DRAFT

Initial Study/
Mitigated Negative Declaration

Green Garden Apartment Project
9841 11th Street

LEAD AGENCY:

City of Garden Grove
Community Development Department
Planning Services Division
11222 Acacia Parkway
Garden Grove, CA 92840
Contact: Ms. Maria Parra

PREPARED BY:

Morse Planning Group

May 2017

MITIGATED NEGATIVE DECLARATION

Title of Project:	Garden Green Apartment Project
Project Location:	The project site is located on the north side of 11th Street between Kerry Street to the west and Brookhurst Street to the east within the City of Garden Grove, County of Orange. The address associated with the project site is 9841 11th Street. For a map of the project site, please refer to Exhibit 2-1 of the Initial Study.
Project Proponent:	Faircrest Real Estate, LLC 11542 Montclair Drive, Garden Grove, CA 92841
Brief Description of Project:	The project site is presently developed with two unoccupied residential units. The two units will be demolished and removed, and a 3-story, 10-unit apartment complex with affordable units within one building will be constructed. The City will consider the following approvals: ▪ General Plan Amendment from Civic/Institutional (CI) to Medium Density Residential (MDR) to be consistent with the R-3 zone ▪ Site Plan ▪ Development Agreement ▪ Concession/Waivers (based on the density bonus): (a) To allow the third-story configuration to be greater than 50 percent of the building footprint. (b) To deviate from the 10 feet distance separation between the units and the drive aisle located on the first, second, and third floors. (c) To deviate from the required 11'-3" third-story side setback.
Cortese List:	The project does not involve a site located on the Cortese list.
Project Impacts:	The Initial Study/Mitigated Negative Declaration found that the environmental impacts from the project would be less than significant with the incorporation of mitigation measures.
Mitigation Measures:	Mitigation measures have been included for Biological Resources, Cultural Resources, Geology and Soils; Hazards & Hazardous Materials; Hydrology and Water Quality; Noise; Public Services; Recreation; and Utilities & Service Systems.

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Provided on CD or on file with the City

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1.0 INTRODUCTION

The Green Garden Apartment Project (herein referenced as the "project" or the "proposed project") involves the demolition of on-site buildings and the development of ten apartment units on a 0.44-acre site. Following a preliminary review of the proposed project, the City of Garden Grove has determined that the proposed project is subject to the guidelines and regulations of the *California Environmental Quality Act* (*CEQA*). This Initial Study addresses the direct, indirect, and cumulative environmental impacts of the project, as proposed.

1.1. STATUTORY AUTHORITY AND REQUIREMENTS

This environmental document has been prepared in conformance with *CEQA* (*California Public Resources Code* [*PRC*] Section 21000 et seq.); *CEQA Guidelines* (*California Code of Regulations* [*CCR*], Title 14, Section 15000 et seq.); and the rules, regulations, and procedures for implementation of *CEQA*, as adopted by the City of Garden Grove (City).

In accordance with the *CEQA Guidelines* Sections 15051 and 15367, the City is identified as the Lead Agency for the proposed project. Under *CEQA* Sections 21000-21177 and pursuant to *CEQA Guidelines* Section 15063, the City is required to undertake the preparation of an Initial Study to determine if the proposed project would have a significant environmental impact. If, as a result of the Initial Study, the Lead Agency finds that there is evidence that any aspect of the project may cause a significant environmental effect, the Lead Agency shall further find that an Environmental Impact Report (EIR) is warranted to analyze project-related and cumulative environmental impacts. Alternatively, if the Lead Agency finds no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the proposed project would not have a significant effect on the environment and shall prepare a Negative Declaration. Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (*CEQA* Section 21080(c)).

The environmental documentation, which is ultimately selected by the City in accordance with *CEQA*, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions relevant to the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.

The environmental documentation and supporting analysis are subject to a public review period. During this review, agency and public comments on the document relative to environmental issues should be addressed to the City. Following review of any comments received, the City will consider these comments as a part of the project's environmental review and include them with the Initial Study documentation for consideration by the City.

1.2. PURPOSE

The purposes of an Initial Study are to:

1. Identify environmental impacts;
2. Provide the lead agency with information to use as the basis for deciding whether to prepare an EIR or a negative declaration;
3. Enable an applicant or lead agency to modify a project, mitigating adverse impacts before an EIR is required to be prepared;
4. Facilitate environmental assessment early in the design of the project;
5. Document the factual basis of the finding in a negative declaration that a project would not have a significant environmental effect;
6. Eliminate needless EIRs;
7. Determine whether a previously prepared EIR could be used for the project; and
8. Assist in the preparation of an EIR, if required, by focusing the EIR on the effects determined to be significant, identifying the effects determined not to be significant, and explaining the reasons for determining that potentially significant effects would not be significant.

CEQA Guidelines Section 15063 identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the project, including the location of the project
- Identification of the environmental setting
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries
- Discussion of ways to mitigate significant effects identified, if any
- Examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study

1.3. RESPONSIBLE AND TRUSTEE AGENCIES

Certain projects or actions undertaken by a Lead Agency require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Such other agencies are referred to as Responsible Agencies and Trustee Agencies. Pursuant to *CEQA Guidelines* Sections 15381 and 15386, as amended, Responsible Agencies and Trustee Agencies are respectively defined as follows:

> *"Responsible Agency" means a public agency, which proposes to carry out or approve a project, for which [a] Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the Lead Agency, which have discretionary approval power over the project. (Section 15381)*
>
> *"Trustee Agency" means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. Trustee Agencies include; The California Department of Fish and Wildlife, The State Lands Commission; The State Department of Parks and Recreation and The University of California with regard to sites within the Natural Land and Water Reserves System. (Section 15386)*

For this project, the City is the Lead Agency and has the principal responsibility of processing and approving the project.

Responsible and Trustee Agencies and other entities that may use this Initial Study in their decision-making process or for informational purposes include, but may not be limited to, the following:

- City of Garden Grove Fire Department
- City of Garden Grove Police Department
- Santa Ana Regional Water Quality Control Board

1.4. CONSULTATION

Following completion of this Initial Study, the City initiated formal consultation with Responsible Agencies, Trustee Agencies, and other governmental agencies as required under *CEQA* and its implementing guidelines.

The City also complied with Tribal Cultural Resources consultation requirements under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal notification was sent to the list of 24 tribes provided by the Native American Heritage Commission pursuant to *Public Resources Code* Section 21080.3.1 on February 10, 2017 and April 25, 2017 from the list received from the Native American Heritage Commission on October 24, 2016. As of May 24, 2017, the City has received no requests for consultation.

Given that the project involves a general plan amendment, the City also conducted SB 18 consultation with the list of tribes provided Native American Heritage Commission pursuant to Government Code Section 65352.3. On March 11, 2016, the City mailed notices to local tribes on the tribal consultation list provided by the Native American Heritage Commission on March 9, 2016. At the end of the 90-day notification period, June 8, 2016, the City received no request for any tribes for consultation.

1.5. INCORPORATION BY REFERENCE

Pertinent documents relating to this Initial Study have been cited in accordance with *CEQA Guidelines* Section 15150, which encourages "incorporation by reference" as a means of reducing redundancy and length of environmental reports. The following documents are available for public review at the City of Garden Grove Community Development Department, 11222 Acacia Parkway,

Garden Grove, California or at the web addresses noted herein. The documents are hereby incorporated by reference into this Initial Study. Information contained within these documents has been utilized for this Initial Study.

City of Garden Grove

Garden Grove General Plan 2030 (August 2008, May 2013)

Available online on the Planning Services Division page at: http://www.ci.garden-grove.ca.us/commdev/planning

The Garden Grove General Plan 2030 is the primary source of long-range planning and policy direction that guides growth and preserves the quality of life within the community. The General Plan estimates the anticipated level of development within the City. The General Plan includes the following elements: Land Use; Community Design; Economic Development; Circulation; Infrastructure; Noise; Air Quality; Parks, Recreation, and Open Space; Conservation; Safety; and Housing. The 2014-2021 Housing Element was adopted in May 2013.

Land Use Element. The Land Use Element serves as a long-range planning guide for development within the City. It describes the type of land uses, including development intensity and density throughout the City. The Land Use Element establishes goals, policies and implementation measures to promote appropriate development and redevelopment within the City.

Community Design Element. The Community Design Element will help guide future development in the City, so that overall public and private development will contribute to a high quality visual environment. This Element addresses the design issues related to community image, development within the public right-of-way and development on private property relative to architectural design, site planning, and signage.

Economic Development Element. The Economic Development Element sets the framework for a balanced and stable economic base in Garden Grove. The Economic Development Element establishes goals, policies and implementation measures that promote economic development by establishing a favorable environment for business attraction and retention, private investment, economic diversification, entrepreneurship, and the attraction of well-paying jobs.

Circulation Element. The Circulation Element provides programs and policies to establish a roadway system that adequately accommodates future growth consistent with the Land Use Element. The Circulation Plan seeks to provide for a safe, convenient, and efficient transportation system allowing for the movement of people and goods throughout the City and the region. Additionally, the Element includes policies for bike lanes, street improvements, and other transportation-related issues.

Infrastructure Element. The Infrastructure Element identifies the existing water, sewer, and storm drain systems and establishes goals, policies, and implementation measures to ensure that the City's infrastructure continues to meet the existing and future needs of the City.

Noise Element. The Noise Element describes the existing noise environment within the City and its relationship with Federal, State, and City noise regulations. This Element also provides

a framework to limit noise exposure within the City that considers both the existing and future noise environments and the compatibility of land uses.

Air Quality Element. The Air Quality Element is intended to protect the public's health and welfare by implementing measures that allow the South Coast Air Basin to attain Federal and State air quality standards. To achieve this, the Element sets forth a number of programs to reduce current pollution emissions and requires that new development include measures to comply with air quality standards. In addition, this Element contains provisions to address new air quality requirements.

Parks, Recreation, and Open Space Element. The Parks, Recreation, and Open Space Element of the General Plan establishes goals, policies and implementation measures that provide direction for the provision of adequate parkland, recreation opportunities, and management and conservation of limited open space resources within the City.

Conservation Element. The Conservation Element provides direction regarding the conservation, development, and utilization of natural resources. It serves as a guide for the City of Garden Grove, its residents and businesses to understand what natural or other resources exist in the City, how development impacts these resources and what methods should be employed to maintain, preserve or conserve these resources. The Conservation Element addresses the following resources: water resources, energy, solid waste, biological resources, green building, and cultural/historical resources.

Safety Element. The Safety Element identifies goals, policies and implementation measures to reduce the potential risk of death, injuries, property damage, and the economic and social dislocation resulting from hazards such as fires, floods, earthquakes, landslides and other hazards. The Safety Element provides policies and standards for the type, location, intensity, and design of development in areas of potential hazards. The intent of this element is to understand and minimize risks associated with each specific type of hazard so the City government and public may make informed decisions about land use and development throughout the City.

Housing Element. The Housing Element provides programs and policies that assist the community, region, and state in meeting the goal of providing housing affordable to all socioeconomic segments of the population. The Element addresses citywide housing and population demographics, regional fair-share housing allocations, and implementation strategies to assist the City in providing a full range of housing opportunities.

The General Plan was utilized throughout this document as the fundamental planning document governing development at the project site. Background information and policy information from the General Plan is cited throughout this document.

Garden Grove General Plan Environmental Impact Report (August 2008)

The Garden Grove General Plan Environmental Impact Report (General Plan EIR) analyzed the potential environmental impacts of the buildout of the General Plan 2030. The General Plan 2030 Land Use Diagram identifies the type, location and density/intensity of future development within the City of Garden Grove. The City of Garden Grove is approximately 99 percent built out, and as such, the General Plan 2030 focused on preserving residential neighborhoods, guiding the remaining development and redevelopment opportunities, and encouraging the revitalization of selected areas. As of January 2008, there were approximately 32.01 acres of vacant land in the City. Below is a summary of the anticipated development conditions through buildout. The values include the additional growth anticipated with the General Plan 2030, and account for buildout of any vacant or underutilized parcels. In total, these efforts are anticipated to result in the following scenario at buildout:

- 54,296 dwelling units;
- 14,557,673 square feet within eight mixed-use categories;
- 6,597,321 square feet of commercial uses;
- 494,493 square feet of office uses;
- 19,079,280 square feet of industrial uses;
- 7,844,067 square feet of civic/institutional uses; and
- 2,566.48 acres of roads/infrastructure.

The General Plan EIR, a Program EIR, evaluated the impacts of implementing the General Plan, the consideration of broad policy alternatives and program-wide mitigation measures. The Program EIR also determined when subsequent environmental review would be needed for a specific development proposal that is consistent with the General Plan 2030. The General Plan EIR concluded that the following three impact areas could not be feasibly mitigated and would result in a significant and unavoidable impact associated with implementation of the General Plan 2030:

- Air Quality (short-term construction emissions and cumulative construction emissions, long-term mobile and stationary source emissions, and General Plan buildout cumulative impacts)
- Noise (long-term operational noise and cumulative long-term operational noise impacts)
- Parks and Recreation (parks and recreational facilities and cumulative park and recreational facilities impacts)

The City Council adopted a Statement of Facts and Findings and a Statement of Overriding Considerations for these impacts in August 2008.

Garden Grove Municipal Code (Current through Ordinance 2866 and the June 2016 code supplement). Available online at: http://www.ci.garden-grove.ca.us/MunicipalCode

The Municipal Code is the set of laws for the City. The Municipal Code covers all aspects of City regulations, including zoning and various development related requirements. All zoning district standards are included in the Municipal Code. In addition, standards for development and architectural review, parking, variances, and other similar topics are included in the Municipal Code. Aside from zoning standards, other City regulations are also included in the Municipal Code, such as subdivision requirements, business license regulations, street, water and sewer standards, and vehicle and traffic requirements.

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2.0 PROJECT DESCRIPTION

2.1. PROJECT LOCATION

Regionally, the project site is located in the City of Garden Grove, which is located in the central portion of the County of Orange. The City of Garden Grove is bordered by the Cities of Anaheim, Stanton, and Cypress to the north; Los Alamitos to the northwest; Seal Beach to the west/southwest; Westminster and Fountain Valley to the south; Santa Ana to the south and southwest; and Orange to the east. The Garden Grove Freeway (State Route 22 [SR-22]) runs in an east-west direction through the City. Both the Santa Ana Freeway (Interstate 5) to the northeast, and the San Diego Freeway (Interstate 405) to the southwest, provides connections to State Route 22.

Locally, the project site is located on the north side of 11th Street between Kerry Street to the west and Brookhurst Street to the east within the City of Garden Grove, County of Orange. The address associated with the project site is 9841 11th Street. Refer to *Exhibit 2-1, Local Vicinity*.

2.2. ENVIRONMENTAL SETTING

2.2.1 EXISTING LAND USES

The approximately 0.44-acre (19,152 square feet) project site is comprised of one parcel (APNs 098-120-029 and -030), and is presently developed with two residential units (849 and 1,000 square feet) and accessory structures that are unoccupied. The accessory structures include a garage, shed, covered patio, and three dog kennels (two chain link and one wood).

2.2.2 SURROUNDING LAND USES

The project site is surrounded by the following uses:

North: The Islamic Society of Orange County and the Orange Crescent School are located to the northwest of the site, and front onto 13th Street, while residential rehabilitation facilities are located directly to the north of the site, and front onto 13th Street.

East: An intermediate care facility, single-family homes, and multi-family developments are located to the east of the site on the north side of 11th Street.

South: 11th Street is immediately adjacent to the project site. Single-family homes and multi-family residential complexes are located to the south across 11th Street.

West: A multi-family residential complex is located to the west of the site on the north side of 11th Street.

2.3. EXISTING ZONING AND GENERAL PLAN

The *Garden Grove General Plan* Land Use Diagram designates the site as Civic/Institutional (CI). The Zoning map designates the site as R-3 (Multiple Family Residential).

Municipal Code Title 9 Land Use, Chapter 9.12 Multifamily Residential Development Standards, Section 9.12.020.020 defines the R-3 zone.

> *R-3 (Multiple-Family Residential). The R-3 zone is intended to provide for a variety of types and densities of multiple-family residential dwellings. This zone is intended to promote housing opportunities in close proximity to employment and commercial centers.*

Zoning for Surrounding Uses

Zoning designations for surrounding uses are noted below.

North: PUD-130-99 (Planned Unit Development), R-3 (Multiple-Family Residential), and C-1 (Neighborhood Commercial)

East: R-3 (Multiple-Family Residential)

South: R-1-6 (Single-Family Residential) and R-3 (Multiple-Family Residential), and C-1 (Neighborhood Commercial)

West: PUD-130-99 (Planned Unit Development) and R-3 (Multiple-Family Residential)

2.4. PROJECT CHARACTERISTICS

2.4.1 PROJECT OBJECTIVES

The objectives that the City of Garden Grove seek to accomplish as part of the proposed project's implementation include the following:

- To ensure that the proposed project conforms to all pertinent City of Garden Grove land use and development regulations.
- To ensure that the proposed project's environmental impacts are identified and addressed as required by CEQA.
- To further facilitate new residential infill development to provide new housing opportunities for various income groups.

