity to serve the Project-related increase in school children. Furthermore, written correspondence with OUSD's Executive Director of Facilities and Planning confirmed that the District is not planning to construct new schools to serve the area because there is not currently a need for an additional school in the area, nor would implementation of the Project generate such a need for additional facilities.[1]

Pursuant to California Education Code Section 17620(a)(1), the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district for the purpose of funding the construction or reconstruction of school facilities. The Project Applicant would be required to pay such fees to reduce any impacts of new residential development on school services as provided in Section 65995 of the California Government Code. Pursuant to the provisions of Government Code Section 65996, a project's impact on school facilities is fully mitigated through payment of the requisite school facility development fees current at the time a building permit is issued. The current Development Impact Fee for residential projects in excess of 500 square feet within the OUSD's jurisdictional boundaries is $3.20 per square foot. Therefore, with payment of the required fees, potential impacts to school services and facilities associated with implementation of the proposed Project would be less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(a) (iv) Would the project result in substantial adverse physical impacts associated with the provision of or 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: Parks?

As discussed in Section 3.15, Recreation, the City maintains and operates 19 parks that account for 157 acres of parklands and recreational facilities. The closest park to the Project site is the Haster Basin Recreational Park, approximately 0.5 mi northwest of the Project site at 12952 Lampson Avenue. Amenities at this park include soccer fields, barbeques, bicycle

[1] Email correspondence with Matthew C. Strother, Friday, October 7th, 2016.

racks, exercise stations, park shelters, an improved jogging trail, a children's playground, and a small lake.

The current City Parks Recreation and Open Space Element requires the provision of 2 acres of parkland per 1,000 residents. As discussed above, development of the proposed Project would result in an increase of 261 new residents. The addition of 261 residents generated by the proposed Project would require 0.52 acres of parkland, which is 0.3 percent of existing park area in the City. The proposed Project includes a private park within the development consisting of 0.32 acres of recreation space reserved for the residents of the proposed Project (City of Garden Grove, 2008). The addition of new residents generated by the proposed Project could incrementally increase usage of City parks and recreational facilities. Although implementation of the proposed Project would cause an incremental increase in demand for parks, this increase would be offset by the inclusion of a 0.32-acre private recreational area to be located near the entrance of the residential community. This area would feature a playground, an open turf area, two covered barbeque dining areas, and a shade structure with bench seating. In addition, the City requires payment of an in-lieu fee for upgrades to existing parks. Therefore, impacts to parks and recreational facilities would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(a) (v) Would the project result in substantial adverse physical impacts associated with the provision of or 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: Other Public Facilities?

The City is served by the Orange County Public Library's Garden Grove Regional Branch at 11200 Stanford Avenue, as well as the Garden Grove Chapman Branch at 9182 Chapman Avenue. The Garden Grove Regional Library is currently 21,484 sf in size, has a collection of 96,335 materials, and serves a population of 118,724. The Garden Grove Chapman Library is currently 5,279 sf in size, has a collection of 29,638 materials, and serves a population of 28,638 (Fried 2016). Each branch is operated as a community resource providing library materials, computer access, meeting room space, and study areas.

As discussed above, development of the proposed Project would result in an increase of an estimated 261 new residents. Although implementation of the proposed Project would cause an incremental increase in demand for library facilities, this increase would be minimal, and impacts to library facilities would be less than significant. No mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation would be required

4.15 RECREATION

Would the project:

	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?	☐	☒	☐	☐
(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?	☐	☐	☒	☐

Impact Analysis:

(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?

The City maintains and operates 14 park properties and uses 5 public schools as additional park facilities that account for approximately 157 acres of parklands and recreational facilities. The addition of approximately 261 residents generated by the proposed Project could incrementally increase usage of City parks and recreational facilities. The current City Parks Recreation and Open Space element requires 2 acres of parkland per 1,000 residents. The additional residents would require 0.52 acres of parkland, which is 0.3 percent of existing park area in the City. The proposed Project includes a private park within the development consisting of 0.32 acres of recreation space reserved for the residents of the proposed Project (City of Garden Grove, 2008).

Section 9.40.140 of the GGMC was adopted to implement the provisions of the Quimby Act (State of California Planning and Zoning Law, Section 66477), which allows the legislative body of a city to require the dedication of land for park facilities and/or the payment of in lieu fees for park and recreational purposes as a condition to the approval for a final tract map or parcel map for certain subdivisions. The proposed Project would increase the City's population by approximately 261 residents and would be subject to the dedication of land for park facilities and/or the payment of in-lieu fees for park and recreational purposes. GGMC Section 9.40.140, Dedication, states that the subdivider shall dedicate land or pay a fee in lieu of, or a combination of both, as a condition of approval for the purpose of providing parks and recreation facilities. The City will require the Applicant to pay fees as identified in Mitigation Measure REC-1. Therefore, with the provision of 0.32 acre of on-site open space and the payment of in-lieu park fees, impacts to recreation requirements would be less than significant. The proposed Project would not increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial deterioration of the facilities would occur or be accelerated.

Significance Determination: Potentially Significant Impact

Mitigation Measure:

REC-1 **Dedication Fees.** Prior to issuance of any building permits , the Project Applicant shall provide proof to the Director of the City of Garden Grove Economic and Community Development Department, or designee, that payment of park fees to the City of Garden Grove has been made in accordance with the Development Agreement between the City of Garden Grove and the Project Applicant .

Significance Determination after Mitigation: Less than Significant Impact

(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 proposed Project includes a 0.32-acre neighborhood park, which would be available only to residents and their guests. The proposed Project would not include any recreational facilities that would be open to the general public. The construction of the proposed Project includes the 0.32-acre park, therefore, analysis of adverse physical effects of the park have been incorporated into other portions of this IS/MND. For example, irrigation of the neighborhood park was considered in Section 4.17, Utilities/Service Systems. Project impacts associated with an increase in water demand are considered less than significant. Therefore, the proposed Project does not include recreational facilities that would have an adverse effect on the environment.

The increase in population associated with the proposed 70-unit Project would be 261 residents. Based on the City's parkland requirement of 2 acres per 1,000 residents, the proposed Project would increase the demand for park land in the City by 0.52 acre. As previously mentioned, the applicant is required by the City to pay in-lieu park fees (Refer to Mitigation REC-1). The proposed Project does not involve the construction or expansion of recreational facilities beyond the 0.32 acre private park. Therefore, impacts related to construction or expansion of recreational facilities included in the proposed Project would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

4.16 TRANSPORTATION/TRAFFIC

Would the project:

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

Impact Analysis:

The discussion and analysis provided in this section is based on the *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b) (refer to Appendix F of this IS/MND).

(a) Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Construction. Vehicle trips that would be generated on a daily basis throughout each phase of construction would derive from construction workers and delivery of construction materials. The construction phase with the highest construction trip generation would be grading, which is anticipated to last 3 months (or approximately 60 construction days). Based on preliminary construction operation estimates and preliminary grading plans, grading the Project site would require approximately 6,000 cubic yards of cut and 23,000 cubic yards of fill. The construction of the proposed Project would require approximately 17,000 cubic

yards of soil import. Trucks with a 14-cubic-yard capacity are anticipated to be used. The total estimated number of trucks required for soil import is 1,215.

During peak excavation periods, the proposed Project construction is anticipated to generate up to 21 daily haul trucks (and 42 daily trips) that would be distributed throughout an 8-hour day. Assuming a passenger car equivalent (PCE) factor of 2.0 for haul trucks, 84 PCE construction trips are anticipated to be generated on a daily basis during this phase of Project construction, with approximately 11 PCE trips occurring each hour, during both the a.m. and the p.m. peak hours. The weekday a.m. peak period is 7:00 a.m. to 9:00 a.m. and the weekday p.m. peak period is 4:00 p.m. to 6:00 p.m. The majority of construction workers are anticipated to arrive and depart outside the peak hours, while delivery trucks would arrive and depart throughout the day.

As discussed in further detail below and shown in Table 4.16.B, Project build out would generate 666 daily trips (53 in the a.m. peak hour and 70 in the p.m. peak hour). The grading phase would generate fewer daily and peak-hour vehicle trips compared to the Project at build out (582 fewer daily trips, 42 fewer a.m. peak-hour trips, and 59 fewer p.m. peak-hour trips). Because application of the *City of Garden Grove Traffic Engineering Policy TE 18 Traffic Study Requirements for Development* (August 2006) and the *City of Orange Traffic Impact Analysis Guidelines* (August 2007) methodologies for determining the significance of traffic impacts concluded that the impacts due to Project traffic at build out would be less than significant, it is reasonable to conclude that traffic impacts related to construction of the Project, which generates fewer trips, would also be less than significant.

All construction equipment, including construction worker vehicles, would be staged on the Project site for the duration of the construction period. In addition, the proposed Project construction schedule would comply with GGMC Chapter 8.47, which limits construction activities to the hours between 7:00 a.m. and 10:00 p.m. when the Project site is within a residential area or within 500 ft of a residential area.

The Project would not conflict with any applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. No mitigation is required.