The objectives of the Applicant include the following:

- To facilitate the development of an underutilized property.
- To facilitate the provision of affordable housing units in the City.
- To realize a fair return on investment.

2.4.2 DESCRIPTION OF PROJECT

Faircrest Real Estate, LLC is proposing to develop a 10-unit apartment complex with affordable housing units on the 0.44-acre/19,152-square foot site named the Green Garden Project.

Proposed Site Development

Currently, the project site is developed with two unoccupied residential units and accessory structures that include a garage, shed, covered patio, and three dog kennels (two chain link and one wood). All on-site buildings and landscaping areas will be demolished and removed, and a 3-story, 10-unit apartment complex with affordable units will be constructed within one building. Vehicular ingress and egress to the project site will be provided via a single driveway from 11th Street. A single drive aisle will be provided to access the site and required parking spaces that are designed as carports. The majority of the units will be located on the 2nd and 3rd floors with the exception of Unit 1, which will be located on the 1st floor. The existing 6-foot block wall on the northern, western, and eastern boundaries will be protected in place. In addition, a 30-inch block wall will be constructed on the eastern property boundary adjacent to the drive aisle and will connect with the existing block wall. Refer to *Table 2-1*, *Land Use Summary*) and *Exhibit 2-2*, *Site Plan*.

Pursuant to State Law, the Applicant requests a density bonus to construct affordable housing units. The Municipal Code allows a maximum of 7 units based on the existing lot size. The proposed project will provide a 35 percent density bonus to construct a total of 10 units with three waivers/concessions to deviate from the R-3 development standards; thus, the proposed project will be required to restrict 3 units as low income. The three waivers/concessions include: 1) to allow the third-story configuration to be greater than 50 percent of the building footprint, 2) to deviate from the 10-foot distance separation between the units and the drive aisle located on the first, second, third floors, and 3) to allow the third-story to deviate from the required 11'-3" side setback.

The project will include a General Plan Amendment to change the land use designation from Civic Institution to Medium Density Residential, and a Site Plan to allow the construction of the 10-unit apartment complex.

Density and Lot Coverage

As noted in *Table 2-1*, *Land Use Summary*, the project is proposing 10 units. A density bonus is required to accommodate the proposed density. The proposed project will result in a density of 22.7 dwelling units per acre. The proposed project will result in lot coverage of 37.90 percent.

Access and Parking

A single access driveway for ingress/egress will be provided on 11th Street. The proposed project will provide 20 on-site parking spaces. The parking is calculated based on the State's density bonus requirements of 2 parking spaces for 2- and 3-bedroom units.

TABLE 2-1 LAND USE SUMMARY

Unit	Quantity	Size	Type	Location
Unit 1: 2 bed/2 bath	1	990 sf	Stacked Flat	1st Floor
Unit 2: 3 bed/2 bath	1	1,180 sf	Stacked Flat	2nd Floor
Unit 3: 2 bed/2 bath	1	990 sf	Stacked Flat	3rd Floor
Unit 4: 2 bed/2 bath	2	921 sf	Stacked Flat	2nd & 3rd Floors
Unit 5: 3 bed/2.5 bath	5	1,277 sf	Townhouse	
Total	10			

Notes:
Bed = bedroom; bath = bathroom; sf = square feet

Open Space, Recreation, and Leisure Areas

The proposed project will provide 3,137 square feet of open space, recreation, and leisure areas, which includes an aggregate total of 947 square feet of private patios and decks that vary in size from 90 square feet to 109 square feet and 2,190 square feet of common recreation area including a 1,817 square foot active recreation area, and 373 square feet of passive recreation area.

2.4.3 PROJECT PHASING

The proposed project will be constructed in a single phase.

2.5. PERMITS AND APPROVALS

The City (lead agency under *CEQA*) will use this Initial Study/Mitigated Negative Declaration in making decisions with regard to the approval of the proposed Green Garden Apartment Project and the subsequent construction and development of the apartment units. The City will consider the following approvals:

- General Plan Amendment from Civic/Institutional (CI) to Medium Density Residential (MDR) to be consistent with the R-3 zone
- Site Plan
- Development Agreement
- Concession/Waivers (based on the density bonus) for:

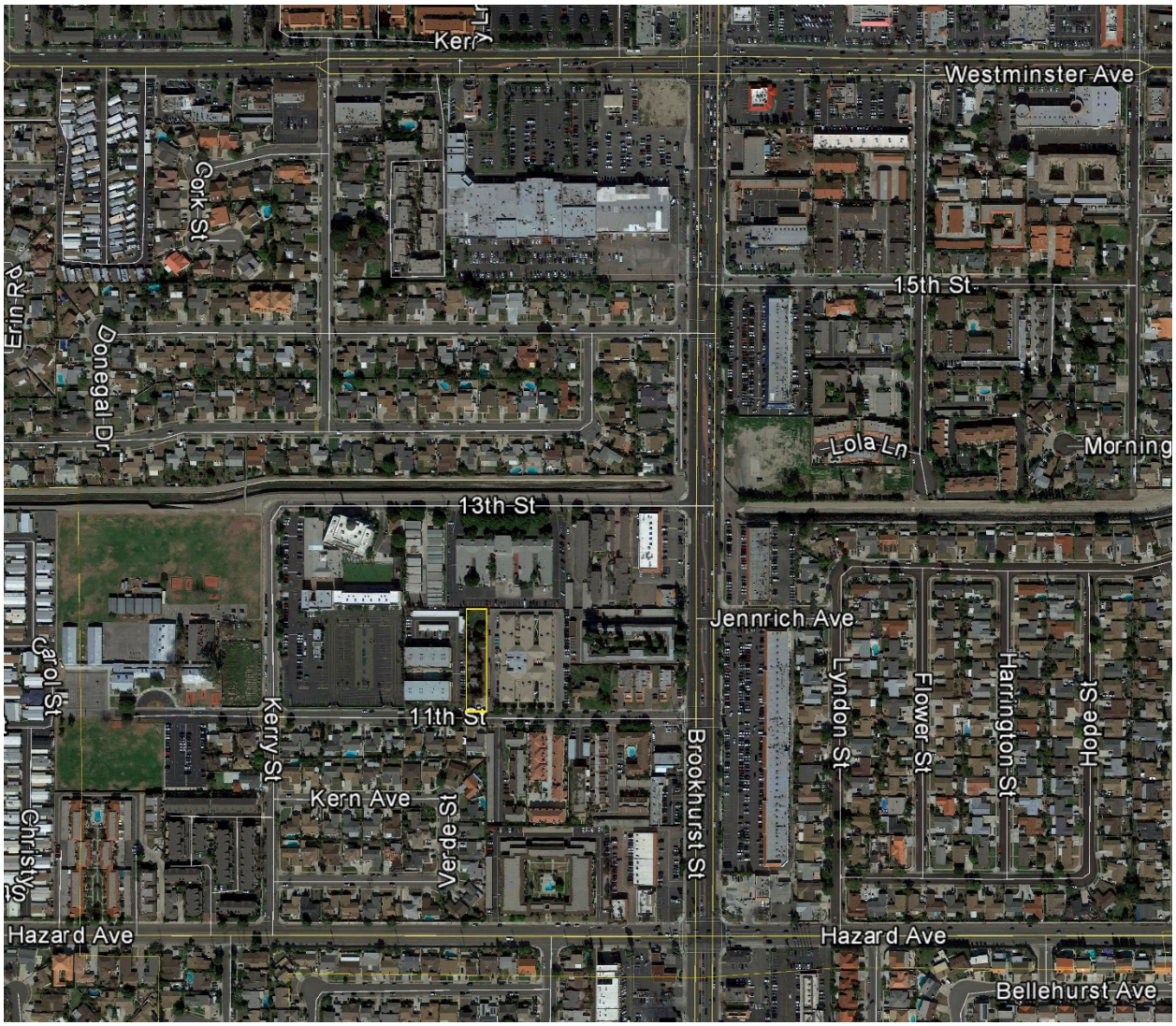
  (a) To allow the third-story configuration to be greater than 50 percent of the building footprint

  (b) To deviate from the required 10 feet distance separation between the units and the drive aisle located on the first, second, and third floors

  (c) To deviate from the required 11′-3″ third-story side setback

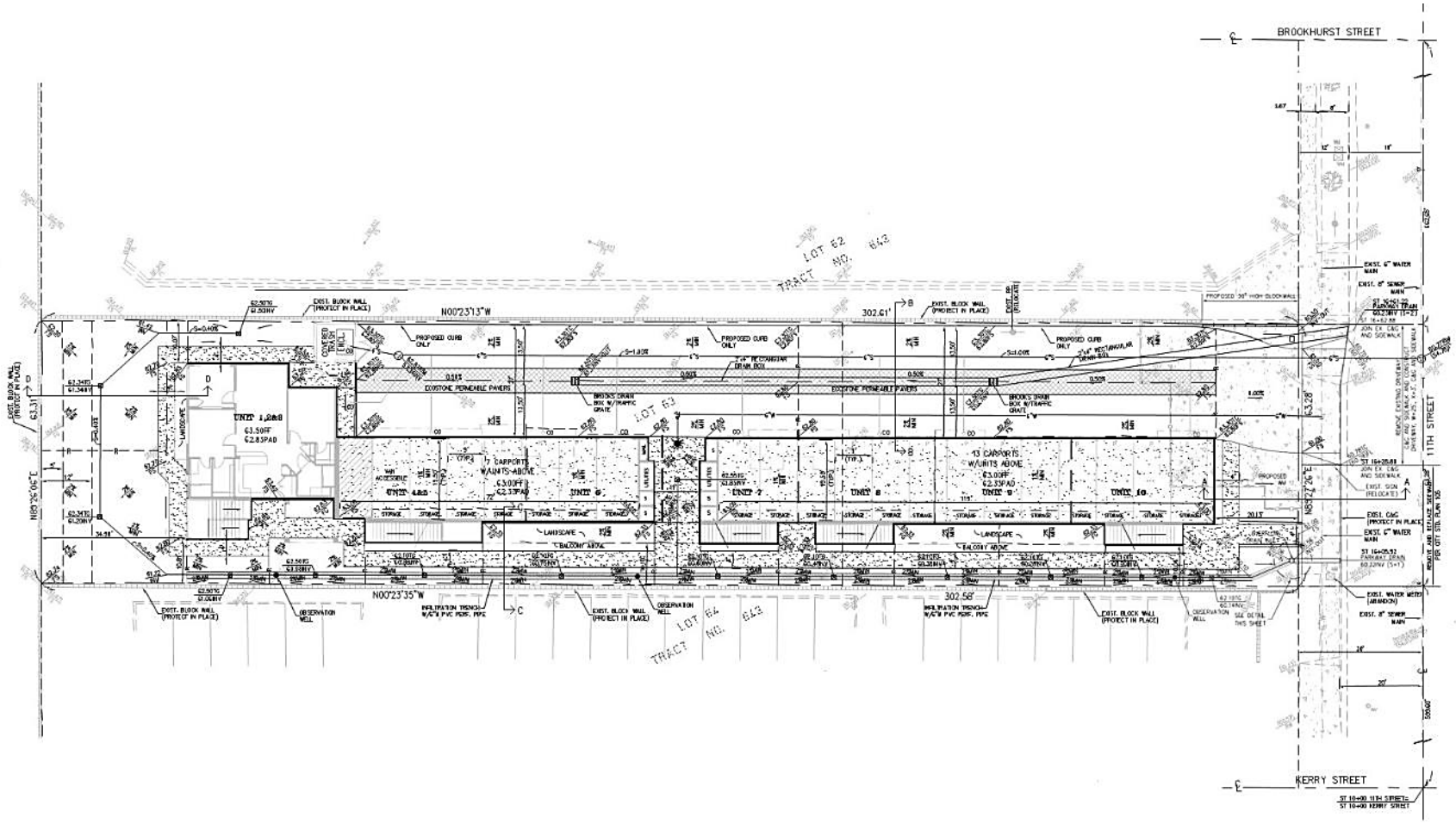
Other permits required for the project will include, but may not be limited to, the issuance of demolition permits and building permits.

Exhibit 2-1 Local Vicinity



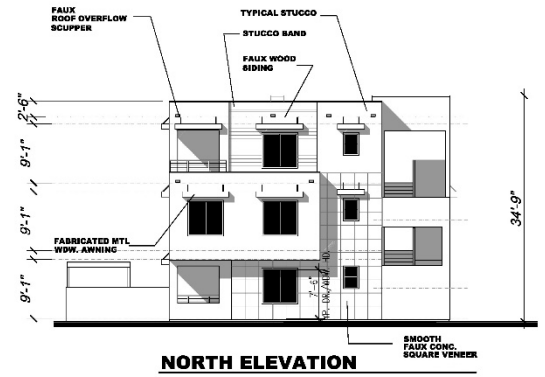
Source: Google Earth, 2016

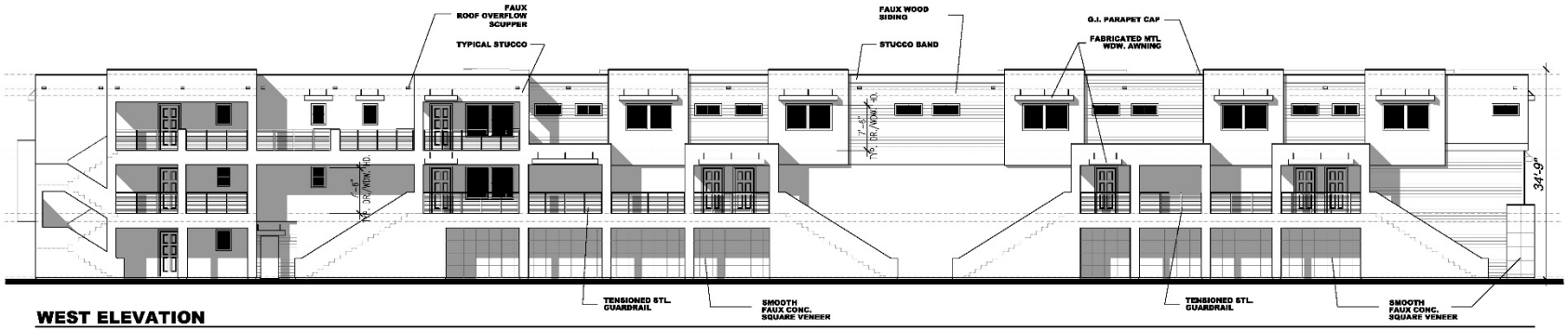
Exhibit 2-2 Site Plan



Sources: LSA Architecture, Inc. and DMS Consultants, Inc., May 2016

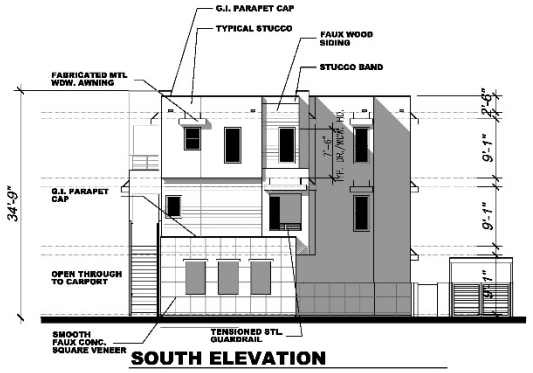
Exhibit 2-3 North and West Building Elevations