Operation. Roadway performance is most often controlled by the performance of intersections, specifically during peak traffic periods. This is because traffic control at intersections interrupts traffic flow that would otherwise be relatively unimpeded except for the influences of on-street parking, access to adjacent land uses, or other factors resulting in interaction of vehicles between intersections. For this reason, traffic analyses for individual projects typically focus on peak-hour operating conditions for key intersections rather than roadway segments. Operating conditions at intersections are typically described in terms of level of service (LOS). LOS is a measure of a roadway's operating performance and is a tool used in defining thresholds of significance. LOS is described with a letter designation from A to F, with LOS A representing the best operating conditions (free-flow traffic) and LOS F the worst (traffic jammed).

Project-related traffic impacts were analyzed in the *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b) (refer to Appendix F of this IS/MND). The City reviewed the analysis. LOS was calculated using the intersection capacity utilization (ICU) methodology. The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The overall intersection ICU is then assigned an LOS value to describe intersection operations. A Project impact at a signalized intersection occurs when the LOS changes from acceptable LOS (LOS A through D) to LOS E or F, or if the Project increases the ICU by 0.01 or more at an already unacceptable LOS.

In addition to the ICU methodology of calculating signalized intersection LOS, the Highway Capacity Manual (HCM) 2010 methodology was used to determine the LOS at unsignalized study area intersections, which include the driveway to the Project site and the intersection of Lewis Street/El Rancho Avenue. The HCM 2010 unsignalized intersection methodology presents LOS in terms of control delay in seconds per vehicle. The resulting delay is expressed in terms of LOS, similar to the ICU methodology. A project impact at an unsignalized intersection occurs when the LOS changes from acceptable LOS (LOS A through D) to LOS E or F.

Table 4.16.A shows the LOS criteria for signalized and unsignalized intersections.

Table 4.16.A: Level of Service Criteria

LOS	Signalized ICU v/c ratio	Unsignalized HCM delay (seconds)
A	**0.00–0.60**	≤10.0
B	**> 0.61–0.70**	>10.0 and ≤15.0
C	**> 0.71–0.80**	>15.0 and ≤25.0
D	**> 0.81–0.90**	>25.0 and ≤35.0
E	**> 0.91–1.00**	>35.0 and ≤50.0
F	**> 1.00**	>50.0

Source: *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b).
HCM = Highway Capacity Manual 2010
ICU = Intersection Capacity Utilization
LOS = level of service
v/c = volume-to-capacity ratio

Traffic impacts were analyzed at the following three intersections (study area intersections):

- Lewis Street/Lampson Avenue-Metropolitan Drive
- Lewis Street/El Rancho Avenue
- Lewis Street/Garden Grove Boulevard

These study area intersections were selected for analysis because they are closest to the Project site and, therefore, have the greatest potential to have adverse traffic impacts related

to the Project. Further away from the Project site, Project-related traffic disperses and the potential for significant traffic impact diminishes. These anticipated traffic patterns, which were developed in coordination with City staff, showed that the Project would not contribute to more than 50 peak-hour trips beyond the study area, because the Project would not contribute to 50 or more peak-hour trips to the study area intersections beyond the Project driveway. Therefore, the City determined that only three intersections required analysis.

As required by the City, potential impacts were analyzed for the following traffic volume conditions:

- Existing
- Existing with Project
- Cumulative (2019)
- Cumulative Plus Project

Existing peak-hour traffic volumes were determined based on manual traffic counts conducted during the week of September 13, 2016, at the study area intersections during the weekday morning and afternoon commuter periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) The Cumulative (2019) (without Project) traffic volumes were estimated based on a 1 percent annual ambient growth rate applied to the existing traffic volumes through the Project build-out year of 2019 (a total of 3 percent) and the trips associated with four cumulative projects identified by the City of Orange Planning Department in August 2016.

Weekday peak hour and daily traffic volumes for the proposed residential development were estimated using trip rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (2012). As shown in Table 4.16.B, the proposed Project would generate 53 a.m. peak-hour trips (14 inbound trips and 39 outbound trips) and 70 p.m. peak-hour trips (44 inbound trips and 26 outbound trips). The proposed Project is forecast to generate 666 daily trips (333 inbound trips and 333 outbound trips) on a typical weekday.

Table 4.16.B: Project Trip Generation

Land Use	Units	Daily Trip Volumes[1]	AM Peak Hour Volumes[1]			PM Peak Hour Volumes[1]		
			In	Out	Total	In	Out	Total
Trip Rate								
Single Family[2]		9.52	0.19	0.56	0.75	0.63	0.37	1.00
Proposed Project								
Single Family[2]	70 DU	666	14	39	53	44	26	70

Source: *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b).
[1] Trips are one-way traffic movements, entering or leaving the Project site.
[2] ITE Land Use Code 210 (Single Family Detached) trip generation average rates
DU = dwelling unit
ITE = Institute of Transportation Engineers

As shown in Tables 4.16.C and 4.16.D, based on the City intersection impact significance criteria, the additional trips generated by the proposed Project would not result in a significant

impact at any of the three study area intersections for the existing (2016) or cumulative (2019) conditions. Therefore, the proposed Project would not conflict with any applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. No mitigation is required.

Table 4.16.C: Existing (2016) Volume-to-Capacity Ratios and Level of Service for the AM and PM Peak Hours for the Without Project and With Project Conditions

No	Intersection	Peak Hour	Year 2016 Existing Without Project		Year 2016 Existing With Project		Change in v/c /delay	Significant Impact?
			v/c /delay	LOS	v/c /delay	LOS		
1	Lewis Street/Lampson Avenue/Metropolitan Drive	AM	0.57	A	0.57	A	0.00	No
		PM	0.67	B	0.68	B	0.01	No
2	Lewis Street/El Rancho Avenue	AM	16.3 sec	C	26.8 sec	D	10.5 sec	No
		PM	18.3 sec	C	27.2 sec	D	8.9 sec	No
3	Lewis Street/Garden Grove Boulevard	AM	0.74	C	0.74	C	0.00	No
		PM	0.74	C	0.75	C	0.01	No

Source: *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b).
LOS = level of service
sec = seconds
v/c = volume-to-capacity ratio

Table 4.16.D: Future (2017) Volume-to-Capacity Ratios and Level of Service for the AM and PM Peak Hours for the Without Project and With Project Conditions

No	Intersection	Peak Hour	Year 2019 Cumulative Without Project		Year 2019 Cumulative With Project		Change in v/c /delay	Significant Impact?
			v/c /delay	LOS	v/c /delay	LOS		
1	Lewis Street/Lampson Avenue/Metropolitan Drive	AM	0.61	B	0.61	B	0.00	No
		PM	0.69	B	0.69	B	0.00	No
2	Lewis Street/El Rancho Avenue	AM	16.9 sec	C	29.4 sec	D	12.5 sec	No
		PM	19.4 sec	C	29.5 sec	D	10.1 sec	No
3	Lewis Street/Garden Grove Boulevard	AM	0.77	C	0.77	C	0.00	No
		PM	0.78	C	0.79	C	0.01	No

Source: *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b).
LOS = level of service
sec = seconds
v/c = volume-to-capacity ratio

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required.

(b) Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The 2015 Orange County Congestion Management Program (Orange County Transportation Authority [OCTA]; November 2015) Appendix B-2 provides criteria for projects not requiring additional analysis of traffic impacts to Congestion Management Program (CMP) monitored facilities. According to the criteria, projects generating fewer than 2,400 daily trips are below the threshold for a CMP analysis. The reason given is that below this threshold, Project traffic could not trigger a significant impact, which is defined as using 3 percent or more of existing capacity. No CMP intersections are located near the Project site or within the study area.

The weekday peak-hour and daily trip generation for the proposed Project was based on trip rates contained in the ITE Trip Generation Manual (2012). As shown in Table 4.16.B, the proposed Project would generate 666 daily trips. Pursuant to the CMP, the proposed Project is not required to conduct a CMP Traffic Impact Analysis because the Project traffic is not expected to use 3 percent or more of existing capacity.

Therefore, the proposed Project would not conflict with any applicable CMP, including LOS standards, travel demand measures, or other standards by the Congestion Management Agency (OCTA) for roads or highways. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(c) Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The Project site is located approximately 8 mi from Fullerton Municipal Airport and approximately 6.5 mi from John Wayne Airport. However, the proposed Project is not located within the flight paths for these airports and is not located in an Airport Hazard Area. Therefore, the Project site would not result in a change to air traffic patterns, or a change in location that results in substantial safety risk. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(d) Would the Project substantially increase hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Vehicular traffic to and from the Project site would utilize the existing network of regional and local roadways that serve the Project site area. Access to the Project site would be provided via a new full-access driveway with gated entry that would create the fourth leg of the Lewis Street/El Rancho Avenue intersection. The driveway was found to operate at satisfactory

LOS C or D for all scenarios. The Project includes gated access near the driveway. The gate would be electronically controlled and would be designed to meet the City's standard gate entry requirements. Residents would have remote controls to open the gate. In addition, a call box would ring to residents' phones to provide guest access. The *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b) included an analysis of the gate operation and determined that the gate for Project vehicles requires a reservoir of 22 ft (i.e., one vehicle), and the control box in the inside lane also requires a reservoir of 22 ft. Approximately 76 ft will be provided between the inbound gate and Lewis Street and approximately 45 ft will be provided between the control box and Lewis Street. Therefore, the gated entry would have sufficient length for inbound Project vehicles to avoid the potential hazard of vehicles backing onto Lewis Street while waiting at the gate.