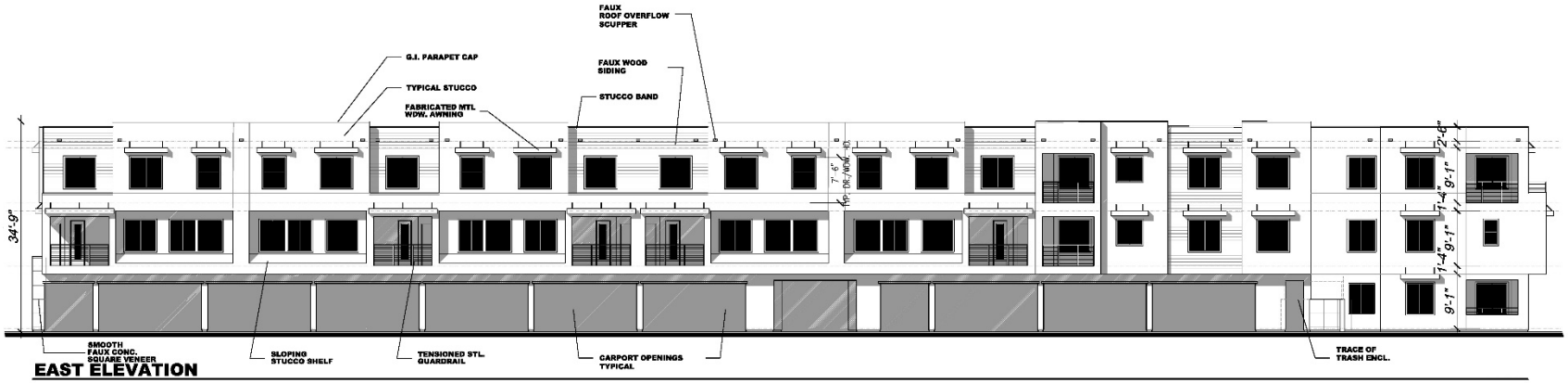




Source: LSA Architecture, Inc., May 2016

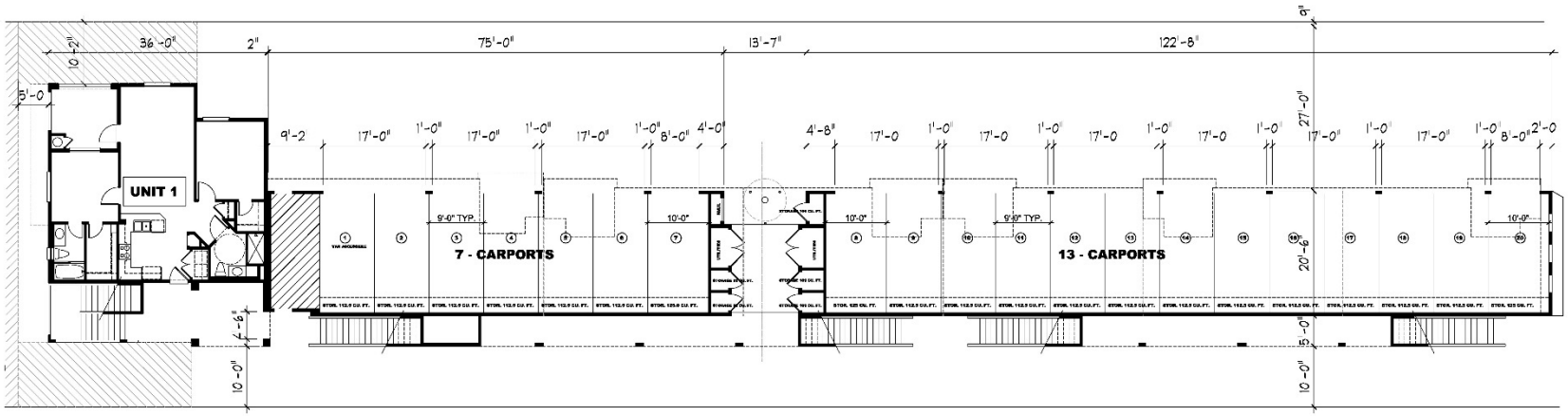
Exhibit 2-4 South and East Building Elevations





Source: LSA Architecture, Inc., May 2016

Exhibit 2-5 Building Floor Plan: 1st Floor

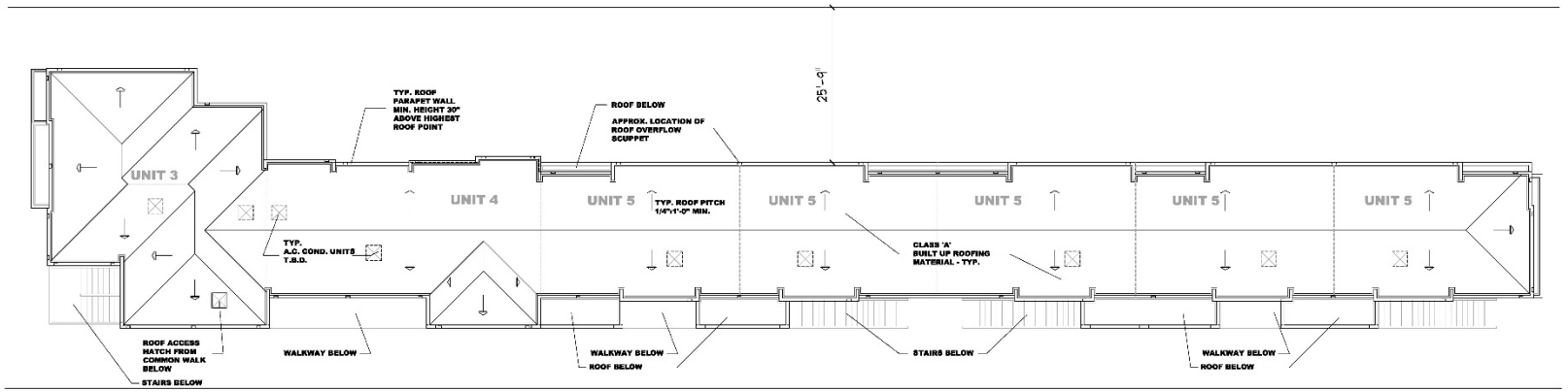


Source: LSA Architecture, Inc., May 2016

Exhibit 2-6 Building Floor Plan: 2nd & 3rd Floors

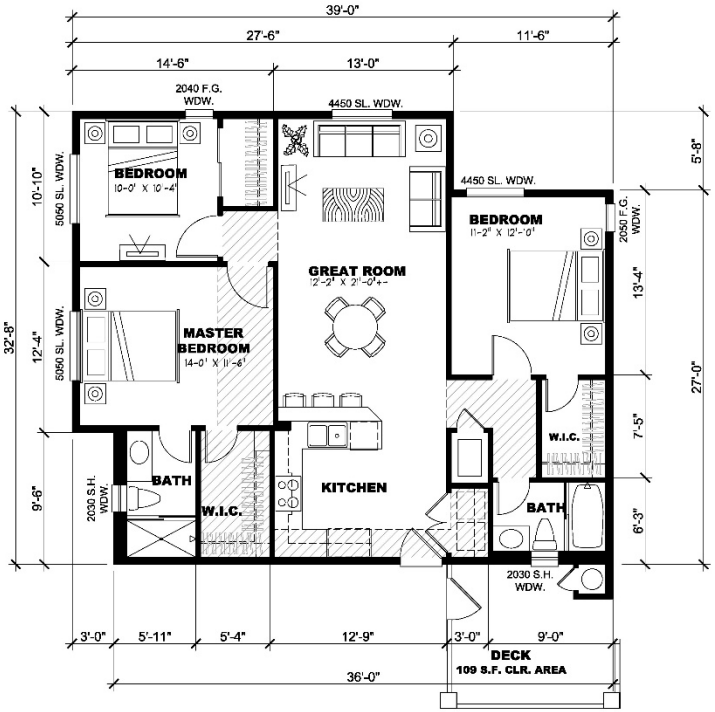
Source: LSA Architecture, Inc., May 2016

Exhibit 2-7 Building Roof Plan



Source: LSA Architecture, Inc., May 2016

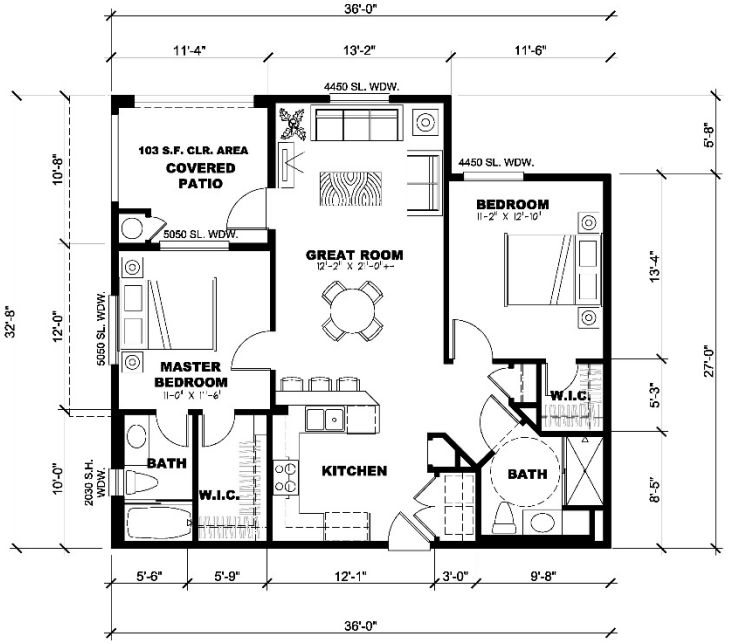
Exhibit 2-8 Floor Plan: Units 1 and 2



UNIT 2 - SECOND FLOOR FLAT
3-BEDROOMS / 2-BATH

SQUARE FOOTAGE

FLOOR PLAN	180 SQ. FT.
DECK	126 SQ. FT.
NET CLEAR	109 SQ. FT.



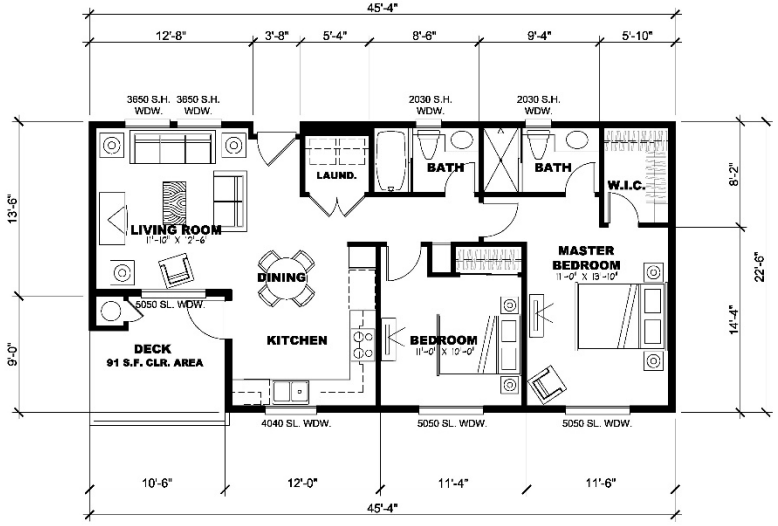
UNIT 1 - FIRST FLOOR FLAT
2-BEDROOMS / 2-BATH

SQUARE FOOTAGE

FLOOR PLAN	990 SQ. FT.
PATIO	121 SQ. FT.
NET CLEAR	103 SQ. FT.

Source: LSA Architecture, Inc., May 2016

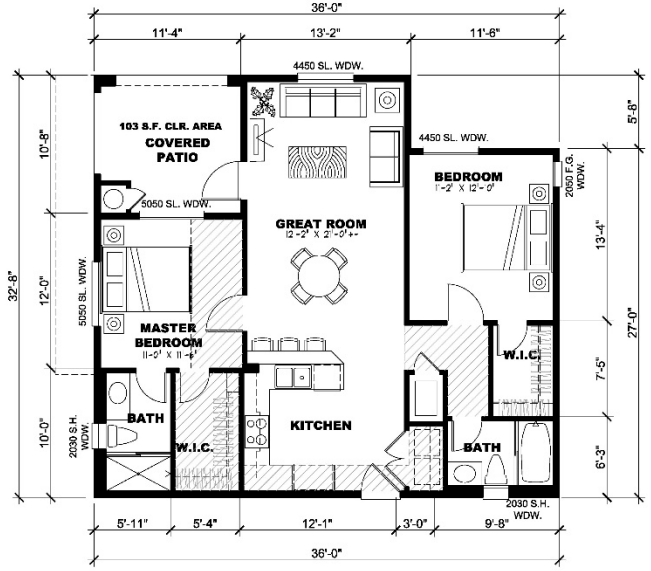
Exhibit 2-9 Floor Plan: Units 3 and 4



UNIT 4 - STACKED FLAT
2-BEDROOM / 2-BATH

SQUARE FOOTAGE

FLOOR PLAN	921 SQ. FT.
DECK	105 SQ. FT.
NET CLEAR	91 SQ. FT.



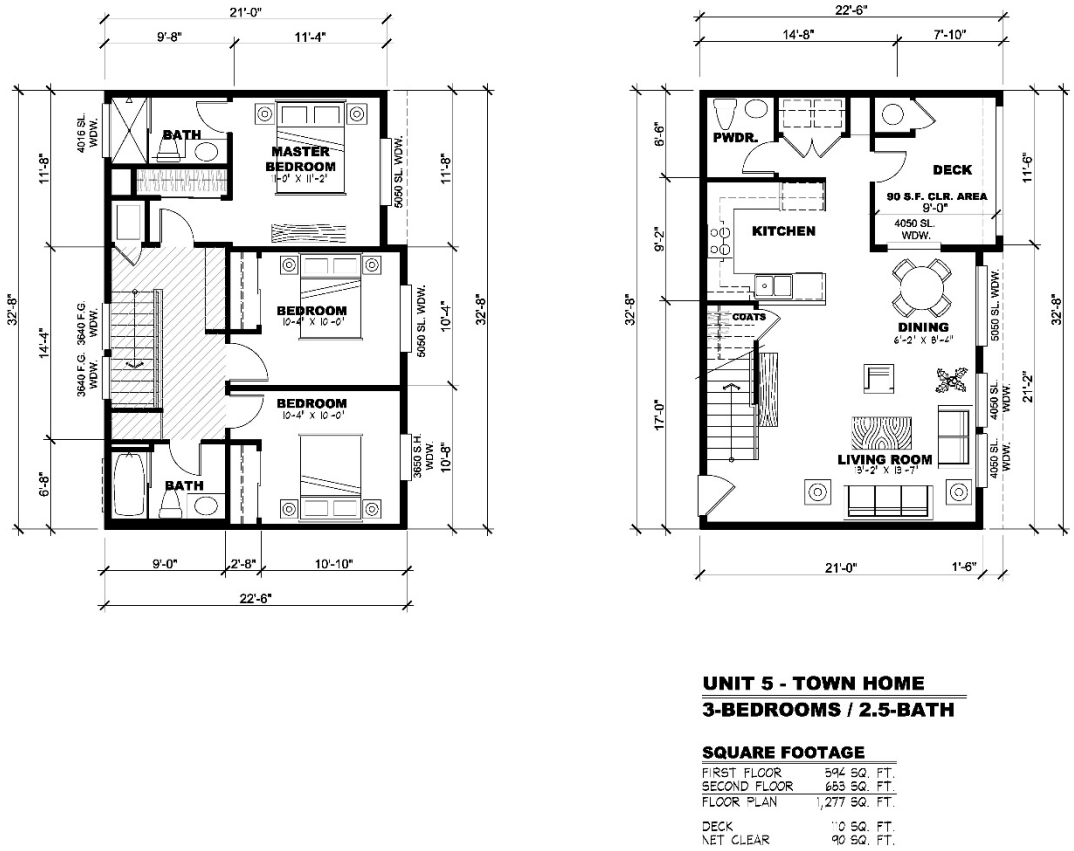
UNIT 3 - THIRD FLOOR FLAT
2-BEDROOMS / 2-BATH

SQUARE FOOTAGE

FLOOR PLAN	990 SQ. FT.
DECK	121 SQ. FT.
NET CLEAR	103 SQ. FT.

Source: LSA Architecture, Inc., May 2016

Exhibit 2-10 Floor Plan: Unit 5



UNIT 5 - TOWN HOME
3-BEDROOMS / 2.5-BATH

SQUARE FOOTAGE

FIRST FLOOR	594 SQ. FT.
SECOND FLOOR	683 SQ. FT.
FLOOR PLAN	1,277 SQ. FT.
DECK	90 SQ. FT.
NET CLEAR	90 SQ. FT.

Source: LSA Architecture, Inc., May 2016

3.0 INITIAL STUDY CHECKLIST

3.1. BACKGROUND

1.	Project Title: Green Garden Apartment Project
2.	Lead Agency Name and Address: City of Garden Grove Planning Services Division 11222 Acacia Parkway Garden Grove, CA 92840
3.	Contact Person and Phone Number: Maria Parra, Urban Planner, 714.744.5312
4.	Project Location: The project site is located on the north side of 11th Street between Kerry Street to the west and Brookhurst Street to the east within the City of Garden Grove, County of Orange at 9841 11th Street (APNs: 098-120-029 and 030).
5.	Project Sponsor's Name and Address: Joann Pham Faircrest Real Estate, LLC 11542 Montclair Drive Garden Grove, CA 92841
6.	General Plan Designation: The *Garden Grove General Plan* Land Use Diagram designates the site as Civic/Institutional (CI). A General Plan Amendment is proposed to change the land use designation from Civic/Institution to Medium Density Residential.
7.	Zoning: The Zoning map designates the site as R-3 (Multiple Family Residential).
8.	Description of the Project: All on-site buildings and landscaping areas will be demolished and removed, and a 3-story, 10-unit apartment complex with affordable units constructed within one building. Additional details regarding the proposed project are provided in Section 2.4, Project Characteristics.
9.	Surrounding Land Uses and Setting: Single-family homes and multi-family residential complexes are located to the south across 11th Street. Multi-family residential complexes are located to the west and east of the site on the north side of 11th Street. Uses to the northwest, north, and northeast include institutional, educational, and rehabilitation facilities. For additional details refer to Section 2.2.2, Surrounding Land Uses.
10.	Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement). Refer to Section 2.5, Permits and Approvals.

3.2. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Less Than Significant Impact with Mitigation Incorporated," as indicated by the Initial Study Checklist questions in Section 4.1 through Section 4.18.

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

3.3. EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- ❑ Aesthetics
- ❑ Agriculture and Forestry Resources
- ❑ Air Quality
- ❑ Biological Resources
- ❑ Cultural Resources
- ❑ Geology and Soils
- ❑ Greenhouse Gas Emissions
- ❑ Hazards and Hazardous Materials
- ❑ Hydrology and Water Quality
- ❑ Land Use and Planning
- ❑ Mineral Resources
- ❑ Noise
- ❑ Population and Housing
- ❑ Public Services
- ❑ Recreation
- ❑ Transportation/Traffic
- ❑ Utilities and Service Systems

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines* and used by the Garden Grove (City) in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- **No Impact.** The development will not have any measurable environmental impact on the environment.
- **Less Than Significant Impact.** The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- **Less Than Significant Impact With Mitigation Incorporated.** The development will have the potential to generate impacts which may be considered as a significant impact on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- **Potentially Significant Impact**. The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures would be required, so that impacts may be avoided or reduced to a less than significant level.

3.4. LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

I find that the proposed use COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposal could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in Section 4.0 have been added. A MITIGATED NEGATIVE DECLARATION will be prepared. ✓

I find that the proposal MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposal MAY have a significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Signature: _____

Title: _____

Printed Name: _____

Agency: City of Garden Grove

Date: _____

4.0 ENVIRONMENTAL ANALYSIS

The following sections include a discussion of potential project impacts as identified in the Initial Study Checklist. Explanations are provided for each item. At the beginning of each section is a "Sources Cited," which identifies the sources utilized in that particular section.

The environmental impact thresholds as indicated in *CEQA Guidelines* Appendix G (Environmental Checklist Form) are also as significance thresholds in this analysis.

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4.1. AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

Sources Cited in Section 4.1

California Department of Transportation, State Scenic Highways
http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html.

City of Garden Grove, *Garden Grove Municipal Code*, Chapter 9.12.

A. WOULD THE PROJECT HAVE A SUBSTANTIAL ADVERSE EFFECT ON A SCENIC VISTA?

NO IMPACT

The project site is not located within or in proximity to a scenic vista. The proposed project would not result in scenic view obstructions given the built out nature of the surrounding urban area. Building heights for adjacent single-family homes and the intermediate care facility are approximately 15 to 20 feet, and 25 to 30 feet for multi-family residential complexes. The building heights for the adjacent residential rehabilitation facilities are approximately 15 to 20 feet for the single-story buildings and 30 to 35 feet for the two-story buildings. Buildings heights on the Islamic Society of Orange County campus range from 30 feet in height for the two-stories buildings to 43 feet 6 inches for the dome to 55 feet for the tower features. Additional height details are provided in Response 4.1.C. The proposed project includes a three-story building with a building height of 34 feet 9 inches. Due to the height of the surrounding buildings, the proposed project would have no impact on a scenic vista. Thus, no impact would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

No officially designated or eligible State scenic routes or highways occur on or near the project site.[1] Furthermore, the ornamental vegetation present on-site is limited to species commonly found in an urban environment, including trees, grass, and shrubs. The site's topography was previously modified in order to accommodate the existing residential units and there are no natural rock outcroppings present on-site. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

C. WOULD THE PROJECT SUBSTANTIALLY DEGRADE THE EXISTING VISUAL CHARACTER OR QUALITY OF THE SITE AND ITS SURROUNDINGS?

LESS THAN SIGNIFICANT IMPACT

Construction of the proposed project may create temporary aesthetic nuisances associated with construction activities. Exposed surfaces, construction debris, equipment, and truck traffic may temporarily impact views across the site. These short-term impacts would cease upon project completion, and therefore would be considered less than significant.

The project site and its surroundings are urbanized with multi-family and single-family residential uses, institutional uses, and rehabilitation/intermediate care facilities. The project site currently contains two residential units. Demolition of the existing on-site buildings and structures and construction of a 10-unit apartment complex is not anticipated to result in significant negative impacts.-North, south, east, and west of the project site are single-family homes in the R-1 zone, and multi-family units in the R-3 zone; both zones allow building heights up to 35 feet with up to two stories in the R-1 zone and up to three stories in the R-3 zone. Commercial uses in the C-1 zone are located north and south of the project site; this zone also allows building up to 35 feet and two stories. The Islamic Society of Orange County campus, located northwest of the project site, is within in a Planned Unit Development (PUD) zone, which allows building heights up to 55 feet. The project site is zoned R-3, which allows building heights up to 35 feet and three stories. The proposed project includes a three-story building with a building height of 34 feet 9 inches.

The Islamic Society of Orange County dome and tower features are 43 feet 6 inches and 55 feet in height, respectively, which are approximately 8 feet 8 inches to 20 feet 3 inches taller than the proposed project, while the two-story portions (30 feet) are approximately 4 feet 9 inches shorter than the proposed project.

The single-family homes located to the immediate south are all single-story with heights of approximately 15 to 20 feet. The intermediate care facility located to the immediate east

1 http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html, accessed August 24, 2016.

includes all single-story buildings with heights of approximately 15 to 20 feet. The multi-family residential complexes located to the immediate west and southeast are two-stories with heights of approximately 25 to 30 feet, depending upon the roof features. In comparison to the adjacent single-family homes and intermediate care facility, the proposed project would be approximately 14 feet 9 inches to 18 feet 3 inches taller. In comparison to adjacent multi-family residential complexes, the proposed project would be approximately 4 feet 9 inches to 9 feet 9 inches taller.

The residential rehabilitation facilities located to the immediate north include single- and two-story buildings with single-story building heights of approximately 15 to 20 feet and two-story building heights of 30 to 35 feet. In comparison to the adjacent residential rehabilitation facilities, the proposed project be approximately 14 feet 9 inches to 18 feet 3 inches taller than the single-story buildings, and 4 feet 9 inches to a comparable height for the two-story buildings.

Thus, the proposed multi-family residential use would be compatible with the heights and character of the existing multi-family and single-family residential uses located to the west, east, and south of the project site, as well as with the existing institutional uses and rehabilitation/ residential care facilities located northwest, north, and northeast of the project site.

The existing 6-foot masonry block wall on the northern, western, and eastern boundaries would be protected in place. This wall would continue to separate on-site residential and adjacent residential, institutional, and rehabilitation/residential care facility uses and limit views across the site. Implementation of the proposed project would alter views onto the site; however, the change in visual character is not anticipated to be significant given that the site is presently developed. No additional impacts to the visual character of the site or the surrounding area are anticipated given the built out nature of the surrounding area. Thus, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

LESS THAN SIGNIFICANT IMPACT

The project site and its surroundings are urbanized with multi-family and single-family residential uses, institutional uses, and rehabilitation/intermediate care facilities.

The proposed project would demolish the two existing on-site residential units and construct a 10-unit apartment complex on the project site. The area surrounding the project site is currently urbanized and contains various forms of on- and off-site lighting typical of residential, institutional, and rehabilitation/residential care facility development.

Potential sources of light and glare that may result from the proposed project's implementation include parking area lighting, interior lighting, exterior safety lighting, and vehicle headlights. The 10-unit apartment complex may increase the amount of light and glare, but this would be consistent with other multi- and single-family residential development in the City, and impacts would be considered less than significant. In addition, any new lighting would be subject to *Garden Grove Municipal Code* Chapter 9.12, Section 9.12.020.050:

> *"All lights provided to illuminate any parking area or building on such site shall be so arranged as to direct the light away from any adjoining premises"*

Compliance with the *Municipal Code* ensures that direct lighting rays do not shine or produce glare for adjacent street traffic or surrounding uses. Further, the proposed project would preserve in place the 6-foot perimeter walls along the project boundaries, reducing the visibility of new interior lighting from adjoining residential, institutional and commercial uses. Thus, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

4.2. AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?				✓

Sources Cited in Section 4.2

Garden Grove Zoning Map, http://gis3.ci.garden-grove.ca.us/public/?city.fire_stations=&city.addresses=&city.parcel_labels=1&zoning_cache=1&city.zoning_labels=1, accessed July 22, 2016.

State of California, California Natural Resources Agency, Department of Conservation, California Important Farmland Finder, http://maps.conservation.ca.gov/ciff/ciff.html, Orange Angeles County, accessed September 15, 2016.

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?

NO IMPACT

The project site does not contain any land that is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on the California Important Farmland Finder Orange County Important Farmland Maps published by the California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. Furthermore, the project site has been developed with residential uses. Thus, project implementation would not result in the conversion of important farmland to non-agricultural uses. No impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

B. WOULD THE PROJECT CONFLICT WITH EXISTING ZONING FOR AGRICULTURAL USE, OR A WILLIAMSON ACT CONTRACT?

NO IMPACT

The project site and surrounding area are developed and urbanized. No agricultural land exists within the site vicinity, and the project site does not include any land under a Williamson contract. The project site is zoned R-3 (Multiple Family Residential). Thus, the proposed project would not affect any land zoned for agricultural uses and would not conflict with a Williamson Act Contract. No impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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))?

NO IMPACT

The project site is completely developed and urbanized. Forestry operations do not occur on or within the vicinity of the project site. The project site is zoned R-3 (Multiple Family Residential) and would not conflict with any areas zoned for forest or timberland. Also, the project site does not support any trees that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Project implementation would not result in the rezoning of forest land, timberland, or timberland zoned Timberland Production. No impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

D. WOULD THE PROJECT RESULT IN THE LOSS OF FOREST LAND OR CONVERSION OF FOREST LAND TO NON-FOREST USE?

NO IMPACT

Refer to Response 4.2.C.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

As stated in Responses 4.2.A through 4.2.C, the project site is completely developed and is void of agricultural or forest resources. Implementation of the proposed project would not result in changes to the environment that would result in the conversion of farmland to a non-agricultural use or forest land to a non-forest use. Thus, there would be no potential for the conversion of these resources and no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

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4.3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

Sources Cited in Section 4.3

Pomeroy Environmental Services, Air Quality Modeling, March 2017 (refer to Appendix A).

South Coast Air Quality Management District, *Final 2012 Air Quality Management Plan*, December 7, 2012.

South Coast Air Quality Management District, *CEQA Air Quality Handbook*, revised November 1993.

South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, revised October 21, 2009.

A. WOULD THE PROJECT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN?

LESS THAN SIGNIFICANT IMPACT

A significant air quality impact may occur if a project is not consistent with the applicable Air Quality Management Plan (AQMP), or would in some way represent a substantial hindrance to employing the policies, or obtaining the goals, of that plan.

The South Coast Air Quality Management District (SCAQMD) is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet federal and State ambient air quality standards. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs). The most recent of these was adopted by the Governing Board of the SCAQMD on December 7, 2012. This AQMP, referred to as the *2012 AQMP*, was prepared to comply with the Federal and State Clean Air Acts and amendments, to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet federal and State air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The *2012 AQMP* identifies the control measures that will be implemented over a 20-year horizon to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially

decreased the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the Basin. The future air quality levels projected in the *2012 AQMP* are based on several assumptions. For example, the SCAQMD assumes that general new development within the Basin will occur in accordance with population growth and transportation projections identified by the Southern California Association of Governments (SCAG) in its *Regional Transportation Plan/Sustainable Communities Strategy* (*RTP/SCS*). The *2012 AQMP* also assumes that general development projects will include strategies (mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations which are designed to address air quality impacts and pollution control measures.

For general development projects, the SCAQMD recommends that consistency with the current AQMP be determined by comparing the population generated by the project to the population projections used in the development of the AQMP. Projects that are consistent with SCAG's applicable growth projections would not interfere with air quality attainment because this growth is included in the projections utilized in the formulation of the *2012 AQMP*. As such, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP. It is assumed that the proposed project would comply with all SCAQMD rules and regulations that are in effect at the time of development and that are applicable to the project; the project applicant is not requesting any exemptions from the currently adopted or proposed rules.

The proposed project includes the demolition of existing uses and the development of a 10-unit apartment building with 20 ground-floor parking spaces. As discussed in detail in Response 4.13.A, while the proposed project would slightly increase population and housing totals in the City, the proposed project would not conflict with the regional growth projections for the region. In addition, and further discussed in this section, the proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Thus, the proposed project would not impair implementation of the AQMP, and less than significant impacts would occur.

MITIGATION MEASURES

No mitigation measures are required.

B. WOULD THE PROJECT VIOLATE ANY AIR QUALITY STANDARD OR CONTRIBUTE SUBSTANTIALLY TO AN EXISTING OR PROJECTED AIR QUALITY VIOLATION?

LESS THAN SIGNIFICANT IMPACT

A project may have a significant impact if project-related emissions would exceed Federal, State, or regional standards or thresholds, or if project-related emissions would substantially contribute to an existing or projected air quality violation. The project site is located in the South Coast Air Basin (Basin). SCAQMD is the air pollution control agency for the Basin. To address potential impacts from construction and operational activities, the SCAQMD currently recommends that impacts from projects with mass daily emissions that exceed any of the

thresholds outlined in *Table 4.3-1, SCAQMD Thresholds of Significance*, be considered significant. The City defers to these thresholds for the evaluation of construction and operational air quality impacts.

TABLE 4.3-1 SCAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction Thresholds (lbs/day)	Operational Thresholds (lbs/day)
Volatile Organic Compounds (VOC)	75	55
Nitrogen Oxides (NO_x)	100	55
Carbon Monoxide (CO)	550	550
Sulfur Oxides (SO_x)	150	150
Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Source: SCAQMD CEQA Handbook (SCAQMD, 1993), SCAQMD Air Quality Significance Thresholds, website: http://aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2; accessed September 2016.		
Note: lbs = pounds.		

Regional Construction Emissions

For purposes of analyzing impacts associated with air quality, this analysis assumes a construction schedule of approximately 13 months. This assumption is conservative and yields the maximum daily impacts, as it represents the fastest buildout scenario for the proposed project. If the proposed project is constructed over a longer period, the daily intensity would be reduced, resulting in decreased daily air quality emissions. Thus, the scenario analyzed herein represents the worst-case impact. Construction activities associated with the proposed project would be undertaken in three main steps: 1) demolition of existing uses, 2) grading and foundation preparation, and 3) building construction.

Demolition would occur for approximately two weeks and would require the demolition of 3,274 square feet of existing uses. Grading and foundation preparation would occur for approximately one month (22 construction days). Building construction would occur for approximately 12 months and would include the construction of the proposed structure, connection of utilities, laying irrigation for landscaping, architectural coatings, and landscaping the project site. These construction activities would temporarily create emissions of dusts, fumes, equipment exhaust, and other air contaminants. Construction activities involving grading and site preparation would primarily generate $PM_{2.5}$ and PM_{10} emissions. Mobile sources, such as diesel-fueled equipment onsite and traveling to and from the project site, would primarily generate NO_x emissions. The application of architectural coatings would primarily result in the release of ROG emissions. The amount of emissions generated on a daily basis would vary, depending on the amount and types of construction activities occurring at the same time. The analysis of daily construction emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod 2013.2.2) recommended by the SCAQMD. Due to the construction time frame and the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated

with each phase of the proposed construction activities. *Table 4.13-2, Estimated Peak Daily Construction Emissions*, identifies daily emissions that are estimated to occur on peak construction days for each construction phase.

These calculations assume that appropriate dust control measures would be implemented as part of the project during each phase of development, as required by SCAQMD Rule 403 - Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes (at least two times per day), applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. As shown in *Table 4.3-2*, construction-related daily emissions associated with the project would not exceed any regional SCAQMD significance thresholds for criteria pollutants during the construction phases. Therefore, regional construction impacts are considered to be less than significant.

Operational Emissions

The proposed project would demolish the two existing residential units and construct 10 residential units. As such, air pollutant emissions would be generated at the project site by area sources, energy demand, and mobile sources such as motor vehicle traffic traveling to and from the project site. While the proposed project would result in a small increase of operational emissions over existing conditions, the emissions would be below the operational thresholds shown in *Table 4.3-3*. Therefore, operational impacts are considered to be less than significant.

MITIGATION MEASURES

No mitigation measures are required.

TABLE 4.3-2 ESTIMATED PEAK DAILY CONSTRUCTION EMISSIONS

Emissions Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Demolition Phase						
Fugitive Dust	--	--	--	--	0.15	0.02
Off-Road Diesel Equipment	1.20	10.48	8.58	0.01	0.73	0.69
On-Road Diesel (Hauling)	0.03	0.39	0.33	0.01	0.03	0.01
Worker Trips	0.03	0.04	0.47	0.01	0.11	0.03
Total Emissions	*1.26*	*10.91*	*9.38*	*0.03*	*1.02*	*0.75*
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
Grading/Foundation Preparation Phase						
Fugitive Dust	--	--	--	--	0.35	0.19
Off-Road Diesel Equipment	1.20	10.48	8.58	0.01	0.73	0.69
Worker Trips	0.03	0.04	0.47	0.01	0.11	0.03
Total Emissions	*1.23*	*10.52*	*9.05*	*0.02*	*1.19*	*0.91*
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No
Building Construction Phase						
Building Construction Off-Road Diesel Equipment	1.27	12.67	8.04	0.01	0.86	0.79
Building Construction Vendor Trips	0.01	0.08	0.12	0.01	0.01	0.01
Building Construction Worker Trips	0.02	0.03	0.33	0.01	0.08	0.02
Architectural Coatings	5.69	--	--	--	--	--
Architectural Coating Off-Road Diesel Equipment	0.30	2.01	1.85	0.01	0.15	0.13
Architectural Coatings Worker Trips	0.01	0.01	0.04	0.01	0.01	0.01
Total Emissions	*7.30*	*14.80*	*10.38*	*0.05*	*1.11*	*0.96*
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	No	No	No	No	No

Source: Pomeroy Environmental Services (March 2017)

Note: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust. Calculation sheets are provided in Appendix A.