A sight distance analysis was conducted along Lewis Street at the proposed location of the Project driveway at Lewis Street/El Rancho Avenue to ensure driver visibility and safety. In the Project vicinity, the Lewis Street speed limit is 40 mph. According to Table 6C-2 of the California Manual on Uniform Traffic Control Devices (CAMUTCD), the stopping sight distance for a roadway with the speed limit of 40 mph is 305 ft. The *Lewis Street Reorganization between the City of Garden Grove and the City of Orange (RO 17-01) and Residential Project Traffic Impact Analysis* (LSA; January 2017b) identified sight distance at the Project driveway of approximately 650 ft looking to the north (left) and 450 ft looking to the south (right). Therefore, the Project driveway would meet the minimum sight distance requirements specified in the CAMUTCD.

Therefore, the proposed Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(e) Would the Project result in inadequate emergency access?

Construction. As discussed under Response 4.8(g), the proposed Project would require temporary lane closures on Lewis Street to relocate the gas and water lines. Temporary lane closures would be implemented consistent with the recommendations of the California Joint Utility Traffic Control Manual. Among other things, the manual recommends early coordination with affected agencies to ensure that emergency vehicle access is maintained. In this manner, officials could plan and respond appropriately in the event emergency vehicles would be required to access Lewis Street. In addition, as described in Mitigation Measure HAZ-3, the Project Applicant/Developer would be required to prepare and implement a Construction Staging and Traffic Management Plan, which would be subject to the approval of the Director of the City of Garden Grove Department of Public Works, or designee. The Construction Staging and Traffic Management Plan would require certain conditions (e.g., providing warning signs, lights, and devices) and would require that the City of Garden Grove Police Department be notified a minimum of 24 hours in advance of any lane closures

or roadway work. Therefore, with implementation of Mitigation Measures HAZ-3, impacts to emergency access during construction would be reduced to a less than significant level. No additional mitigation is required.

Operation. As discussed in Section 2.0, Project Description, emergency vehicles would be able to enter and exit the Project site via the gated-access driveway off Lewis Street or the gated-access driveway off Garden Grove Boulevard. The gate control would be operable by a Knox emergency override key switch. In addition, a remote gate-opening device would be installed on both electronically operated gates. The remote opening systems currently available from the OCFA are either optical or radio-controlled. The gated entry would be equipped with automatic entry for the police and fire departments during an emergency. Therefore, implementation of the proposed Project would not result in inadequate emergency access, and no mitigation is required.

Significance Determination: Potentially Significant

Mitigation Measures: Refer to Mitigation Measure HAZ-3

Level of Significance after Mitigation: Less than Significant

(f) Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The Project would not affect adopted policies supporting alternative transportation and would be subject to compliance with policies, plans, and programs of the City and other applicable agencies regarding alternative modes of transportation. Pedestrians accessing the Project may use pedestrian facilities (e.g., sidewalks and crosswalks) that are part of the surrounding street system. The Project incorporates a continuous system of sidewalks within the Project site. Safe access to the public street system (via Lewis Street and Garden Grove Boulevard) would be provided. Sidewalks are currently provided on both sides of Lewis Street. The intersection of Lewis Street and Garden Grove Boulevard provides connection points to OCTA Routes 47, 56, and 454. The Project would not remove or relocate any alternative transportation access points.

As discussed in Section 4.8(g), the proposed Project would require temporary lane closures on Lewis Street to relocate the gas and water lines. No lane closures on Garden Grove Boulevard are anticipated. Temporary lane closures would be implemented consistent with the recommendations of the California Joint Utility Traffic Control Manual which recommends that the needs of operators of commercial vehicles such as busses be assessed and appropriate coordination and accommodations made. In addition, as described in Mitigation Measure HAZ-3, the Project Applicant/Developer would be required to prepare and implement a Construction Staging and Traffic Management Plan, which would be subject to the approval of the Director of the City of Garden Grove Department of Public Works, or designee. The Construction Staging and Traffic Management Plan would require that OCTA be provided with advance notice of any temporary lane closures that could necessitate detours

in order to ensure that bus service is maintained in vicinity of the Project site. With implementation of Mitigation Measure HAZ-3, potential disruptions to transit service would be minimized. Therefore, the Project does not conflict with adopted plans, policies, or programs supporting alternative transportation, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.17 UTILITIES/SERVICE SYSTEMS

Would the project:

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

Impact Analysis:

(a) Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed Project is not a wastewater treatment facility and is not subject to the wastewater treatment requirements of the Santa Ana RWQCB.

Local governments and water districts are responsible for complying with federal regulations, both for wastewater plant operation and the collection systems (e.g., sanitary sewers) that convey wastewater to the wastewater treatment facility. Proper operation and maintenance is critical for sewage collection and treatment because impacts from these processes can degrade water resources and affect human health. For these reasons, publicly owned treatment works (POTWs) receive Waste Discharge Requirements (WDRs) to ensure that such wastewater facilities operate in compliance with the water quality regulations set forth by the State. WDRs, issued by the State, establish effluent limits on the kinds and quantities of pollutants that POTWs can discharge. These permits also contain pollutant monitoring, record-keeping, and reporting requirements. Each POTW that intends to discharge into the nation's waters must obtain a WDR prior to initiating its discharge.

Implementation of the proposed Project involves the demolition of an existing church and school and the construction of 70 single-family residential units. As discussed in Response 4.17.b, the Project site is in the sewer service area of the Orange County Sanitation District's

Plant No. 1 in Fountain Valley. This facility is responsible for disposal of treated wastewater. Because Plant No. 1 is considered a POTW, operational discharge flows treated at this plant would be required to comply with applicable WDRs issued by the Santa Ana RWQCB. Compliance with conditions or permit requirements established by the City as well as WDRs outlined by the Santa Ana RWQCB would ensure that wastewater discharges from the Project site and treated by the wastewater treatment facility system would not exceed applicable Santa Ana RWQCB wastewater treatment requirements. In addition, as discussed in Response 4.17.b, the proposed Project is anticipated to generate an additional 27,847 gallons of wastewater per day (gpd), which is approximately 0.01 percent of the available daily treatment capacity at Plant No. 1 and 0.01 percent of the available daily treatment capacity at Plant No. 2. Additionally, wastewater generated from the proposed Project would be typical of residential wastewater flows in the City and of existing flows from the Project site. Therefore, the increased wastewater flows from the proposed Project can be accommodated within the existing design capacity of Plant No. 1 and would not result in Plant No. 1 exceeding its wastewater treatment requirements. Therefore, impacts related to wastewater treatment requirements would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No Mitigation is Required

(b) Would the Project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Water. The City's main sources of water supply are groundwater from the Lower Santa Ana River Groundwater Basin and imported water from the Metropolitan Water District of Southern California provided by the Municipal Water District of Orange County. Today, the City relies on 72 percent groundwater and 28 percent imported (City of Garden Grove 2015b). It is projected that by 2040, the water supply mix would remain roughly the same. This imported water is treated at both the Robert B. Diemer Filtration Plant located north of Yorba Linda and the F.E. Weymouth Treatment Plant in the City of La Verne.

Delivery of domestic water service in the City is provided by the Water Services Division of the City's Public Works Department. The Water Services Division is responsible for maintaining the wells, reservoirs, import water connections, and the distribution systems that deliver water throughout the City. To meet its infrastructure needs, the Water Services Division collaborates with other jurisdictions, agencies, and service providers, as required.

The City's water supply system provides reliable service to a population of nearly 176,649 within the service area. According to the City's 2015 Urban Water Management Plan (UWMP; 2015b), the total projected water demand for the retail customers served by the City annually is approximately 26,055 acre feet (af) annually. The City consumed approximately 24,049 af in 2015, and the projected water demand for 2020 is 24,078 af per year. According to the 2015 UWMP, the City's water supplies are projected to meet full service demands.

The proposed Project would develop the site with 70 single-family residential units, which would equate to a projected water demand of 30,940 gpd (34.7 af annually) using the baseline water use rate in the 2015 UWMP.[1] Therefore, the estimated increase in water demand associated with new development proposed as part of the Project would represent 0.14 percent of the City's current annual water demand, based on the City's consumption of 14,049 af in 2015.

As such, the proposed Project would not necessitate new or expanded water entitlements, and the City would be able to accommodate the increased demand for potable water. In addition, the proposed Project would implement a number of water conservation measures, including low-flow toilets, low-flow showerheads, low-flow kitchen faucets, and tankless water heaters that would further reduce the water demand as a result of the proposed Project. Therefore, Project impacts associated with an increase in potable water demand are considered less than significant, and no mitigation would be required.

Wastewater. The Garden Grove Sanitary District is the primary agency responsible for the refuse and sewer facilities in the City. Garden Grove Sanitary District maintains wastewater treatment and collection operations via the City's Water Services Division of the Public Works Division. The Sanitation Section maintains over 312 mi of sewer lines, 9700 manholes, and four lift stations throughout the City. However, once wastewater passes through the City's wastewater system, the Orange County Sanitation District (OCSD) is responsible for its treatment.

OCSD is responsible for the collection, treatment, and disposal of domestic, commercial, and industrial wastewater generated by over 2.5 million people living and working in the central and northwestern County of Orange. OCSD facilities would receive wastewater generated from the proposed Project. Wastewater from the proposed Project would be treated at OCSD's Plant No. 1 in Fountain Valley or at Plant No. 2 in Huntington Beach. Through these facilities, OCSD successfully collects, conveys, and treats wastewater generated daily in its service area before discharging the treated water into the Pacific Ocean. Average flows for Plant No. 1 and Plant No. 2 are 117 million gallons per day (mgd) and 67 mgd, respectively.[2] The combined average flow at both plants is 184 mgd. Plant No. 1 has a design capacity of 320 mgd, with average daily flow of 117 mgd. Plant No. 2 has an average daily flow of 67 mgd, with a design capacity of 312 mgd (City of Garden Grove 2015b).

Wastewater generation for the Project is assumed to be 90 percent of the Project's water demand, to account for evaporation and absorption losses. The proposed Project would generate 27,846 gpd of wastewater. The proposed Project includes the installation of a new 8-inch sanitary sewer line that would connect to an existing 8-inch sanitary sewer line in Garden Grove Boulevard. The Project site is currently developed and adequately served by the existing wastewater conveyance system. As part of the building permit process, the City of Garden Grove would confirm and ensure that there is sufficient capacity in the local and trunk lines to accommodate the Project's wastewater flows. In the unlikely event that the

[1] Table 1. Water Use Factors from Survey of Water Agencies in Orange County (FY 2013-2014), Garden Grove.

[2] Orange County Sanitation Districts, Regional Sewer Service, Facts and Key Statistics, http://www.ocsd.com/services/regional-sewer-service, (accessed November 15, 2016).

public sewer has insufficient capacity, then the Developer would be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connection permit would be made at that time. The proposed Project would also pay any required sewer connection fees.

The proposed Project is anticipated to generate an additional 27,846 gpd, which is approximately 0.01 percent of the available daily treatment capacity at Plant No. 1 and 0.01 percent of the available daily treatment capacity at Plant No. 2. Both Plants are in compliance with the Santa Ana RWQCB's wastewater treatment requirements and have the capacity to accommodate the increased wastewater flows from the proposed Project. Therefore, development of the proposed Project would not require, nor would it result in, the construction of new wastewater treatment or collection facilities or expansion of existing facilities other than those facilities to be constructed on site, which could cause significant environmental effects. Project impacts related to the construction of wastewater treatment or collection facilities would be less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(c) Would the Project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The City is a co-permittee on the North Orange County MS4 Permit issued by the Santa Ana RWQCB pursuant to the NPDES program under Section 402(p) of the federal Clean Water Act. The MS4 Permit regulates urban storm water runoff, surface runoff, and drainage that flow into the MS4 system. The City's storm water drainage system flows into facilities that are owned, operated, and maintained by the Orange County Flood Control District. In compliance with the MS4 Permit, the City is responsible for regulating inflows to and discharges from its municipal storm drainage system. Specifically, the City's Public Works/Environmental Compliance Division is charged with the task of ensuring the implementation of the MS4 Permit requirements within the City.

As discussed further in Section 4.9, Hydrology and Water Quality, storm water flows in a southerly direction on the Project site via surface flow toward Garden Grove Boulevard. Runoff then flows west along Garden Grove Boulevard where it enters the storm drain system, which connects to the East Garden Grove-Wintersburg Channel and ultimately the Pacific Ocean. According to the *Preliminary Hydrology Report* (Fuscoe Engineering, 2016b), the proposed Project would permanently decrease the on-site impervious surface area by 0.53 acre compared to the existing condition, which would reduce peak flow rate from the Project site by 0.74 cfs for a 25-year storm event. In addition, Site Design, Source Control, and LID BMPs would increase infiltration and reduce the rate and amount of surface runoff from the Project site. Lower storm water flows would flow within the pervious pavers where it would infiltrate into the soil. Higher flows would sheet flow over the on-site streets or along the on-site curbs before entering one of two culverts in the southwest corner of the Project site, where it would flow east along Garden Grove Boulevard until it enters the storm drain

system, which connects to the East Garden Grove-Wintersburg Channel and ultimately the Pacific Ocean. Because the proposed Project would reduce peak flows being discharged to the downstream storm drain system, the proposed Project would not contribute additional runoff to the downstream storm water drainage facilities or cause the expansion of existing facilities, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(d) Would the Project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Refer to Response 4.17(b). The relatively moderate increase in water use from implementation of the proposed Project would represent approximately 0.14 percent of the City's annual water demand. The proposed Project would not necessitate new or expanded water entitlements, and the City would be able to accommodate the increased demand for potable water. Therefore, incremental water demand increases from the proposed Project would have sufficient water supplies available to serve the Project from existing entitlements and resources and would not require new or expanded entitlements. Therefore, impacts related to water supplies would be less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(e) 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?

Refer to Response 4.17(b). Although the proposed Project would increase wastewater demand on site, the increased wastewater flows from the proposed Project can be accommodated within the existing design capacity of the treatment plants that currently serve the City. Therefore, the wastewater treatment provider would have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Therefore, impacts related to wastewater generation are less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The Project site is located within OC Waste & Recycling's (OCWR) service area. OCWR administers the countywide Integrated Waste Management Plan. OCWR owns and operates three active landfills (i.e., the Olinda Alpha Landfill in Brea, the Frank R. Bowerman Landfill

in Irvine, and the Prima Deshecha Landfill in San Juan Capistrano), as well as four household hazardous waste collection centers. All three landfills are permitted as Class III landfills. Class III landfills accept all types of nonhazardous municipal solid waste for disposal.[1]

Within the City, collection of solid waste is contracted to Republic Services. Republic Services collects solid waste, green waste (e.g., grass clippings and tree and shrub clippings), and items for recycling. The company provides three different carts for automated collection of trash, recyclables, and green waste. By providing these three carts, the City aims to encourage residents and businesses to reduce the amount of solid wastes that enter the aforementioned regional landfills.

Olinda Alpha Landfill at 1942 North Valencia Avenue in Brea is the closest OCWR landfill to the Project site and would provide waste disposal for the proposed Project once operational. This landfill is permitted to accept up to 8,000 tons of solid waste per day (tpd) and currently accepts a daily average of approximately 5,000 tpd.[2] The anticipated closure date for the landfill is 2021. Non-hazardous waste from Project construction activities would be recycled to the extent feasible, and where necessary, would be disposed of at the Olinda Alpha Landfill.[3] Construction waste is anticipated to be minimal compared to waste generated throughout the lifetime of the Project during Project operation. The proposed Project would generate approximately 0.34 tons of solid waste per day during Project operation.[4]The incremental increase of solid waste generated by the proposed Project would constitute approximately 0.01 percent of the remaining daily available capacity (3,000 tpd) at the Olinda Alpha Landfill. Therefore, solid waste generated by the proposed Project would not cause the capacity of the Olinda Alpha Landfill to be exceeded. The proposed Project would result in a less than significant impact to solid waste and landfill facilities, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(g) Would the Project comply with federal, state, and local statutes and regulations related to solid wastes?

The California Integrated Waste Management Act (AB 939) changed the focus of solid waste management from landfill to diversion strategies (e.g., source reduction, recycling, and composting). The purpose of the diversion strategies is to reduce dependence on landfills for solid waste disposal. AB 939 established mandatory diversion goals of 25 percent by 1995

1 Orange County Waste and Recycling, Landfill Information, http://oclandfills.com/landfill, (accessed November 15, 2016).

2 Orange County Waste and Recycling, Questions and Answers About the Olinda Landfill, http://oclandfills.com/landfill/active/olindalandfill/olinda_q_n_a , (accessed November 15, 2016).

3 Hazardous waste during Project construction would be required to be disposed of at one of the four hazardous waste collection centers operated by OCWR.

4 70 Single-Family Residential Units * 9.8 lbs per dwelling unit per day (generation rate obtained from CalRecycle, Estimated Solid Waste Generation and Disposal) => 686 pounds per day (the equivalent of 0.34 tons).

and 50 percent by 2000. According to the City's General Plan Conservation Element, in 2005, approximately 199,737 tons of waste produced by the City was disposed in a landfill while 64 tons were burned at a waste-to-energy facility. Of this, household disposal consisted of 52 percent of waste disposal while business disposal consisted of 48 percent. The City provides curbside recycling for both residential and commercial uses, which counts toward the City's solid waste diversion rate. The City also collects curbside residential green waste, which also counts toward the City's diversion rate. In addition, the City currently offers free recycling to all businesses within the City.