TABLE 4.3-3 ESTIMATED DAILY OPERATIONAL EMISSIONS

Emissions Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Area Sources	0.26	<0.01	0.83	<0.01	0.02	0.02
Energy Demand	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Mobile (Motor Vehicles)	0.21	0.50	2.42	<0.01	0.52	0.14
Total Project Emissions	*0.47*	*0.54*	*3.26*	*<0.01*	*0.54*	*0.16*
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Potentially Significant Impact?	No	No	No	No	No	No
Wintertime (Non-Smog Season) Emissions						
Area Sources	0.26	<0.01	0.83	<0.01	0.02	0.02
Energy Demand	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Mobile (Motor Vehicles)	0.22	0.53	2.39	<0.01	0.52	0.15
Total Project Emissions	*0.48*	*0.56*	*3.23*	*<0.01*	*0.54*	*0.16*
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Potentially Significant Impact?	No	No	No	No	No	No
Source: Pomeroy Environmental Services (March 2017)						
Note: Column totals may not add due to rounding from the model results. Assumes all hearth would be natural gas. Calculation sheets provided in Appendix A.						

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)?

LESS THAN SIGNIFICANT IMPACT

A significant impact may occur if a project would add a considerable cumulative contribution to Federal or State non-attainment pollutant. Because the South Coast Air Basin is currently in nonattainment for ozone, nitrogen dioxide (NO_2), PM_{10} and $PM_{2.5}$, related projects may exceed an air quality standard or contribute to an existing or projected air quality exceedance. With respect to determining the significance of the proposed project's contribution, the SCAQMD neither recommends quantified analyses of construction and/or operational emissions from multiple development projects nor provides methodologies or thresholds of significance to be used to assess the cumulative emissions generated by multiple cumulative projects. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts be assessed utilizing the same significance criteria as those for project-specific impacts. Furthermore, the SCAQMD states that if an individual development project generates less-than-significant construction or operational emissions impacts, then the development project would not contribute to a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment.

As previously discussed, the mass daily construction and operational emissions generated by the proposed project would not exceed any of thresholds of significance recommended by the SCAQMD. Also, as discussed below, localized emissions generated by the proposed project would not exceed the SCAQMD's Localized Significance Thresholds (LSTs). Therefore, the proposed project would not contribute a cumulatively considerable increase in emissions for the pollutants which the Basin is in nonattainment. Thus, cumulative air quality impacts associated with the proposed project would be less than significant.

MITIGATION MEASURES

No mitigation measures are required.

D. WOULD THE PROJECT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS?

LESS THAN SIGNIFICANT IMPACT

A significant impact may occur if a project were to generate pollutant concentrations to a degree that would significantly affect sensitive receptors. Land uses that are considered more sensitive to changes in air quality than others are referred to as sensitive receptors. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they could be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function. The nearest sensitive receptors to the project site are residential uses located immediately adjacent to the west, east and south, and The Islamic Society of Orange County and the Orange Crescent School to the north.

Localized Emissions

Emissions from construction activities have the potential to generate localized emissions that may expose sensitive receptors to harmful pollutant concentrations. The SCAQMD has developed localized significance threshold (LST) look-up tables for project sites that are one, two, and five acres in size to simplify the evaluation of localized emissions at small sites. LSTs are provided for each Source Receptor Area (SRA) and various distances from the source of emissions.

In the case of this analysis, the project site is located within SRA 17 covering the Central Orange County area. The nearest sensitive receptors to the project site are residential and school uses. The closest receptor distance in the SCAQMD's mass rate look-up tables is 25 meters. Projects that are located closer than 25 meters to the nearest receptor are directed to use the LSTs for receptors located within 25 meters. The project site is 0.44 acres in size. Therefore, consistent with SCAQMD recommendations for sites less than one acre in size, the LSTs for a one-acre site in SRA 17 with receptors located within 25 meters have been used to address the potential localized NOx, CO, PM_{10}, and $PM_{2.5}$ emissions to the area surrounding the project site.

As shown in *Table 4.3-4*, *Localized On-Site Peak Daily Construction Emissions*, peak daily emissions generated within the project site during construction activities for each phase would not exceed the applicable construction LSTs for a one-acre site in SRA 17. Therefore, localized air quality impacts from proposed project construction activities on the off-site sensitive receptors would be less than significant.

TABLE 4.3-4 LOCALIZED ON-SITE PEAK DAILY CONSTRUCTION EMISSIONS

Construction Phase[1]	Total On-Site Emissions (Pounds per Day)			
	NO_x[2]	CO	PM_{10}	$PM_{2.5}$
Demolition Emissions	10.48	8.58	0.88	0.71
SCAQMD Localized Thresholds	*81.00*	*485.00*	*4.00*	*3.00*
Potentially Significant Impact?	No	No	No	No
Grading/Foundation Preparation Emissions	10.48	8.58	1.08	0.88
SCAQMD Localized Thresholds	*81.00*	*485.00*	*4.00*	*3.00*
Potentially Significant Impact?	No	No	No	No
Building Construction Emissions	14.68	9.89	1.01	0.92
SCAQMD Localized Thresholds	*81.00*	*485.00*	*4.00*	*3.00*
Potentially Significant Impact?	No	No	No	No

Source: Pomeroy Environmental Services (March 2017)

Notes: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust. Building construction emissions include architectural coatings.
1. The Project Site is 0.44 acres. Consistent with SCAQMD recommendations, the localized thresholds for all phases are based on a one-acre site with a receptor distance of 25 meters (82 feet) in SCAQMD's SRA 17.
2. The localized thresholds listed for NO_x in this table takes into consideration the gradual conversion of NO_x to NO_2, and are provided in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD. As discussed previously, the analysis of localized air quality impacts associated with NO_x emissions is focused on NO_2 levels as they are associated with adverse health effects.

Calculation sheets are provided in Appendix A.

Toxic Air Contaminants

Construction activities associated with the proposed project would be typical of other infill residential development projects in the City, and would be subject to the regulations and laws relating to toxic air pollutants at the regional, State, and Federal level that would protect sensitive receptors from substantial concentrations of these emissions. Therefore, impacts associated with the release of toxic air contaminants would be less than significant.

MITIGATION MEASURES

No mitigation measures are required.

E. WOULD THE PROJECT CREATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE?

LESS THAN SIGNIFICANT IMPACT

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors.

The proposed project involves the construction and operation of residential uses, which are not typically associated with odor complaints. Potential sources that may emit odors during construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project. The proposed project would use typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. As the proposed project involves no operational elements identified by SCAQMD as associated with odor complaints, no long-term operational objectionable odors are anticipated. Therefore, potential impacts associated with objectionable odors would be less than significant.

MITIGATION MEASURES

No mitigation measures are required.

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4.4. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?				✓

Sources Cited in Section 4.4

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

United States Fish and Wildlife Service, Threatened & Endangered Species Active Critical Habitat Report Online Mapper, accessed March 28, 2017.

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?

NO IMPACT

The project site is located within an urbanized area. The project site is currently developed with two residential units with ornamental landscaping consisting of trees, shrubs, and turf. While all of the existing on-site landscaping would be removed as part of the proposed project, none of the landscaping is native vegetation. The project site does not contain habitat that would support sensitive species, and there is no known candidate, sensitive, or special-status animal species inhabiting the site. According to the *General Plan* Conservation Element, 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 Online Mapper[2] does not identify any locations of critical habitat within approximately four miles of the project site. Therefore, no impacts to sensitive or special status species would result from implementation of the proposed project. Thus, no impacts in this regard would occur.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

As stated in Response 4.4.A, the project site is developed and disturbed. Additionally, the *Garden Grove General Plan 2030 Environmental Impact Report* does not identify that riparian habitat or sensitive communities are located on the project site. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

Refer to Responses 4.4.A and 4.4.A. There are no Federally protected wetlands present within or adjacent to the project site. The project site has been previously disturbed and is void of water features, including wetlands. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

2 Source: United States Fish and Wildlife Service, https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77, accessed March 28, 2017.

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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

The project site is currently developed and located in an urban area of the City. 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 and that 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. Thus, with implementation of Mitigation Measure BIO-1, impacts in this regard would be less than significant.

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.

E. WOULD THE PROJECT CONFLICT WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES, SUCH AS A TREE PRESERVATION POLICY OR ORDINANCE?

NO IMPACT

No public trees exist within the public parkway or right-of-way in front of the project site. As a result, the proposed project's implementation would not require the removal of public trees, and would not conflict with Municipal Code Chapter 11.32, Trees. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

4.5. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 CEQA Guidelines §15064.5?				✓
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §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 formal cemeteries?		✓		

Sources Cited in Section 4.5

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

A. WOULD THE PROJECT CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A HISTORICAL RESOURCE AS DEFINED IN CEQA GUIDELINES §15064.5?

NO IMPACT

Historic structures and sites are generally defined by local, State, and Federal criteria. A site or structure may be historically significant if it is protected through a local general plan or historic preservation ordinance. According to the *Garden Grove General Plan Environmental Impact Report*, there are no historical resources within the City of Garden Grove that are listed on the National Register or State Landmarks list. However, the Stanley House is designated as Orange County Historical Site No. 13 and is a Class 1 Building, which is a considered a candidate for nomination to the National Register of Historic Places. The Stanley House is located at 12174 Euclid Street in Garden Grove, which is approximately 2.4 miles northeast of the project site.

At present, there are no historical resources located on or near the project site. The proposed project would demolish two existing residential units and develop the site with 10 apartment units. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

B. WOULD THE PROJECT CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF AN ARCHAEOLOGICAL RESOURCE PURSUANT TO CEQA GUIDELINES §15064.5?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

The project area is predominately urbanized and built out with land area having been previously disturbed. No archaeological resources are known to occur on-site and due to the level of past disturbance, it is not anticipated that archeological resource sites exist within the project area.

In addition, the City conducted Native American tribal consultation in compliance with AB 52, specifically PRC Section 21080.3.1. The Native American Heritage Commission (NAHC) was contacted in March 2016, and a Sacred Lands File (SLF) was requested for the proposed project, as was a list of potential Native American contacts for consultation. The NAHC responded on March 9, 2016, to say that the SLF search was negative for the project area. The NAHC provided a Tribal Consultation List that included 24 Native American tribes to be contacted. The City sent letters for the purposes of AB 52 consultation to all 24 tribes on February 10, 2017 and April 25, 2017. As of May 24, 2017, the City has received no requests for consultation.

In the unlikely event that 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). Thus, with implementation of Mitigation Measure CUL-1, potential impacts to previously undiscovered archaeological resources would be reduced to less than significant.

MITIGATION MEASURES

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 Public Resources Code (PRC) Section 21083.2(g). 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 PRC (Section 21083.2[g]) and the treatment of archaeological resources as specified above.

C. WOULD THE PROJECT DIRECTLY OR INDIRECTLY DESTROY A UNIQUE PALEONTOLOGICAL RESOURCE OR SITE OR UNIQUE GEOLOGIC FEATURE?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

No paleontological resources are known to be on or adjacent to the project site. It is assumed that if these resources were located in these areas, they would have been discovered during the original or subsequent ground disturbing activities in this urbanized area. 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. Thus, with implementation of Mitigation Measure CUL-2, impacts would be reduced to less than significant.

MITIGATION MEASURES

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 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.

D. WOULD THE PROJECT DISTURB ANY HUMAN REMAINS, INCLUDING THOSE INTERRED OUTSIDE OF FORMAL CEMETERIES?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

No formal cemeteries or known human remains occur on-site or in the vicinity of the project site. Also, 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 *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), *Public Resources Code* (*PRC*) Section 5097, and *Health and Safety Code* Section 7050.5. 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 *Health and Safety Code* Section 7050.5. 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.

MITIGATION MEASURES

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). 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), Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.

4.6. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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:				
1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				✓
2) Strong seismic ground shaking?		✓		
3) Seismic-related ground failure, including liquefaction?		✓		
4) 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 waste water disposal systems where sewers are not available for the disposal of waste water?				✓

Sources Cited in Section 4.6

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

Table 4. Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones as of January 2010. This is an updated version of Table 4 from the 2007 edition of Special Publication 42 (Fault-Rupture Hazard Zones in California, by William A. Bryant and Earl W. Hart)*. California Department of Conservation website http://www.conservation.ca.gov/cgs/rghm/ap/Pages/affected.aspx, accessed August 11, 2016.

State of California, Seismic Hazard Zones, Anaheim Quadrangle, Revised Official Map, Released April 15, 1998.

Strata-Tech, Inc., *Geotechnical Engineering Investigation of Proposed 20-Unit Apartments, 9841 11th Street, Garden Grove, California*, May 23, 2016 (refer to Appendix B).

A. WOULD THE PROJECT EXPOSE PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS, INCLUDING THE RISK OF LOSS, INJURY, OR DEATH INVOLVING:

1. RUPTURE OF A KNOWN EARTHQUAKE FAULT, AS DELINEATED ON THE MOST RECENT ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING MAP ISSUED BY THE STATE GEOLOGIST FOR THE AREA OR BASED ON OTHER SUBSTANTIAL EVIDENCE OF A KNOWN FAULT? REFER TO DIVISION OF MINES AND GEOLOGY SPECIAL PUBLICATION 42.

NO IMPACT

Southern California, including the project area, is subject to the effects of seismic activity due to the active faults that traverse the area. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone. According to the most recent Alquist-Priolo Earthquake Fault Zone Map, the project site is not located within an Alquist-Priolo Special Studies Zone (within the Anaheim Quadrangle, dated April 15, 1998). Therefore, no impacts would result from the potential for fault rupture of a known earthquake fault.

MITIGATION MEASURES

No mitigation measures are required.

2. STRONG SEISMIC GROUND SHAKING?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Southern California is considered a tectonically active area. Since the project site is located in a seismically active region, numerous faults capable of generating moderate to large earthquakes exist within the project vicinity. Two fault splays associated with the inactive Pelican Hills Fault Zone traverse the central and western portions of the City in a northwest to southeast trending direction. Additionally, there are several potentially active faults within proximity to the City. The Newport-Inglewood, Whittier, and Palos Verdes Faults are the most likely to cause high ground acceleration in the City. The San Andres Fault has the highest probability of generating a maximum credible earthquake in California. The Norwalk Fault, though closer to the City, is predicted to generate a smaller magnitude earthquake.

The closest major active faults to the project site are the Newport-Inglewood Fault located approximately 6 miles southwest of the site, the Puente Hills Blind Thrust located approximately 1.3 miles east of the site, and the Whittier-Elsinore Fault located approximately 6 miles northeast of the site. The nearest faults are the Newport-Inglewood Fault, which could generate a maximum moment magnitude of 7.6 Maximum Credible Richter (MCR) magnitude and the Whittier-Elsinore Fault, which would generate a maximum moment magnitude of 7.1 MCR. The San Andreas and San Jacinto faults are located some distance from Garden Grove, but have the potential to deliver larger magnitude earthquakes than those previously mentioned.

During the life of the future residential uses, the project site would likely experience moderate to high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the Southern California region. Although some structural damage is typically not avoidable during a large earthquake, the proposed project would be constructed to meet existing construction ordinances and the *California Building Code* in order to protect against building collapse and major injury during a seismic event. The *California Building Code* includes specific design measures, which are based on the determination of Site Classification and Seismic Design Categories specific to the project site. These design measures are intended to maximize structural stability in the event of an earthquake. Thus, adherence to the *California Building Code* requirements, as well as Mitigation Measure GEO-1, would reduce the risks related to strong seismic shaking to a less than significant level.

MITIGATION MEASURES

GEO-1 Prior to issuance of grading permits, the Applicant shall prepare and submit for review and approval by the Public Works Director, a design-phase geotechnical report which shall include or revise as necessary the recommendations in the Applicant's Geotechnical Engineering Investigation (June 25, 2016) for site preparation and construction. The report shall, at a minimum, address remedial and design grading, and building foundations to fully address liquefaction-induced differential settlement and expansive soils. All site grading and construction shall be conducted in conformance with the recommendations included in the design-phase geotechnical report, which include, but are not limited to:

- Liquefaction
- Foundations on Compacted Fill
- Lateral Design
- Expansive Soils
- Seismic Design Values
- Settlement
- Subsidence & Shrinkage
- Floor Slabs
- Utility Line Backfills
- Hardscape & Slabs
- Chemical Analysis
- Drainage
- Engineering Consultation, Testing & Observation

3. SEISMIC-RELATED GROUND FAILURE, INCLUDING LIQUEFACTION?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Liquefaction occurs when dynamic loading of a saturated sand or silt causes pore-water pressures to increase to levels where grain-to-grain contact is lost and material temporarily behaves as a fluid. Liquefaction can cause settlement of the ground surface, settlement and tilting of engineered structures, flotation of buoyant buried structures, and cracking of the ground surface. A common manifestation of liquefaction is the formation of sand boils, which are short-lived fountains of soil and water that emerge from fissures or vents and leave freshly deposited mounds of sand or silt on the ground surface.