The proposed Project would comply with existing and future statutes and regulations, including waste diversion programs mandated by City, State, or federal law. In addition, as discussed above, the proposed Project would not result in an excessive production of solid waste that would exceed the capacity of the existing landfill serving the Project site. Therefore, the proposed Project would not result in an impact related to federal, State, and local statutes and regulations related to solid wastes, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

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4.18 TRIBAL CULTURAL RESOURCES

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

(a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource 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 resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

The following responses address the thresholds in 4.18.a and 4.18.b.

Chapter 532, Statutes of 2014 (i.e., AB 52), requires that Lead Agencies evaluate a project's potential to impact "tribal cultural resources." Such resources include "[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the California Register of Historical resources or included in a local register of historical resources." AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource qualifies as a "tribal cultural resource."

Also per AB 52 (specifically PRC 21080.3.1), Native American consultation is required upon request by a California Native American tribe that has previously requested that the City provide it with notice of such projects.

The Native American Heritage Commission (NAHC) was contacted on August 12, 2016, and a Sacred Lands File (SLF) was requested for the Project, as was a list of potential Native American contacts for consultation. The NAHC responded on August 15, 2016, to say that the SLF search was negative for the Project area. The NAHC provided a Tribal Consultation List that included the following 20 Native Americans to be contacted:

- Gabrielino/Tongva Nation, Sandonne Goad, Chairperson
- Agua Caliente Band of Cahuilla Indians, Jeff Grubbe, Chairperson
- Gabrielino Tongva Indians of California Tribal Council, Robert Dorame, Chairperson
- Campo Band of Mission Indians, Ralph Goff, Chairperson
- Gabrielino Tongva Tribe, Linda Candelaria, Co-Chairperson
- Ewiiaapaayp Tribal office, Robert Pinto, Chairperson
- Jamul Indian Village, Erica Pinto, Chairperson
- Gabrieleno Band of Mission Indians – Kizh Nation, Andrew Salas, Chairperson
- Juaneño Band of Mission Indians, Sonia Johnston, Chairperson
- Gabrieleno/Tongva San Gabriel Band of Mission Indians, Anthony Morales, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation – Belardes, Matias Belardes, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation – Romero, Teresa Romero, Chairperson
- San Pasqual band of Mission Indians, Allen E. Lawson, Chairperson
- La Posta band of Mission Indians, Gwendolyn Parada, Chairperson
- Soboba Band of Luiseño Indians, Rosemary Morillo, Chairperson
- La Posta Band of Mission Indians, Javaughn Miller, Tribal Administrator
- Sycuan Band of the Kumeyaay Nation, Cody J. Martinez, Chairperson
- Manzanita band of Kumeyaay, Angela Elliot Santos, Chairperson
- Viejas Band of Kumeyaay Indians, Robert J. Welch, Chairperson
- Mesa Grande Band of Mission Indians, Virgil Oyos, Chairperson

The City sent letters for the purposes of SB 18[1] and AB 52 consultation to all of the people listed above on September 1, 2016.

In a letter dated September 26, 2016, Mr. Salas, Chairperson, Gabrieleno Band of Mission Indians – Kizh Nation, requested AB 52 consultation with the City regarding the proposed Project. Mr. Salas stated that the Project lies within the ancestral territories of the Kizh

[1] SB 18 (Chapter 905, Statutes of 2004) requires cities and counties to contact and consult with California Native American tribes prior to amending or adopting any general plan or specific plan, or designating land as open space.

Gabrieleno, and requested that a certified Native American monitor from that group be present during all ground-disturbing activities. Mr. Salas also suggested the City contact him to conduct consultation by phone or face-to-face meeting. City staff communicated with Mr. Salas via phone and email and Mr. Salas provided a request for monitoring to occur during grading activities.

One additional response was received from Ernest Pingleton with the Viejas Band of Kumeyaay Indians. In a letter to the City dated September 28, 2016, Mr. Pingleton stated that the Tribe has reviewed the Project information and at this time the Project has little significance or ties to the Viejas Band of Kumeyaay Indians. He recommended contacting tribes closer to the Project vicinity but would also like to be notified of any discoveries so that the Tribe can reevaluate its participation in the government-to-government consultation process.

Attempts at follow-up communication in the form of phone calls and emails were made on September 28, 2016, to the remaining 18 people who had not responded to the letter, asking them to respond if they have concerns. An additional email with the text of the letter and Project location map was sent to Teresa Romero, Juaneño Band of Mission Indians Acjachemen Nation, on October 17, 2016. No additional responses or requests for consultation have been received.

As discussed in Section 4.5.a, the property does not meet any of the California Register criteria and the existing buildings on the Project site do not qualify as “historical resources” as defined by CEQA. Therefore, the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines or PRC 5020.1(k).

As discussed in Section 4.5.b, according to the records search conducted at the SCCIC, one prehistoric site, P-30-392, was previously recorded nearly 0.5 mile southwest of the current Project, while a historic single-family residence built in 1948, P-30-177026, is recorded on Lewis Street just north of the Project area. While the residence still exists, the prehistoric site was destroyed by development. While areas surrounding the Project site have been surveyed in the past, the Project site was not previously surveyed for archaeological resources. As such, no previously recorded prehistoric or historic resources have been identified as a result of past on-site surveys.

On August 24, 2016, LSA archaeologist Mr. Strudwick conducted a pedestrian survey of the Project site. The Archaeological survey concluded that there is little potential for the proposed Project to impact prehistoric resources due to significant prior disturbance from past grading and development activities. In the unlikely event archaeological resources are discovered at any time during construction, those activities would be halted in the vicinity of the find until it can be assessed for significance by a qualified archaeologist (Mitigation Measure CUL-1). Implementation of Mitigation Measure CUL-1 would reduce any potential impacts to previously undiscovered archaeological resources to a less than significant level.

As noted above, Mr. Salas, Chairperson, Gabrieleno Band of Mission Indians – Kizh Nation stated that the Project lies within the ancestral territories of the Kizh Gabrieleno, and requested that a certified Native American monitor from that group be present during all ground-disturbing activities. While Mr. Salas did not present any evidence that the proposed Project would result in a substantial adverse change in the significance of a tribal cultural resource, defined in PRC

section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC section 5020.1(k), the City agreed to require Native American monitoring during ground disturbing activities in native soils. Mitigation Measure TCR-1 requires the presence of a Native American monitor during grubbing, earthmoving, and trenching activities that extend into native soils, as requested during the consultation processes conducted for the Project. Implementation of Mitigation Measure TCR-1 would reduce any potential impacts to previously undiscovered tribal cultural resources to a less than significant level. Therefore, on this basis and as a result of the City's consultation with the Gabrieleno Band of Mission Indians – Kizh Nation, the City has concluded that, with implementation of Mitigation Measure TCR-1, potential impacts related to unknown buried tribal cultural resources would also be reduced below a level of significance.

Significance Determination: Potentially Significant Impact

Mitigation Measures:

TCR-1 **Tribal Cultural Resources: Monitoring Procedures.** Prior to commencement of any grubbing or grading activities, the Project Applicant/Developer shall present evidence to the City of Garden Grove Director of the Economic and Community Development Department, or designee, that a qualified Native American monitor has been retained to provide Native American monitoring services for any construction activities that may disturb native soils. The Native American monitor shall be selected by the Project Applicant/Developer from the list of certified Native American monitors maintained by the Gabrieleno Band of Mission Indians – Kizh Nation. The Native American monitor shall be present at the pre-grading conference to establish procedures for tribal cultural resource surveillance. Those procedures shall include provisions for temporarily halting or redirecting work to permit sampling, identification, and evaluation of resources deemed by the Native American monitor to be tribal cultural resources as defined in Public Resources Code section 21074. These procedures shall be reviewed and approved by the City of Garden Grove Director of the Economic and Community Development Department, or designee, prior to commencement of any surface disturbance on the Project site.

Level of Significance after Mitigation: Less than Significant Impact

4.19 MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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?	☐	☒	☐	☐
(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?)	☐	☐	☒	☐
(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact Analysis:

(a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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 site is currently developed and is located in an urban area. No portion of the Project site or the immediately surrounding area contains an open body of water that serves as natural habitat in which fish could exist. Likewise, the Project site is not suitable to support special-status species, and no known candidate, sensitive, or special-status species are known to inhabit the site. Due to the urban nature of the site and limited on-site landscaping, impacts to candidate, sensitive, or special-status plant and animal species would be less than significant. Based on the Project Description and the preceding responses, development of the proposed Project does not have the potential to degrade the quality of the natural environment. Implementation of the proposed Project would include the removal of some non-native landscaping. The proposed Project would include the planting of a variety of trees along the east and south perimeter of the Project site, as well as in the interior of the site. The proposed Project would also include shrubs and areas of grasses and turf on site. The existing on-site trees may, however, provide suitable habitat for nesting birds, some of which are protected by the MBTA. Disturbing or destroying active nests that are protected is a violation of the MBTA. In addition, nests and eggs are protected under Fish and Game Code Section 3503. Adherence to Mitigation Measure BIO-1 would ensure that the Project complies with the MBTA. Additionally, Mitigation Measure BIO-1 requires nesting bird surveys if vegetation and tree removal occur between February 1 and September 15 to reduce potential

Project impacts related to migratory birds. With implementation of Mitigation Measure BIO-1, potential impacts to biological resources would be less than significant.

There are no previously recorded cultural resources within the Project area. In addition, the potential for paleontological resources on the Project site is considered low because the site contains Artificial Fill (which has no paleontological sensitivity) and Young Alluvial Fan Deposits (which have low paleontological sensitivity from the surface to a depth of 10 ft and a high sensitivity below that mark). Ground-disturbing activities on the site are not anticipated to extend deeper than 5 ft. Mitigation Measure CUL-1 requires construction to halt in the event an archaeological resource is discovered until a qualified archaeologist can evaluate the find. Mitigation Measure CUL-2 requires construction to halt in the event a paleontological resource is discovered until a qualified paleontologist can evaluate the find. In the event that human remains are discovered during construction, Mitigation Measure CUL-3 requires notification of the proper authorities and adherence to standard procedures for the respectful handling of human remains. In addition, Mitigation Measure TRC-1 requires Native American monitors to be present on site in the event that any native soils are disturbed during Project construction. Implementation of Mitigation Measures CUL-1, CUL-2, CUL-3, and TRC-1 would reduce any potential impacts to previously undiscovered cultural resources, paleontological resources, or human remains to a less than significant level.

Significance Determination: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures BIO-1, CUL-1, CUL-2, CUL-3, and TRC-1

Significance Determination after Mitigation: Less than Significant Impact

(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?)

The Project site is currently developed and is located in an urban area. The proposed Project involves the demolition of an existing church and school and construction of 70 single-family residential units. The proposed Project would rely on and can be accommodated by the existing road system, public parks, public services, and utilities. The proposed Project would not result in or contribute to a significant biological or cultural impact. Based on the Project Description and the preceding responses, impacts related to the proposed Project are less than significant or can be reduced to less than significant levels with incorporation of mitigation measures. The proposed Project's contribution to any significant cumulative impacts would be less than cumulatively considerable.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

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

The Project site is currently developed and is located in an urban area. The proposed Project involves the demolition of an existing church and school and construction of 70 single-family residential units. The proposed Project includes a General Plan Amendment and a Zone Change. If approved, the proposed Project would be consistent with City zoning and General Plan designations for the site. Based on the Project Description and the preceding responses, development of the proposed Project would not cause substantial adverse effects to human beings because all potentially significant impacts of the proposed Project can be mitigated to a less than significant level.

Significance Determination: Potentially Significant Impact

Mitigation Measures: Refer to Mitigation Measures BIO-1, CUL-1 through CUL-3, GEO-1, HAZ-1 through HAZ-3, NOI-1 through NOI-3, REC-1, and WQ-1 through WQ-4

Significance Determination after Mitigation: Less than Significant Impact

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5.0 MITIGATION MONITORING AND REPORTING PROGRAM

5.1 MITIGATION MONITORING REQUIREMENTS

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill [AB] 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the Project or conditions of Project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during Project implementation. For those changes which have been required or incorporated into the Project at the request of a Responsible Agency or a public agency having jurisdiction by law over natural resources affected by the Project, that agency shall, if so requested by the Lead Agency or a Responsible Agency, prepare and submit a proposed reporting or monitoring program.
- The Lead Agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based. A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of Project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other Project, by incorporating the mitigation measures into the plan, policy, regulation, or Project design.
- Prior to the close of the public review period for a draft Environmental Impact Report (EIR) or MND, a Responsible Agency, or a public agency having jurisdiction over natural resources affected by the Project, shall either submit to the Lead Agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the Responsible Agency or agency having jurisdiction over natural resources affected by the Project, or refer the Lead Agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a Lead Agency by a Responsible Agency or an agency having jurisdiction over natural resources affected by the Project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a Responsible Agency or agency having jurisdiction over natural resources affected by a Project with that requirement shall not limit that authority of the Responsible Agency or agency having jurisdiction over natural resources affected by a Project, or the authority of the Lead Agency, to approve, condition, or deny Projects as provided by this division or any other provision of law.

5.2 MITIGATION MONITORING PROCEDURES

The mitigation monitoring and reporting program has been prepared in compliance with PRC Section 21081.6. The program describes the requirements and procedures to be followed by the City of Garden Grove to ensure that all mitigation measures adopted as part of the proposed Project would be carried out as described in this Initial Study/Mitigated Negative Declaration (IS/MND). Table 5.A lists each of the mitigation measures specified in this IS/MND and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures		Responsible Party	Timing for PDF or Mitigation Measure
4.1 Aesthetics			
The proposed Project would not result in significant adverse impacts related to aesthetics. No mitigation would be required.			
4.2 Agriculture and Forest Resources			
The proposed Project would not result in significant adverse impacts related to agriculture. No mitigation would be required.			
4.3 Air Quality			
The proposed Project would not result in significant adverse impacts related to air quality. No mitigation would be required.			
4.4 Biological Resources			
BIO-1	**Migratory Bird Treaty Act.** In the event that vegetation and tree removal should occur between February 1 and September 15, the Developer (or its contractor) shall retain a qualified biologist (i.e., a professional biologist that is familiar with local birds and their nesting behaviors) to conduct a nesting bird survey no more than 3 days prior to commencement of construction activities. The nesting survey shall include the Project site and areas immediately adjacent to the site that could potentially be affected by Project-related construction activities such as noise, human activity, and dust, etc. If active nesting of birds is observed within 100 feet of the designated construction area prior to construction, the biologist shall establish suitable buffers around the active nests (e.g., as much as 500 feet for raptors and 300 feet for nonraptors [subject to the recommendations of the qualified biologist]), and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Prior to commencement of grading activities and issuance of any building permits, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all Project grading and construction plans are consistent with the requirements stated above, that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field with orange snow fencing.	Director of the City of Garden Grove Community and Economic Development Department, or designee	3 days prior to commencement of construction activities/prior to commencement of grading activities and issuance of any building permits
4.5 Cultural Resources			
CUL-1	**Unknown Archeological Resources.** In the event that archaeological resources are	City of Garden Grove	Prior to commencement

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	discovered during excavation, grading, or construction activities, work shall cease within 50 feet of the find until a qualified archaeologist from the Orange County List of Qualified Archaeologists has evaluated the find in accordance with federal, State, and local guidelines to determine whether the find constitutes a "unique archaeological resource," as defined in Section 21083.2(g) of the California Public Resources Code (PRC). Personnel of the proposed Project shall not collect or move any archaeological materials and associated materials. Construction activity may continue unimpeded on other portions of the Project site. The found deposits shall be treated in accordance with federal, State, and local guidelines, including those set forth in PRC Section 21083.2. Prior to commencement of grading activities, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all Project grading and construction plans include specific requirements regarding California PRC (Section 21083.2[g]) and the treatment of archaeological resources as specified above.	Community and Economic Development Department, or designee	of grading activities
CUL-2	**Unknown Paleontological Resources.** In the event that paleontological resources are discovered during excavation, grading, or construction activities, work shall cease within 50 feet of the find until a qualified paleontologist (i.e., a practicing paleontologist that is recognized in the paleontological community and is proficient in vertebrate paleontology) has evaluated the find in accordance with federal, State, and local guidelines. Personnel of the proposed Project shall not collect or move any paleontological materials and associated materials. Construction activity may continue unimpeded on other portions of the Project site. If any fossil remains are discovered in sediments with a Low paleontological sensitivity rating (Young Alluvial Fan Deposits), the paleontologist shall make recommendations as to whether monitoring shall be required in these sediments on a full-time basis. Prior to commencement of grading activities, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all Project grading and construction plans specify federal, State, and local requirements related to the unanticipated discovery of paleontological resources as	Director of the City of Garden Grove Community and Economic Development Department, or designee	Prior to commencement of grading activities

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	stated above.		
CUL-3	**Human Remains.** In the event that human remains are encountered on the Project site, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State 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 (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the City shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of grading permits, the City of Garden Grove Community and Economic Development Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.	City of Garden Grove Community and Economic Development Department, or designee	Prior to the issuance of grading permits
4.6 Geology and Soils			
GEO-1	**Incorporation of and Compliance with the Recommendations in the Geotechnical Study.** All grading operations and construction shall be conducted in conformance with the recommendations included in the geotechnical documents prepared by Alta California Geotechnical, Inc. (included in Appendix C of this IS/MND). Recommendations found in the geotechnical document address topics including but not limited to: • Earthwork, including site preparations, soil replacement, compaction standards,	City Engineer, or designee	Prior to the start of grading and construction activities/prior to fill placement/prior to the placement of concrete