Based on the Seismic Hazard Zone Report for the U.S.G.S. Anaheim 7.5-minute quadrangle and the *Geotechnical Engineering Investigation*, the project site lies within a designated Liquefaction Hazard Zone. Artificial fill was encountered in the first two feet explored. Native soils consisted of clean to silty, fine grained sand, sandy, clayey silt to the maximum depth explored of 11.5 feet. According to the *Geotechnical Engineering Investigation*, groundwater was observed at a depth of approximately 11 feet below the ground surface.

As part of Mitigation Measure GEO-1, grading would be required to prepare the site for the proposed residential uses, and would remove the artificial fill soils that are near the surface. The materials would be removed and re-compacted thereby reducing the potential for surface manifestation of liquefaction. However, additional measures to reduce the potential for subsurface manifestation of liquefaction are needed. Several mitigation options were outlined in the *Geotechnical Engineering Investigation*, which would be refined as part of Mitigation Measure GEO-1, and identify approaches relative to structural damage due to liquefaction ranging from low to moderate to high risk.

Therefore, implementation of the proposed project could expose people or structures to potential substantial adverse impacts involving liquefaction. This impact is considered significant unless mitigated. All on-site development associated with implementation of the proposed project would be subject to Mitigation Measure GEO-1 and compliance with applicable building codes (i.e., *City Building Code*, *California Building Code*), which would reduce ground failure impacts to less than significant.

MITIGATION MEASURES

Refer to Mitigation Measure GEO-1. No additional mitigation measures are required.

4. LANDSLIDES?

NO IMPACT

The geologic and topographic characteristics of an area often determine its potential for landslides. Steep slopes, the extent of erosion, and the rock composition of a hillside all contribute to the potential slope failure and landslide events.

Landslides have not been recorded within the City boundaries and are not anticipated based on the area's flat terrain. The project site is located in an existing urbanized area. The property is

flat and surrounding properties are flat with no unusual geographic features, and therefore does not have the potential to slide, or experience sliding from adjacent areas. Therefore, project implementation would not expose people or structures to potential substantial adverse impacts involving landslides, and no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

B. WOULD THE PROJECT RESULT IN SUBSTANTIAL SOIL EROSION OR THE LOSS OF TOPSOIL?

LESS THAN SIGNIFICANT IMPACT

Grading and earthwork activities associated with proposed project construction activities would expose soils to potential short-term erosion by wind and water. All demolition and construction activities within the City would be subject to compliance with the *California Building Code*. Further, the proposed project would be subject to compliance with the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities; refer to Response 4.9.A. The NPDES Storm Water General Construction Permit requires preparation of a Storm Water Pollution Prevention Plan, which would identify specific erosion and sediment control Best Management Practices that would be implemented to protect storm water runoff during construction activities. Compliance with the *California Building Code* and NPDES would minimize impacts from erosion and ensure consistency with the Regional Water Quality Control Board Water Quality Control Plan. Following compliance with NPDES requirements, project implementation would result in a less than significant impact regarding soil erosion.

Substantial soil erosion or loss of topsoil is not expected to occur during long-term operations. The majority of the project site would be covered with structures or paved, and the remaining pervious areas would be landscaped, which would minimize potential impacts in this regard to a less than significant level.

MITIGATION MEASURES

No mitigation measures are required.

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 AN ON-SITE OR OFF-SITE LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION OR COLLAPSE?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.6.A.3.

MITIGATION MEASURES

Refer to Mitigation Measure GEO-1. No additional mitigation measures are required.

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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Expansive soils can be a problem, as variation in moisture content will cause a volume change in the soil. Expansive soils heave when moisture is introduced and contract as they dry. During inclement weather and/or excessive landscape watering, moisture infiltrates the soil and causes the soil to heave (expansion). When drying occurs the soils will shrink (contraction). Repeated cycles of expansion and contraction of soils can cause pavement, concrete slabs on grade and foundations to crack. This movement can also result in misalignment of doors and windows.

Underlying soils at the project site are comprised of artificial fill consisting of brown silty sand in the first one to two feet below ground surface. The native alluvial deposits consist of clean to silty, fine grained sand, sandy, and clayey silt to the maximum depth explored of 11.5 feet. According to the *Geotechnical Engineering Investigation*, the project site is underlain by soils of low to very low expansion potential.

However, in order to ensure that the proposed project is not susceptible to damage as a result of on-site soils and geological conditions, the *Geotechnical Engineering Investigation* has included specific recommendations to reduce this risk to less than significant levels, which are to be reviewed and revised as necessary as part of Mitigation Measure GEO-1.

MITIGATION MEASURES

Refer to Mitigation Measure GEO-1. No additional mitigation measures are required.

E. WOULD THE PROJECT HAVE SOILS INCAPABLE OF ADEQUATELY SUPPORTING THE USE OF SEPTIC TANKS OR ALTERNATIVE WASTE WATER DISPOSAL SYSTEMS WHERE SEWERS ARE NOT AVAILABLE FOR THE DISPOSAL OF WASTE WATER?

NO IMPACT

Sewers are currently available for the on-site disposal of wastewater; therefore, it would not be necessary to install septic tanks or alternative wastewater disposal systems. Therefore, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

4.7. GREENHOUSE GASES

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

Sources Cited in Section 4.7

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

Pomeroy Environmental Services, Greenhouse Gas Modeling, March 2017 (refer to Appendix A).

A. WOULD THE PROJECT GENERATE GREENHOUSE GAS EMISSIONS, EITHER DIRECTLY OR INDIRECTLY, THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT?

LESS THAN SIGNIFICANT IMPACT

The proposed project involves the demolition of two residential units and the construction of a 10-unit apartment complex. The *General Plan EIR* includes Table 5.5-3 and Table 5.5-7, which provide the total amount of greenhouse gas emissions from area, indirect, and mobile sources for existing conditions and General Plan Update buildout conditions, respectively. The General Plan EIR accounted for a total of 54,296 dwelling units in 2030. The proposed project would result in a net increase of eight units over existing conditions; the eight units represents 0.015 percent of the 2030 residential total. The existing two residential units were reflected in the 2008 greenhouse gas emissions (GHG) emissions in Table 5.5-3, and the additional eight units were accounted for in the 2030 GHG emissions in Table 5.5-7. Nevertheless, the following construction and operational GHG estimates have been identified for the proposed project.

Construction GHG Emissions

Construction emissions represent an episodic, temporary source of GHG emissions. Emissions are generally associated with the operation of construction equipment and the disposal of construction waste. To be consistent with the guidance from the SCAQMD for calculating criteria pollutants from construction activities, only GHG emissions from on-site construction activities and off-site hauling and construction worker commuting are considered as project-generated. As explained by California Air Pollution Controls Officers Association (CAPCOA) in its 2008 white paper, the information needed to characterize GHG emissions from manufacture, transport, and end-of-life of construction materials would be speculative at the CEQA analysis level. *CEQA* does not require an evaluation of speculative impacts (*CEQA Guidelines* Section 15145). Therefore, the construction analysis does not consider such GHG emissions, but does consider non-speculative on-site construction activities and off-site hauling and construction worker trips. All GHG emissions are presented on an annual basis. Emissions

of GHGs were calculated using CalEEMod 2016.3.1 for construction of the proposed project. As shown Appendix A, the proposed project would generate a total of 170.33 metric tons of construction-related GHG emissions. Consistent with SCAQMD recommendations and to ensure construction emissions are assessed in a quantitative sense, construction GHG emissions have been amortized over a 30-year period and have been added to the annual operational GHG emissions of the proposed project identified in *Table 4.7-1*.

Operational GHG Emissions

The proposed project includes the development of 10 residential units. The operations of the proposed project would generate GHG emissions from the usage of on-road motor vehicles, electricity, natural gas, water, and generation of solid waste and wastewater. Emissions of operational GHGs are shown in *Table 4.7-1.* As shown, the GHG emissions generated by the proposed project would be approximately 114.78 CO2e MTY.

The SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds. The SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The SCAQMD proposed a screening level of 3,000 metric tons of CO2e per year for all land use projects (non-industrial projects), under which project impacts would be considered "less than significant." As shown in *Table 4.7-1*, the proposed project would be under the 3,000 MTCO2e per year threshold for non-industrial projects. Therefore, less than significant impacts would occur in this regard.

TABLE 4.7-1 PROJECT OPERATIONAL GHG EMISSIONS

Emissions Source	Estimated CO_2e Emissions (Metric Tons per Year)
Area Sources	2.35
Energy Demand (Electricity & Natural Gas)	14.66
Mobile (Motor Vehicles)	86.42
Solid Waste Generation	2.09
Water Demand	3.58
Construction Emissions[1]	5.68
Project Total	114.78
Source: Pomeroy Environmental Services (March 2017)	
Notes: 1. The total construction GHG emissions were amortized over 30 years and added to the operation of the proposed project. Calculation sheets are provided in Appendix A.	

MITIGATION MEASURES

No mitigation measures are required.

B. WOULD THE PROJECT CONFLICT WITH AN APPLICABLE PLAN, POLICY OR REGULATION ADOPTED FOR THE PURPOSE OF REDUCING THE EMISSIONS OF GREENHOUSE GASES?

LESS THAN SIGNIFICANT IMPACT

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires the California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a statewide GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

The CARB *AB 32 Scoping Plan* (*Scoping Plan*) contains the main strategies to achieve the 2020 emissions cap. The *Scoping Plan* proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the State economy. The GHG reduction strategies contained in the *Scoping Plan* include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

The proposed project involves the demolition of two residential units and the construction of a 10-unit apartment complex. Also, the proposed project involves the reuse of an existing urban property and infill development, which is seen as an important strategy in reducing regional GHG emissions. The proposed project's compliance with the current *CALGreen Code* would result in 25 percent energy savings; the proposed project would include energy efficient appliances such as clothes-washing machines, refrigerators, fans, dish-washers, etc.; and, the proposed project would reduce water demand by at least 20 percent due to low-flow and/or high efficiency water fixtures such as low-flow toilets, urinals, showerheads, faucets, and high-efficiency clothes-washers and dishwashers.

Therefore, implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases are anticipated. Thus, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

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4.8. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 reasonably 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 compiled 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?				✓

Sources Cited in Section 4.8

Department of Toxic Substances Control, http://www.calepa.ca.gov/SiteCleanup/CorteseList/default.htm, accessed on August 12, 2016.

A. WOULD THE PROJECT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH THE ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS?

LESS THAN SIGNIFICANT IMPACT

The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The project proposes to demolish the existing two residential units and construct 10 apartment units.

Excavation/grading activities and/or site disturbance of existing building materials may result in the off-site transport and disposal of hazardous substances, in the event that these substances are encountered. Off-site transport and disposal of hazardous substances (e.g., lead-based paint, asbestos, oils) would be short-term in nature, only occurring during demolition/renovation or grading/excavation activities, and would be subject to Federal, State, and local health and safety regulations that protect public safety. Standard construction practices would be observed such that any materials released would be appropriately contained and remediated as required by local, State, and Federal law. With adherence to the

requirements of affected regulatory agencies regarding the handling, transport, and disposal of hazardous materials, implementation of the proposed project would not create a significant hazard to the public or the environment. Thus, less than significant impacts would occur in this regard.

Long-term operations associated with the proposed project would not require the transport, use, or disposal of any regulated amounts of hazardous materials.

Development plans for the proposed project would also be reviewed by Garden Grove Fire Department (GGFD) and/or the Orange County Fire Authority (OCFA) for hazardous material use, safe handling, and storage, as appropriate. The GGFD and/or OCFA would require that conditions of approval be applied for the project applicant to reduce hazardous material impacts, if applicable. Thus, impacts would be less than significant in this regard.

MITIGATION MEASURES

No mitigation measures are required.

B. WOULD THE PROJECT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

On-Site Hazardous Material Sources and Releases

One of the means through which human exposure to hazardous substances could occur is through accidental release. Incidents that result in an accidental release of hazardous substances into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. If not cleaned up immediately and completely, the hazardous substances can migrate into the soil or enter a local stream or channel causing contamination of soil and water. Human exposure to contaminated soil or water can have potential health impacts on a variety of factors, including the nature of the contaminant and the degree of exposure.

Construction activities associated with the proposed project could release hazardous materials into the environment through reasonably foreseeable upset and accident conditions. There is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the low concentration of hazardous materials utilized during construction, given the size of the site (0.44 acres) and the size of construction equipment that fit onto the site. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law.

The project proposes the demolition and removal of two on-site residential units. The existing on-site buildings may contain asbestos-containing materials, as well as lead-based paints and/or other contaminants. As a result, construction workers and the public could be exposed. Further, the potential exists that construction activities may release potential contaminants that may be present in building materials (e.g., mold, lead, etc.). Federal and state regulations govern the renovation and demolition of structures where asbestos-containing materials and lead-based paints are present. All demolition that could result in the release of asbestos-containing materials or lead-based paints must be conducted according to U.S. Environmental Protection Agency and California Department of Toxic Substances Control standards, including but not limited to Asbestos National Emission Standards for Hazardous Air Pollutants (40 *CFR* Part 61 Subpart M), CERCLA Hazardous Substances and Reportable Quantities (40 *CFR* Part 302.4; Occupational Safety and Health Administration (29 *CFR* 1910.1001 and 1926.1001); Lead Renovation, Repair and Painting Program (40 *CFR* Part 745); and Asbestos & Lead-Based Paint (Title 22, *California Code of Regulations* and *California Health and Safety Code*). Abatement of asbestos would be required prior to any demolition activities. Compliance with the Mitigation Measure HAZ-1 (compliance with South Coast Air Quality Management District Rule 1403) would reduce potential impacts to a less than significant level.

MITIGATION MEASURES

HAZ-1 To comply with South Coast Air Quality Management District Rule 1403, prior to structural demolition/renovation activities, demolition materials containing asbestos-containing materials and/or lead-based paints shall be removed and properly disposed of at an appropriate permitted facility per existing Federal and State regulations.

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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Existing public and private schools located within one-quarter mile of the project site include the Hill Elementary School (located west of the site) and the Orange Crescent School and Montessori (located northwest of the site).

Refer to Responses 4.8.A and 4.8.B for construction-related impacts.

Operationally, the proposed residential uses would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste; and therefore, would not impact any existing or proposed schools within one-quarter mile of the project site. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

Refer to Mitigation Measure HAZ-1. No additional mitigation measures are required.

D. WOULD THE PROJECT BE LOCATED ON A SITE WHICH IS INCLUDED ON A LIST OF HAZARDOUS MATERIALS SITES COMPILED PURSUANT TO GOVERNMENT CODE SECTION 65962.5 AND, AS A RESULT, WOULD IT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT?

NO IMPACT

The project site is not listed in a list of hazardous materials sites compiled pursuant to *Government Code* Section 65962.5.[3] No impact would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

The project site is not located within an airport land use plan or within two miles of an airport. The nearest military airport is the Los Alamitos Joint Forces Training Base, located approximately 5.25 miles northwest of the project site. The nearest public airports are the Fullerton Municipal Airport and the Long Beach Airport, located approximately 8 miles north and 12 miles northwest of the project site, respectively. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

Refer to Response 4.8.E.

MITIGATION MEASURES

No mitigation measures are required.

3 Department of Toxic Substances Control, http://www.calepa.ca.gov/SiteCleanup/CorteseList/default.htm, accessed on August 12, 2016.

G. WOULD THE PROJECT IMPAIR IMPLEMENTATION OF OR PHYSICALLY INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN?

LESS THAN SIGNIFICANT IMPACT

The project site is within an urbanized area of the City served by existing roadways. At no time would the adjacent streets be completely closed to traffic during the construction phase. Also, the construction plans would be reviewed by the City Engineer to identify specific points of construction vehicle ingress and egress to the site during construction to ensure continued emergency access. Emergency vehicles would continue to have access to project-related and surrounding roadways during construction and upon completion of the proposed project. The proposed project would not impact access to emergency response. In addition, the proposed project would not physically interfere with the City's emergency evacuation routes. Therefore, less than significant impacts would result from the construction and operation of the proposed project in this regard.

MITIGATION MEASURES

No mitigation measures are required.

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?

NO IMPACT

The project site and surrounding areas are urbanized and built out, and no wildlands occur within or adjacent to the project site. Also, there are no areas of native vegetation found within the project site or in the surrounding properties that could provide a fuel source for a wildfire. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

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4.9. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 stream or river, in a manner which would result in 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 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. Inundation by seiche, tsunami, or mudflow?				✓
k. Result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).		✓		
l. Result in significant alteration of receiving water quality during or following construction?		✓		
m. Result in increased erosion downstream?		✓		
n. Result in increased impervious surfaces and associated increased runoff?		✓		
o. Create a significant adverse environmental impact to drainage patterns due to changes in runoff flow rates or volumes?		✓		
p. Be tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, can it result in an increase in any pollutant for which the water body is already impaired?		✓		
q. Be tributary to other environmentally sensitive areas? If so, can it exacerbate already existing sensitive conditions?				✓
r. Have a potentially significant environmental impact on surface water quality to either marine, fresh, or wetland waters?		✓		
s. Have a potentially significant adverse impact on groundwater quality?		✓		
t. Cause or contribute to an exceeded applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?		✓		

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
u. Impact aquatic, wetland, or riparian habitat?		✓		
v. Would the project include new or retrofitted stormwater treatment control Best Management Practices (e.g., water quality treatment basin, constructed treatment wetlands), the operation of which could result in significant environmental effects (e.g., increased vectors or odors)?		✓		

Sources Cited in Section 4.9

DMS Consultants, Inc., *Hydrology Study, Green Garden Apartments*, June 27, 2016 (refer to Appendix C).