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
groundwater seepage, and fill placement; • Liquefaction; • Foundations, including post-tensioned slab design recommendations and foundation design parameters; • Storm water infiltration systems; • Seismic design parameters; • Retaining and garden wall design and construction criteria including backfill requirements; • Concrete flatwork, including exterior slabs, walkways, and design of these features; • Soil corrosion; and • Post-construction considerations, including drainage and burrowing animal maintenance. Additional site grading, foundation, and utility plans shall be reviewed by the Project Geotechnical Consultant prior to construction to check for conformance with the recommendations of this report. The Project Geotechnical Consultant shall be present during site grading and foundation construction to observe and document proper implementation of the geotechnical recommendations. The Project Applicant shall require the Project Geotechnical Consultant to perform at least the following duties during construction: • Observe and test the bottom of removals to ensure that more unsuitable ground is not uncovered. If unsuitable soils, such as undocumented artificial fill, are exposed upon the completion of the removals, additional removals may be required, as determined by the Project Geotechnical Consultant;		

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	• Observe and approve all removal/over-excavation bottoms prior to fill placement; • Review boundary conditions as design progresses; • Sample, test, and approve location of soils proposed for import; • Observe the footing excavations prior to the placement of concrete to determine that the excavations are founded in suitably compacted material Grading plan review shall also be conducted by the City of Garden Grove City Engineer, or designee, prior to the start of grading to verify that requirements developed during the preparation of geotechnical documents (Alta California Geotechnical, Inc., Appendix C) have been appropriately incorporated into the project plans. Design, grading, and construction shall be performed in accordance with the requirements of the City Building Code and the California Building Code (CBC) applicable at the time of grading, as well as the recommendations of the Project Geotechnical Consultant as summarized in the final Geotechnical Report subject to review by the City Engineer, or designee, prior to the start of grading activities. The final Geotechnical Report shall present the results of observation and testing done during grading activities.		
4.7 Greenhouse Gas Emissions			
The proposed Project would not result in significant adverse impacts related to greenhouse gas emissions. No mitigation would be required.			
4.8 Hazards and Hazardous Materials			
HAZ-1	**Predemolition Surveys and Abatement of ACMs and LBPs.** Prior to commencement of demolition activities, the Director of the City of Garden Grove Community and Economic Development Department, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs), lead-based paints (LBPs), and polychlorinated biphenyls (PCBs) (including sampling and analysis of all suspected building materials) have been performed. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in	Director of the City of Garden Grove Community and Economic Development Department, or designee/City of	Prior to commencement of demolition activities

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	accordance with applicable regulations (i.e., American Society for Testing and Materials (ASTM) E 1527-05, and 40 Code of Federal Regulations (CFR), Subchapter R, Toxic Substances Control Act [TSCA], Part 716). Wherever evidence of ACMs, LBPs, and ACMs are present in areas proposed for demolition, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). During demolition, air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers and the adjacent community. The Project Applicant shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the City of Garden Grove Fire Department showing that abatement of any ACMs, LBPs, and PCBs identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations [CCR] Title 8, Article 2.6). An Operating & Maintenance Plan (O&M) shall be prepared for any ACM-, LBP-, or PCB-containing fixtures to remain in place and shall be reviewed and approved by the City of Garden Grove Fire Department.	Garden Grove Fire Department	
HAZ-2	**Contingency Plan.** Prior to commencement of grading activities, the Director of the County Environmental Health Division, or designee, shall review and approve a contingency plan that addresses the procedures to be followed should on-site unknown hazards or hazardous substances be encountered during demolition and construction activities. The plan shall indicate that if construction workers encounter underground tanks, gases, odors, uncontained spills, or other unidentified substances, the contractor shall stop work, cordon off the affected area, and notify the Garden Grove Fire Department (GGFD). The GGFD responder shall determine	Director of the County Environmental Health Division, or designee/Garden Grove Fire Department	Prior to commencement of grading activities

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	the next steps regarding possible site evacuation, sampling, and disposal of the substance consistent with local, State, and federal regulations.		
HAZ-3	**Construction Staging and Traffic Management Plan.** Prior to issuance of a grading permit, a Construction Staging and Traffic Management Plan shall be prepared for approval by the Director of the City of Garden Grove Public Works Department, or designee. The Construction Staging and Traffic Management Plan shall ~~will also~~ include the name and phone number of a contact person who can be reached 24 hours a day regarding construction traffic complaints or emergency situations. The Construction Staging and Traffic Management Plan shall ~~may~~ include, but not be limited to, the following: • Temporary lane closures shall be implemented consistent with the recommendations of the California Joint Utility Traffic Control Manual; • Flag persons in adequate numbers shall be provided to minimize impacts to traffic flow and to ensure safe access into and out of the site; • Flag persons shall be trained to assist in emergency response by restricting or controlling the movement of traffic that could interfere with emergency vehicle access; • All emergency access to the Project site and adjacent areas shall be kept clear and unobstructed during all phases of demolition and construction; • Providing safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers; • Scheduling construction-related deliveries, other than concrete and earthwork-related deliveries, so as to reduce travel during peak travel periods (i.e., 6:00 a.m. to 9:00 a.m. and 3:30 p.m. to 7:00 p.m. Monday through Friday); • Coordination with other construction projects in the vicinity to minimize	Director of the City of Garden Grove Public Works Department, or designee	Prior to issuance of a grading permit

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	conflicts; • If necessary, obtaining a Caltrans transportation permit for use of oversized transport vehicles on Caltrans facilities; • If necessary, submitting a traffic management plan to Caltrans for review and approval; • Construction vehicles, including construction personnel vehicles, shall not park on public streets, including streets outside the City of Garden Grove; • Construction vehicles shall not stage or queue where they interfere with pedestrian and vehicular traffic or block access to nearby businesses; • If feasible, any traffic lane closures will be limited to off-peak traffic periods, as approved by the City of Garden Grove Department of Public Works; and • <u>The Orange County Transportation Authority shall be notified a minimum of 24 hours in advance of any lane closures or other roadway work.</u> • The Garden Grove Police Department shall be notified a minimum of 24 hours in advance of any lane closures or other roadway work.		
4.9 Hydrology and Water Quality			
WQ-1	**Construction General Permit.** Prior to issuance of a grading permit, the Project Applicant shall obtain coverage under the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, National Pollutant Discharge Elimination System No. CAS000002) (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent (NOI) for coverage under the permit to the State Water Resources Control Board (SWRCB) via the Storm water Multiple	City of Garden Grove Public Works Department, or designee	Prior to issuance of a grading permit/prior to commencement of construction activities/upon completion of construction activities and stabilization of the Project site

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	Application and Report Tracking System (SMARTS). Construction activities shall not commence until a Waste Discharge Identification Number (WDID) is obtained from SMARTS. Prior to commencement of construction activities, the Project Applicant shall provide the WDID to the Director of the City of Garden Grove Public Works Department, or designee, to demonstrate proof of coverage under the Construction General Permit. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the proposed Project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction Best Management Practices (BMPs), such as Erosion Control, Sediment Control, and Good Housekeeping BMPs, to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities. Upon completion of construction activities and stabilization of the Project site, a Notice of Termination (NOT) shall be submitted via SMARTS to terminate coverage under the Construction General Permit.		
WQ-2	**Final Water Quality Management Plan.** Prior to the issuance of any grading or building permits, the Project Applicant shall submit a Final Water Quality Management Plan (WQMP) to the Director of the City of Garden Grove Public Works Department, or designee, for review and approval. The Final WQMP shall be prepared consistent with the Orange County Municipal Separate Storm Sewer System (MS4) Permit, Drainage Area Management Plan (DAMP), Model WQMP, and Technical Guidance Document. The Final WQMP shall specify BMPs to be incorporated into the design of the proposed Project. The BMPs shall include Site Design, Source Control, and Low Impact (LID) BMPs that target pollutants of concern in storm water runoff. The WQMP shall: • Address Site Design BMPs based on the geotechnical report recommendations and findings for conformance with the required regime of structural BMPs, as outlined in the latest Technical Guidance Document (TGD), such as infiltration, minimizing impervious areas, maximizing permeability,	Director of the City of Garden Grove Public Works Department, or designee	Prior to the issuance of any grading or building permits

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas • Incorporate the applicable Routine Source Control BMPs as defined in the Drainage Area Management Plan (DAMP) • Incorporate structural and Treatment Control BMPs as defined in the DAMP • Generally describe the long-term operation and maintenance requirements for the Treatment Control BMPs • Identify the entity that will be responsible for long-term operation and maintenance of the Treatment Control BMPs.		
WQ-3	**BMP Implementation, Operation, and Maintenance.** Prior to building permit closeout, the Director of the City of Garden Grove Public Works Department, or designee, shall verify that the Project Applicant has: • Demonstrated that all structural BMPs described in the Final WQMP have been constructed and installed in conformance with approved plans and specifications • Demonstrated that the Project Applicant is prepared to implement all nonstructural BMPs described in the Final WQMP by detailing the activity restrictions, BMP maintenance activities, pollution prevention education, and employee training in the Final WQMP. • Demonstrated that at least one copy of the approved Final WQMP is available on the Project site • Submitted an Operations and Maintenance (O&M) Plan for all structural BMPs to the Director of the City of Garden Grove Community and Economic Development Department, or designee, for review and approval. The O&M Plan shall include the following requirements:	Director of the City of Garden Grove Public Works Department, or designee	Prior to building permit closeout/prior to the start of the rainy season

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	o The HOA shall verify BMP implementation and ongoing maintenance through inspection, self-certification, survey, or other equally effective measure. The certification shall verify that, at a minimum, the inspection and maintenance of all structural BMPs including inspection and performance of any required maintenance in the late summer/early fall, prior to the start of the rainy season. o The HOA shall retain operations, inspections, and maintenance records of the BMPs and shall make the records available to the City or County upon request. o All inspection and maintenance records shall be maintained for at least 5 years after the recorded inspection date for the lifetime of the Project. o Long-term funding for BMP maintenance shall be funded through fees paid into the HOA. Shea Homes, which will set up the HOA, shall oversee that adequate funding for BMP maintenance is included within the HOA fee structure, including annual maintenance fees and long-term maintenance reserve funds. o Revisions to the HOA's Covenants, Conditions, and Restrictions (CC&Rs) related to the WQMP and BMPs shall be prohibited except with the review and approval of the Director of the City of Garden Grove Public Works Department, or designee. • Filed a record of the O&M Plan with the County Recorder's office • Provided notice by recordation of the Final WQMP with the County Recorder's office prior to sale of the property to notify all future owners that the Final WQMP is bound in perpetuity to the property. • Coordinate maintenance and other responsibilities with the project CC&Rs.		
WQ-4	**Transfer of WQMP Implementation Responsibility:** Should the maintenance	City of Garden Grove	At the time the

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	responsibility be transferred at any time during the operational life of the proposed Project, such as when a homeowners association (HOA) is formed for the community or a new HOA assumes management of the community, a formal notice of transfer shall be submitted to the City of Garden Grove Public Works Department, or designee at the time responsibility of the property subject to the Final WQMP is transferred. The transfer of responsibility shall be incorporated into the Final WQMP as an amendment. CC&Rs shall include the WQMP by reference and preclude revisions to the WQMP except as approved by the City.	Public Works Department, or designee	maintenance responsibility of the property is transferred
4.10 Land Use/Planning			
The proposed Project would not result in significant adverse impacts related to land use/planning. No mitigation would be required.			
4.11 Mineral Resources			
The proposed Project would not result in significant adverse impacts related to mineral resources. No mitigation would be required.			
4.12 Noise			
NOI-1	**Construction Noise and Vibration:** Prior to issuance of building permits, the Director of the Garden Grove Community and Economic Development Department, or designee, shall verify that grading and construction plans include the following requirements: • Construction activities occurring as part of the project shall be subject to the limitations and requirements of the City of Garden Grove Municipal Code, which states that construction activities shall occur only between the hours of 7:00 a.m. and 10:00 p.m. • A temporary 8-ft-high perimeter wall shall be placed along the ~~southern~~ northern perimeter of the project site (as illustrated by Figure 4.12.2) such that the line of sight from ground-level construction equipment and sensitive receptors would be blocked. The construction barrier shall be composed of a material that has a minimum Sound Transmission Class (STC) rating of 27. • Limit the operations of heavy equipment, specifically scrapers and bulldozers,	Director of the Garden Grove Community and Economic Development Department, or designee	Prior to issuance of building permits

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
to less than six (6) hours in duration when activities occur within 50 ft of the northern property line. • Ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved: • Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards. • Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development. • The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site whenever feasible. • The construction contractor shall use on-site electrical sources to power equipment rather than diesel generators where feasible. • All residential units located within 500 ft of the construction site shall be sent a notice regarding the construction schedule. A sign, legible at a distance of 50 ft shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities, as well as provide a telephone number for the "noise disturbance coordinator." • A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures to reduce noise levels. All notices that are sent to residential units within 500 ft of the construction site and all signs posted at the construction site shall list the telephone number for the		

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	disturbance coordinator. • The construction contractor shall schedule high vibration producing activities between the hours of 8:00 a.m. and 5:00 p.m. to minimize disruption to sensitive uses. • Grading and construction contractors shall use equipment that generates lower vibration levels such as rubber-tired equipment rather than metal-tracked equipment when construction is located near existing sensitive uses.		

NOI-2	**Long-Term On-Site Traffic Noise.** Prior to issuance of building permits, the Director of the Garden Grove Community and Economic Development Department, or designee, shall verify that construction plans include the following:
	• Construction of an 8-foot-high wall along the southern perimeter of the Project site (adjacent to Garden Grove Boulevard) and 6-foot-high walls along the northern, western, and eastern perimeters of the Project site.
	• All residences, including all bedrooms and living rooms, shall have windows with a minimum STC rating of 27.
	  • All exterior windows and doors shall be well-sealed and free of gaps or air spaces.
	  • Prior to the issuance of building permits, documentation shall be provided to the Director of the City of Garden Grove Community and Economic Development Department, or designee, demonstrating that project buildings meet ventilation standards required by the California Building Code (CBC) with the windows closed. It is likely that a form of mechanical ventilation, such as an air-conditioning system, will be required as part of the project design for all residences.
		Director of the Garden Grove Community and Economic Development Department, or designee	Prior to issuance of building permits

NOI-3:	**Recreation Area Municipal Code Compliance.** Prior to the issuance of any certificates of occupancy, the Project Applicant/Developer shall submit	Director of the Garden Grove Community and	Prior to the issuance of any certificates of

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	documentation to the Director of the City of Garden Grove Community and Economic Development Department, or designee, demonstrating that, at a minimum, the homeowners association (HOA) shall limit the hours of use in the private on-site recreation area to the hours between 7:00 a.m. and 10:00 p.m. The HOA shall post signs with the hours of access or use in conspicuous places within the recreation area. This requirement shall be included in the Declaration of Covenants, Conditions, and Restrictions (CC&Rs) for the community and shall not be removed.	Economic Development Department, or designee	occupancy
4.13 Population and Housing			
The proposed Project would not result in significant adverse impacts related to population or housing. No mitigation would be required.			
4.14 Public Services and Utilities			
The proposed Project would not result in significant adverse impacts related to public services or utilities. No mitigation would be required.			
4.15 Recreation			
REC-1	**Dedication Fees.** Prior to issuance of any building permits , the Project Applicant shall provide proof to the Director of the City of Garden Grove Economic and Community Development Department, or designee, that payment of park fees to the City of Garden Grove has been made in accordance with the Development Agreement between the City of Garden Grove and the Project Applicant.	Director of the City of Garden Grove Economic and Community Development Department, or designee	Prior to issuance of any building permits
4.16 Transportation/Traffic			
The proposed Project would not result in significant adverse impacts related to transportation/traffic. No mitigation would be required			
4.17 Utilities/Service Systems			
The proposed Project would not result in significant adverse impacts related to utilities/service systems. No mitigation would be required.			
4.18 Tribal Cultural Resources			
TCR-1	**Tribal Cultural Resources: Monitoring Procedures.** Prior to commencement of	City of Garden Grove	Prior to commencement

Table 5.A: Mitigation and Monitoring Reporting Program

	Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
	any grubbing or grading activities, the Project Applicant/Developer shall present evidence to the City of Garden Grove Director of the Economic and Community Development Department, or designee, that a qualified Native American monitor has been retained to provide Native American monitoring services for any construction activities that may disturb native soils. The Native American monitor shall be selected by the Project Applicant/Developer from the list of certified Native American monitors maintained by the Gabrieleno Band of Mission Indians – Kizh Nation. The Native American monitor shall be present at the pre-grading conference to establish procedures for tribal cultural resource surveillance. Those procedures shall include provisions for temporarily halting or redirecting work to permit sampling, identification, and evaluation of resources deemed by the Native American monitor to be tribal cultural resources as defined in Public Resources Code section 21074. These procedures shall be reviewed and approved by the City of Garden Grove Director of the Economic and Community Development Department, or designee, prior to commencement of any surface disturbance on the Project site.	Director of the Economic and Community Development Department, or designee	of any grubbing or grading activities/prior to commencement of any surface disturbance on the Project site

ACM = asbestos-containing material
ASTM = American Society for Testing and Materials
BMP = best management practice
CBC = California Building Code
CCR = California Code of Regulations
CC&R = Covenants, Conditions, and Restrictions
DAMP = Drainage Area Management Plan
GGFD = Garden Grove Fire Department
HOA = homeowners association
IS/MND = Initial Study/Mitigated Negative Declaration
LBP = lead-based paint
LID = Low Impact Development
MBTA = Migratory Bird Treaty Act
MLD = Most Likely Descendant
MS4 = Municipal Separate Storm Sewer System
NAHC = Native American Heritage Commission
NOI = Notice of Intent
NOT = Notice of Termination
O&M = Operations and Maintenance
PCB = polychlorinated biphenyls
PDF = Portable Document Format
PRC = Public Resources Code
PRD = Permit Registration Document
SCAQMD = South Coast Air Quality Management District
SMARTS = Storm water Multiple Application and Report Tracking System
STC = minimum Sound Transmission Class
SWPPP = Storm Water Pollution Prevention Plan
SWRCB = State Water Resources Control Board
TSCA = Toxic Substances Control Act
TGD = Technical Guidance Document
WDID = Waste Discharge Identification Number
WQMP = Water Quality Management Plan

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