DMS Consultants, Inc., *Preliminary Water Quality Management* Plan, *Green Garden Apartments*, Revised June 27, 2016 (refer to Appendix D).

Federal Emergency Management Agency, Flood Insurance Rate Map Number 06059C0139J, effective date December 3, 2009.

Site Topography

The topography within the project site is flat.

Project Site Surface Conditions and Land Use

The project site is generally permeable. The site includes two unoccupied residential units.

A. WOULD THE PROJECT VIOLATE ANY WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Urban runoff, both dry and wet weather, discharges into storm drains and, in most cases, flows directly to creeks, rivers, lakes, and the ocean. Polluted runoff can have harmful impacts on drinking water, recreational water, and wildlife. Urban runoff pollution includes a wide array of environmental, chemical, and biological compounds from both point and non-point sources. In the urban environment, storm water characteristics depend on site conditions (e.g., land use, impervious cover, pollution prevention, types and amounts of Best Management Practices), rain events (duration, amount of rainfall, intensity, and time between events), soil type and particle sizes, multiple chemical conditions, the amount of vehicular traffic, and atmospheric deposition (United States Environmental Protection Agency 2000). Major pollutants typically found in runoff from urban areas include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogens, and bacteria.

Urban runoff can be divided into two categories – dry and wet weather urban runoff:

- Dry weather urban runoff occurs when there is no precipitation-generated runoff. Typical sources include landscape irrigation runoff; driveway and sidewalk washing; noncommercial vehicle washing; groundwater seepage; fire flow;

potable water line operations and maintenance discharges; and permitted or illegal non-storm water discharges.

- Wet weather urban runoff refers collectively to non-point source discharges that result from precipitation events. Wet weather runoff includes storm water runoff. Storm water discharges are generated by runoff from land and impervious areas such as paved streets and parking lots, building rooftops.

Wet- and dry-weather runoff typically contains similar pollutants of concern. However, except for the first flush concentrations following a long period between rainfalls, the concentration levels found in wet weather flows are typically lower than levels found in dry weather flows because the larger wet weather flows dilute the amount of pollution in runoff waters. Most urban storm water discharges are considered non-point sources and are regulated by a National Pollutant Discharge Elimination System Municipal General Permit or Construction General Permit.

The proposed project's water quality impacts would be short-term during the earthwork and construction phase, and following construction, prior to the establishment of ground cover, and long-term following completion.

Short-Term Construction

Implementation of the proposed project would not violate water quality standards and waste water discharge requirements. Short-term impacts related to water quality would occur during the earthwork and construction phase, when the potential for erosion, siltation, and sedimentation would be the greatest. Additionally, impacts would occur prior to the establishment of ground cover, when the erosion potential may remain relatively high. Impacts to storm water quality would occur from construction and associated earth moving, and increased pollutant loadings would occur immediately off-site.

The proposed project would disturb less than one acre of land surface, and thus, does not need to apply for coverage under the National Pollutant Discharge Elimination System Construction General Permit (Permit). However, the proposed project is required to comply with all pertinent requirements of the National Pollutant Discharge Elimination System (NPDES). This includes the preparation, submittal, and implementation of a Water Quality Management Plan (WQMP) that includes design features and Best Management Practices (BMPs) that are appropriate for the given project. These BMPs may include, but not be limited to, the use of sandbag berms, stabilized construction entrance/exit, sediment traps, and storm drain inlet projections. The purpose of the WQMP is to reduce the potential for post-construction pollutants entering into the storm water system. The City is required to approve the WQMP prior to the issuance of any grading or building permit.

Construction activities associated with the proposed project would have a less than significant impact on surface water quality and would not significantly impact the beneficial uses of receiving waters with compliance with the aforementioned requirements. Thus, less than significant impacts to short-term water quality impacts would occur.

Long-Term Operation

The project site is currently developed with two unoccupied single-family residential units and accessory structures, and grass and landscaped areas. With these existing on-site uses, the site is 54 percent pervious and 46 percent impervious.

Implementation of the proposed project would result in the development of a 10-unit apartment complex on the 0.44 acres. *Table 4.9-1, Existing and Proposed Pervious and Impervious Conditions*, shows that the post-project conditions result in a decrease to 28 percent in the amount of pervious area and an increase to 72 percent in the amount of impervious area.

TABLE 4.9-1 EXISTING AND PROPOSED PERVIOUS AND IMPERVIOUS SITE CONDITIONS

Project Area	Pervious		Impervious	
	Area (Acres)	Percentage	Area (Acres)	Percentage
Pre-Project Conditions	0.24	54%	0.20	46%
Post-Project Conditions	0.12	28%	0.32	72%
Source: DMS Consultants, Inc., June 27, 2016.				

The project site is located within the Anaheim Bay-Huntington Harbor Watershed, which is located in northern Orange County and includes a number of channels, none of which is a dominant river for the watershed with each draining a substantial portion of the watershed. The watershed channels include the Stanton Storm Channel, Bolsa Chica Channel, Anaheim Harbor City Channel, Westminster Channel, East Garden Grove Wintersburg Channel, and Ocean View Channel.

These channels are not included in the Water Quality Control Plan for the Santa Ana River Basin. Ultimately, the channels converge along the coast where they empty into Huntington Harbor and Anaheim Bay. The headwaters for these channels begin in the northern and eastern reaches of the watershed which is almost completely urbanized and has a very low slope, having once been primarily swamplands or low coastal floodplains for the San Gabriel and Santa Ana Rivers. All the channel reaches within the watershed are improved (lined) for flood control. Typical flow in the Anaheim Bay-Huntington Harbor Watershed is almost completely dry weather runoff.

Flows from the project site ultimately drain into the East Garden Grove Wintersburg Channel, under both the existing and proposed project conditions.

The existing project site is tributary to and a contributor of toxicity pollutants to the 303(d) listed impairment for the Anaheim Bay-Huntington Harbor Watershed. There is currently no approved Watershed Infiltration and Hydromodification Plan (WIHMP) for the Anaheim Bay-Huntington Harbor Watershed. Potential stormwater pollutants associated with the proposed project include suspended- solid/sediment; nutrients; pathogens; pesticides; oil and grease; and trash and debris. The State Water Resources Control Board (SWRCB) Municipal NPDES Storm Water Permit for the County of Orange and the Incorporated Cities of Orange County requires

applicants to prepare a WQMP to manage post-construction storm water runoff associated with new development. A *Preliminary Water Quality Management Plan* (*WQMP*) has been prepared for the proposed project; refer to Appendix D. The *WQMP* describes the development and its operations, identifies potential sources of storm water pollution and recommends appropriate Best Management Practices (BMPs) or pollution control measures to reduce the discharge of pollutants in storm water runoff.

Site Design and Drainage Plan

Below is a description of the site design BMPs used for the proposed project and the methods used to incorporate them. Refer to *Exhibit 4.9-1*, *Proposed Project – Selected Structural BMPs*.

Minimize Impervious Area. Impervious area would be minimized with the site's design. Surface infiltration BMPs would be incorporated as part of the project, rather than placing impervious surfaces over areas for infiltration.

Preserve Existing Drainage Patterns. Existing drainage patterns would be preserved as indicated. The site would drain similarly to existing conditions.

Disconnect Impervious Areas. Buildings would drain to landscaping. Impervious surfaces would ultimately drain to permeable pavers or infiltration trenches.

Landscape Design. Drought tolerant plants have been utilized in the project's landscape design. The landscape plan has been submitted to the City, under separate review and approval.

Drainage Management Areas. The project site drainage would be delineated into two Drainage Management Areas (DMAs).

Low Impact Development Requirements. To conform to Low Impact Development (LID) Requirements for BMPs, the proposed project would utilize permeable pavers and infiltration trenches (perforated pipe in gravel bed). Under the proposed conditions, 0.27 acres of the site would drain to permeable pavers located in the main driveway. The inlet would be fitted with a FloGard insert manufactured by Kristar, Inc. and would outlet via parkway culverts to curb and gutter on 11th Street. Entrance to the project site from 11th Street has a steep grade of 9 percent towards 11th Street and cannot be treated. Total untreatable area from this driveway is approximately 0.02 acres. The remaining 0.15 acres of the site would drain to an infiltration trench located along the westerly property line. Overflow from infiltration trench would outlet via a parkway drain to curb and gutter on 11th Street.

Impact Conclusion

The BMPs may be refined via a Final Water Quality Management Plan to incorporate project-specific BMPs, and would be reviewed and finalized as part of site plan review. The Final WQMP, approved by the City, would provide the final BMPs applicable to the proposed project (Mitigation Measure HWQ-1). With implementation of Mitigation Measure HWQ-1, long-term operational water quality impacts would be reduced to less than significant levels.

MITIGATION MEASURES

HWQ-1 Prior to issuance of a grading permit, the Applicant shall submit a Final Water Quality Management Plan for approval by the City Engineer that complies with the requirements of the latest Orange County Public Works Drainage Area Management Plan.

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)?

LESS THAN SIGNIFICANT IMPACT

The proposed project would continue to be connected to the City's utility lines and is not anticipated to deplete groundwater supplies through the consumption of the water. Given that the site is presently developed with two residential units and that the proposed project would result in a small increase in the amount of impervious area from 0.12 to 0.32 acres, the proposed project would not substantially interfere with groundwater recharge. In addition, the permeable surfaces provided by the proposed landscaping would allow for the on-site percolation of surface runoff. Also, refer to Response 4.17.D. Therefore, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

C. WOULD THE PROJECT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF STREAM OR RIVER, IN A MANNER WHICH WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE?

LESS THAN SIGNIFICANT IMPACT

The proposed project would increase the percentage of impervious surfaces on-site, but the proposed project would not increase the amount of exposed soils. Thus, the site's drainage pattern would not substantially change from current conditions. Revegetation of currently unimproved surfaces prone to erosion would reduce the sediment load in storm water runoff, as well as increase the on-site percolation of runoff. While the rate and quantity of runoff from the site would slightly increase as a result of implementing the proposed project, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

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 IN A MANNER WHICH WOULD RESULT IN FLOODING ON- OR OFF-SITE?

LESS THAN SIGNIFICANT IMPACT

No natural drainages (i.e., stream or river) exist on-site and existing drainage patterns have been determined by past development on-site and in the surrounding area. The site currently drains to 11th Street.

Proposed Stormwater Drainage

Exhibit 4.9-2, Existing Hydrology Condition and *Exhibit 4.9-3, Proposed Hydrology Condition*, illustrates the existing and proposed drainage conditions for the project site. *Table 4.9-2, Proposed Project Flow Rates*, provides the proposed project peak flow rates for the 25-year and 100-year storm events.

TABLE 4.9-2 PROPOSED PROJECT FLOW RATES

Area	Acres	Q25	Q100
Existing Hydrology Condition			
A	0.44	1.18 cfs	1.52 cfs
Total	0.44	1.18 cfs	1.52 cfs
Proposed Hydrology Condition			
A	0.15	0.38 cfs	0.49 cfs
B	0.15	0.61 cfs	0.78 cfs
C	0.12	0.48 cfs	0.59 cfs
D	0.02	1.03 cfs	1.33 cfs
Total	0.44	2.50 cfs	3.19 cfs
Change Over Existing Conditions		+1.32 cfs	+1.67 cfs
Source: DMS Consultants, Inc., June 27, 2016.			
Notes: cfs= cubic feet per second			

Under the proposed project, the site would drain to 11th Street via parkway culverts. Runoff during the 100-year storm events associated with the proposed project (approximately 3.19 cfs) would be slightly higher than existing conditions (1.52 cfs); however, there is capacity in 11th Street to accept the additional flows generated by the proposed project. Therefore, implementation of the proposed project would not result in a substantial increase in runoff that could result in flooding on- or off-site. Thus, impacts would be less than significant in this regard.

MITIGATION MEASURES

No mitigation measures are required.

E. WOULD THE PROJECT CREATE OR CONTRIBUTE RUNOFF WATER WHICH WOULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Responses 4.9.A and 4.9.D. The majority of the site (0.42 acres), with the exception of a small section fronting 11th Street, would drain to two parkway culverts outletting to 11th Street, which is similar to existing conditions. The inlets would be fitted with trash and debris guard inserts. Thus, with implementation of Mitigation Measure HWQ-1, impacts are reduced to less than significant in this regard.

MITIGATION MEASURES

Refer to Mitigation Measures HWQ-1. No additional mitigation measures are required.

F. WOULD THE PROJECT OTHERWISE SUBSTANTIALLY DEGRADE WATER QUALITY?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

The proposed project is not anticipated to result in water quality impacts other than the potential short-term construction and long-term operational impacts identified above in Responses 4.9.A and 4.9.C. Implementation of Mitigation Measure HWQ-1 would reduce potential impacts to a less than significant level.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

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?

LESS THAN SIGNIFICANT IMPACT

Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to a location's varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area. The project site is situated in an area designated as Flood Zone X on FEMA Flood Insurance Rate Map Number 06059C0139J, effective date December 3, 2009. This is an area of minimal flood hazard: it usually is focused on FIRMs above the 500-year flood level. Zone X is the area determined to be outside of the 500-year flood and protected by a levee from the 100-year flood. Thus, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

H. WOULD THE PROJECT PLACE WITHIN A 100-YEAR FLOOD HAZARD AREA STRUCTURES WHICH WOULD IMPEDE OR REDIRECT FLOOD FLOWS?

LESS THAN SIGNFICANT IMPACT

A new 10-unit apartment complex is proposed within Zone X; however, the proposed project would not impede or redirect flood flows. Therefore, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

As stated on page 5.8-7 of the *Garden Grove General Plan Environmental Impact Report*, the western portion of the City of Garden Grove is located within the dam inundation areas of Prado Dam and Carbon Canyon Dam. The project site is located within the eastern portion of the City, and thus is not located within a dam inundation area. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

J. WOULD THE PROJECT EXPERIENCE INUNDATION BY SEICHE, TSUNAMI, OR MUDFLOW?

NO IMPACT

A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

The project site is not located within proximity to any enclosed or semi-enclosed bodies of water. Additionally, the project site is not located within proximity to the ocean, and therefore would not be subject to tsunami impacts. The project site and surrounding area are relatively flat and the project site is not positioned downslope from an area of potential mudflow. No impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

K. RESULT IN AN INCREASE IN POLLUTANT DISCHARGES TO RECEIVING WATERS? CONSIDER WATER QUALITY PARAMETERS SUCH AS TEMPERATURE, DISSOLVED OXYGEN, TURBIDITY AND OTHER TYPICAL STORMWATER POLLUTANTS (E.G. HEAVY METALS, PATHOGENS, PETROLEUM DERIVATIVES, SYNTHETIC ORGANICS, SEDIMENT, NUTRIENTS, OXYGEN-DEMANDING SUBSTANCES, AND TRASH).

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Responses 4.9.A and 4.9.C through 4.9.F.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

L. RESULT IN SIGNIFICANT ALTERATION OF RECEIVING WATER QUALITY DURING OR FOLLOWING CONSTRUCTION?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.9.D.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

M. COULD THE PROPOSED PROJECT RESULT IN INCREASED EROSION DOWNSTREAM?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Responses 4.9.B and 4.9.C.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

N. RESULT IN INCREASED IMPERVIOUS SURFACES AND ASSOCIATED INCREASED RUNOFF?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Responses 4.9.A and 4.9.C.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

O. CREATE A SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACT TO DRAINAGE PATTERNS DUE TO CHANGES IN RUNOFF FLOW RATES OR VOLUMES??

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Responses 4.9.D and 4.9.E.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

P. BE TRIBUTARY TO AN ALREADY IMPAIRED WATER BODY, AS LISTED ON THE CLEAN WATER ACT SECTION 303(D) LIST? IF SO, CAN IT RESULT IN AN INCREASE IN ANY POLLUTANT FOR WHICH THE WATER BODY IS ALREADY IMPAIRED?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.9.A.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

Q. BE TRIBUTARY TO OTHER ENVIRONMENTALLY SENSITIVE AREAS? IF SO, CAN IT EXACERBATE ALREADY EXISTING SENSITIVE CONDITIONS?

NO IMPACT

The WQMP (page 10) has identified that the project site is not tributary to environmentally sensitive areas. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

R. HAVE A POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACT ON SURFACE WATER QUALITY TO EITHER MARINE, FRESH, OR WETLAND WATERS

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.9.A.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

S. HAVE A POTENTIALLY SIGNIFICANT ADVERSE IMPACT ON GROUNDWATER QUALITY?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.9.B.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

T. CAUSE OR CONTRIBUTE TO AN EXCEEDED APPLICABLE SURFACE OR GROUNDWATER RECEIVING WATER QUALITY OBJECTIVES OR DEGRADATION OF BENEFICIAL USES?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.9.B.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

U. IMPACT AQUATIC, WETLAND, OR RIPARIAN HABITAT?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.9.A.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

V. WOULD THE PROJECT INCLUDE NEW OR RETROFITTED STORMWATER TREATMENT CONTROL BEST MANAGEMENT PRACTICES (E.G., WATER QUALITY TREATMENT BASIN, CONSTRUCTED TREATMENT WETLANDS), THE OPERATION OF WHICH COULD RESULT IN SIGNIFICANT ENVIRONMENTAL EFFECTS (E.G., INCREASED VECTORS OR ODORS)?

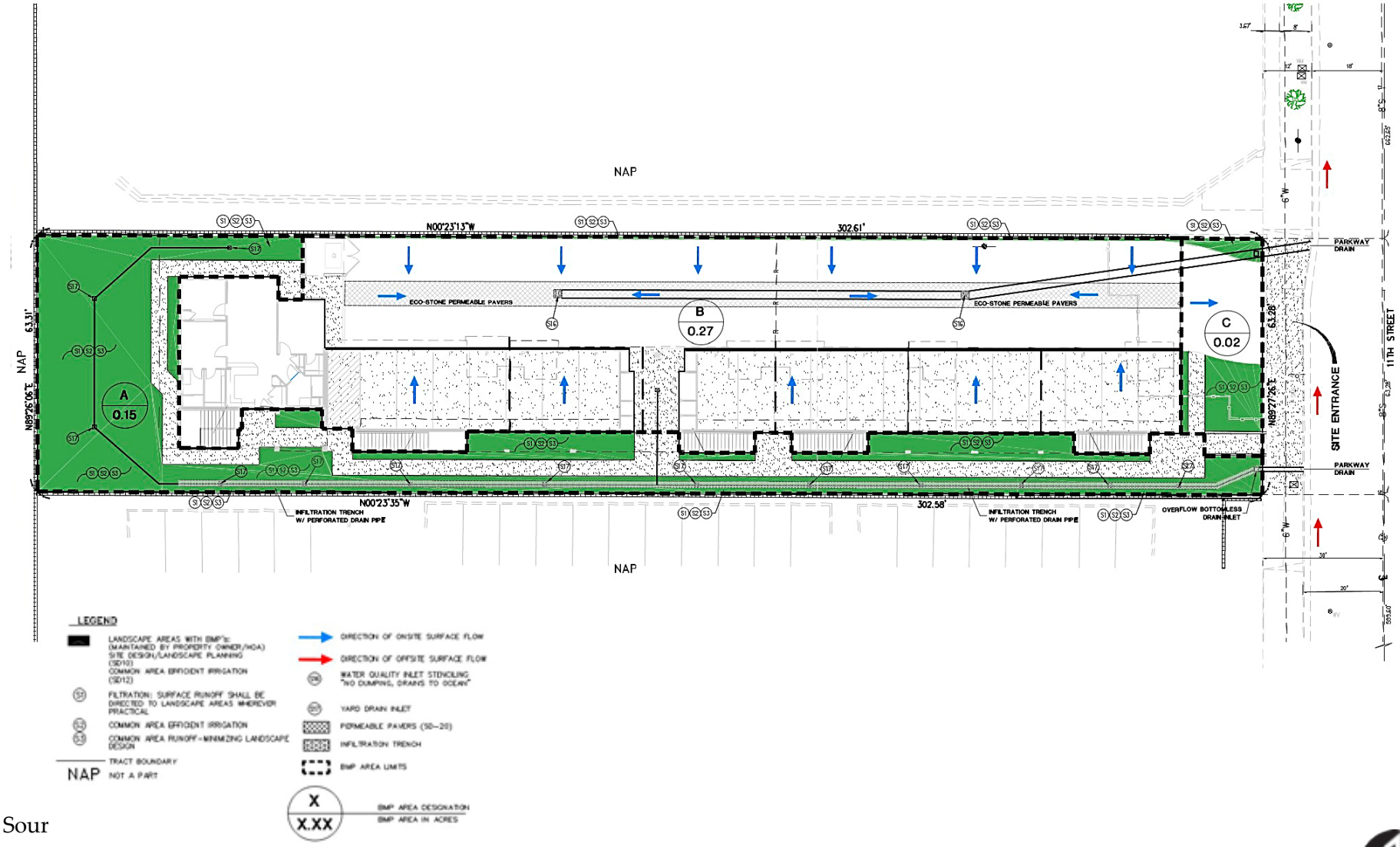
LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.9.A.

MITIGATION MEASURES

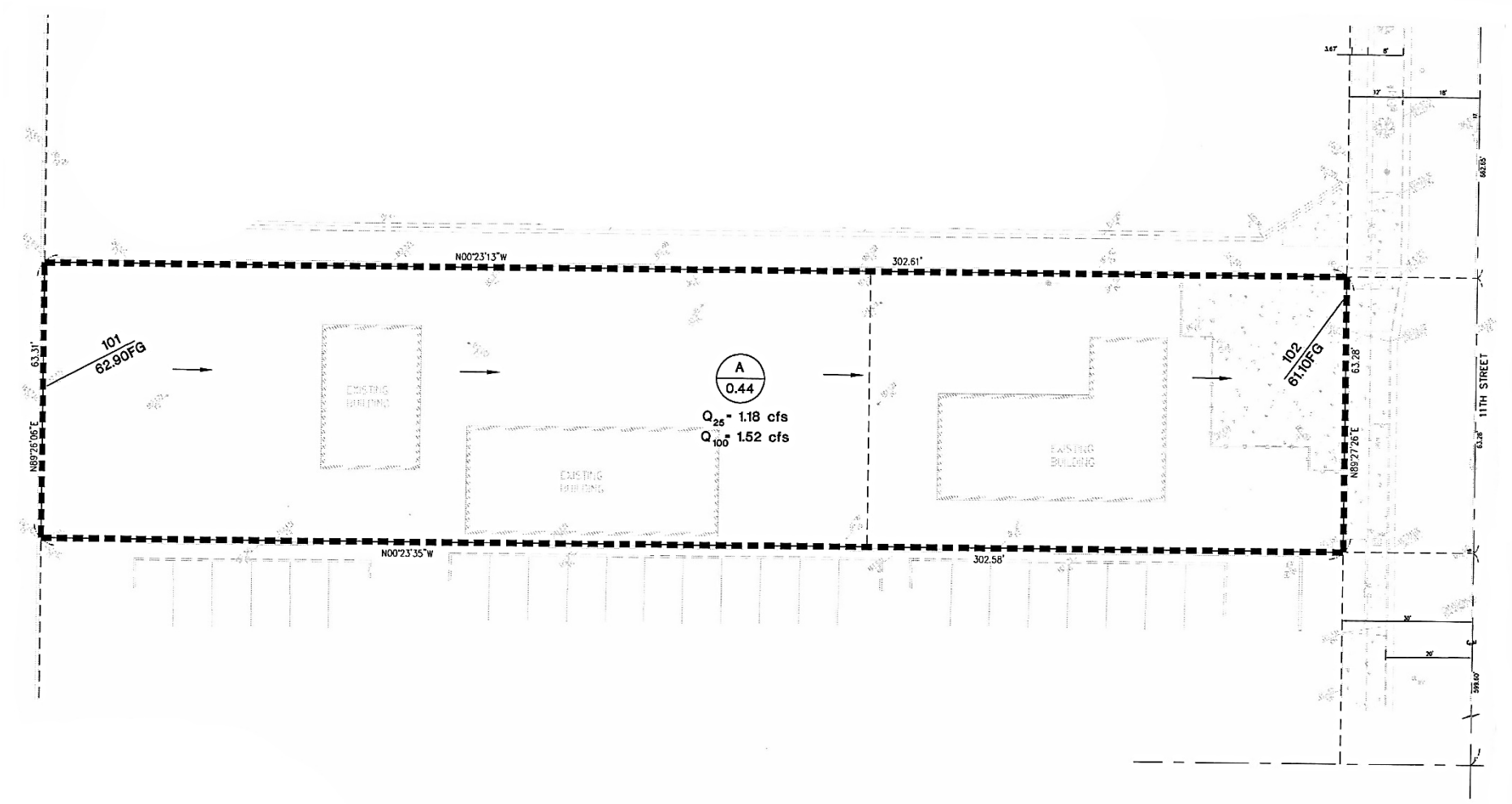
Refer to Mitigation Measure HWQ-1. No additional mitigation measures are required.

Exhibit 4-1 Proposed Project – Selected Structural BMPs



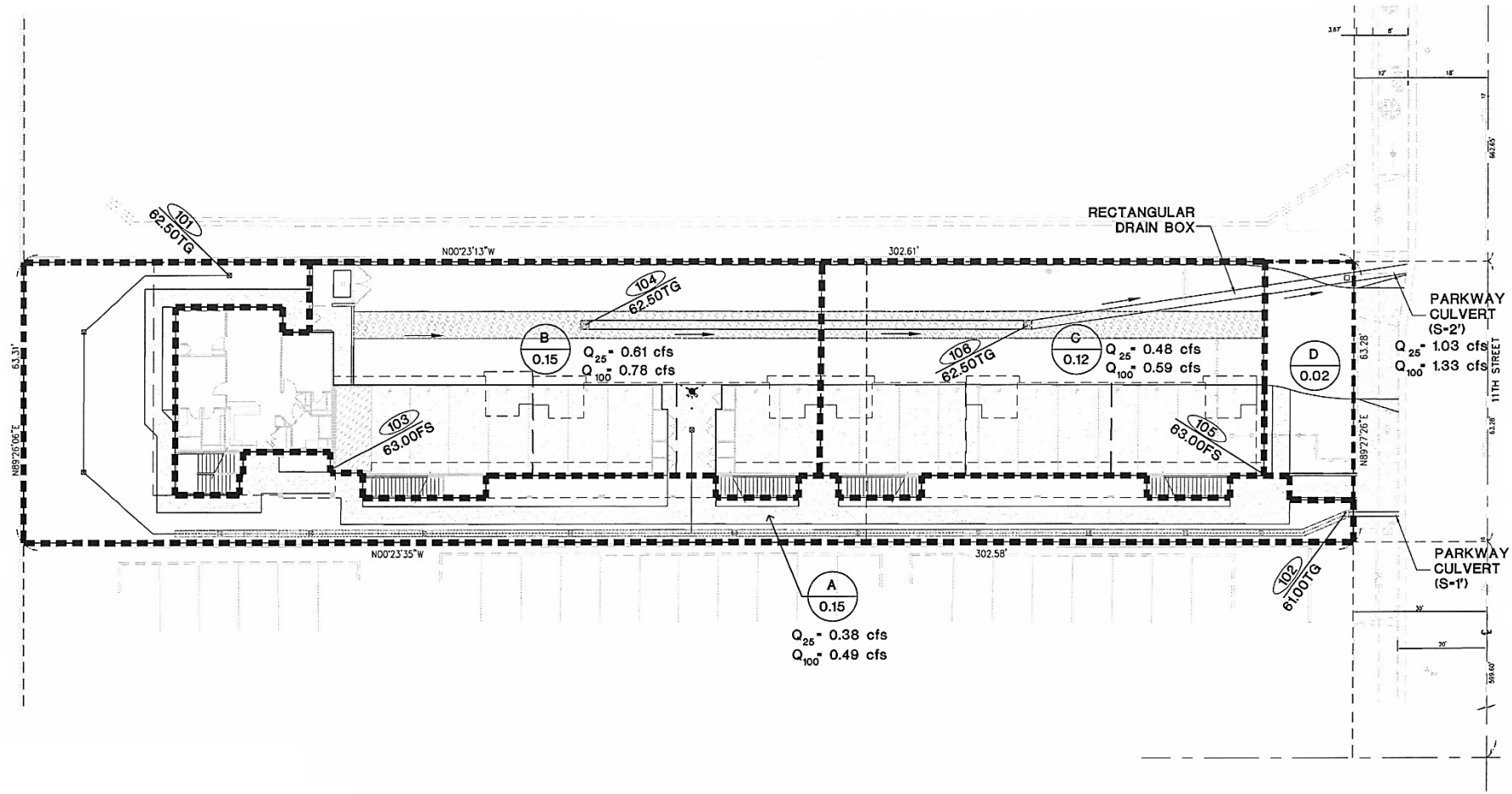
Sour

Exhibit 4-2 Existing Hydrology Conditions



Source: DMS Consultants, Inc., May 2016

Exhibit 4-3 Proposed Hydrology Conditions



Source: DMS Consultants, Inc., May 2016

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4.10. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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, specific plan, local coastal program, 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?				✓

Sources Cited in Section 4.10

City of Garden Grove, *Garden Grove General Plan*, August 2008.

City of Garden Grove, *Garden Grove Municipal Code*, Title 9 Land Use, current through Ordinance 2866 and the June 2016 code supplement.

City of Garden Grove, *Zoning Map*.

A. WOULD THE PROJECT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY?

NO IMPACT

The project site is currently developed with two residential units that would be demolished to facilitate the proposed 10-unt apartment project. Surrounding uses include multi-family residential uses to the west, east, and south; single-family uses to the south; and institutional, educational, and intermediate care and rehabilitation facilities to the east, northwest, north, and northeast, respectively.

The proposed project would be located on a site in an urbanized area, consistent with the existing on-site and surrounding established land use patterns. Therefore, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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, SPECIFIC PLAN, LOCAL COASTAL PROGRAM, OR ZONING ORDINANCE) ADOPTED FOR THE PURPOSE OF AVOIDING OR MITIGATING AN ENVIRONMENTAL EFFECT?

LESS THAN SIGNIFICANT IMPACT

The *Garden Grove General Plan* Land Use Diagram designates the site as Civic/Institutional (CI). The Zoning map designates the site as R-3 (Multiple Family Residential). The proposed project includes a General Plan Amendment to change the designation from Civic/Institutional (CI) to Medium Density Residential (MDR) to be consistent with the R-3 zone.

The proposed project would involve the demolition of two on-site residential units and the construction of a 3-story, 10-unit apartment complex in one building on the 0.44-acre (19,152-square foot) site. A single drive aisle would provide access to the site and the required parking spaces that are designed as carports. Unit 1 would be located on the first floor, and Units 2 to 10 would be located on the second and third floor.

Pursuant to State law, the Applicant requests a density bonus to construct affordable housing units. The *Municipal Code* allows a maximum of 7 units based on the existing lot size. The proposed project would provide a 35 percent density bonus to construct a total of 10-units with three waivers/concessions to deviate from the R-3 development standard; as a result, three units would be restricted for low income.

The proposed project is subject to *Municipal Code* Chapter 12, Multifamily Residential Development Standards, including Section 9.12.030.070, Density Bonuses and Other Incentives for Affordable Housing.

The site-specific development standards and the proposed project's consistency with the standards are shown in *Table 4-10.1, Development Standards*.

Density and Lot Coverage

The proposed project would result in a density of 22.7 dwelling units per acre, and a lot coverage of 37.90 percent.

Building Heights

The maximum building height would be 34 feet 9 inches.

TABLE 4.10-1 DEVELOPMENT STANDARDS

Development Regulation for R-3	Standard	Proposed Project
Setbacks Front (1)	20 feet	20 feet
Side Setback (Interior)	East and West: 1st Floor and 2nd Floor: 10 feet 3rd floor 11 feet 3 inches	10 feet (west) 10 feet 2 inches (east)
Rear Setback	11 feet 3 inches	35 feet 2 inches
Building Height	Not to exceed 35 feet	34 feet 9 inches
Lot coverage (2)	50%	37.90%
Density by Site Area: 18,000—19,799 sq. ft. (4)	7 maximum units	10 units

Source: Garden Grove Municipal Code Chapter 9.12
(1) In no case shall the setback be less than 10 feet.
(2) Lot coverage includes all building and structures (primary and accessory) and required uncovered parking areas, and excludes uncovered swimming pools and permeable or semi-permeable recreational surface areas.
(3) Hardscape percentage includes driveways (except allowed standard driveway in the front yard).
(4) Applications for density bonuses may be made as provided for by state law.

Concession/Waivers

The proposed project is seeking approval of the following concessions or waivers based upon the density bonus:

- To allow the third-story configuration to be greater than 50 percent of the building footprint.
- To deviate from the 10 feet distance separation between the units and the drive aisle located on the first, second, and third floors.
- To allow the third-story to deviate from the required 11'-3" side setback.

Development of the project site would be subject to the City's discretionary review process, including approval of a General Plan Amendment, Site Plan, and Development Agreement. Upon approval of the General Plan Amendment, the proposed project would be consistent with the *Garden Grove General Plan* MDR land use designation. The proposed project is consistent with the *Garden Grove Zoning Map* R-3 designation and the density bonus requirements as allowed in Section 9.12.030.070, Density Bonuses and Other Incentives for Affordable Housing including the concessions/waivers allowed by the State's density bonus.

In addition, the proposed multi-family residential units are consistent with adjacent multi-family and single-family uses to the west, east, and south, as well as with adjacent institutional, educational, and intermediate care and rehabilitation facilities to the east, northwest, north, and northeast.

Therefore, impacts would be less than significant in this regard.

MITIGATION MEASURES

No mitigation measures are required.

C. WOULD THE PROJECT CONFLICT WITH ANY APPLICABLE HABITAT CONSERVATION PLAN OR NATURAL COMMUNITY CONSERVATION PLAN?

NO IMPACT

Refer to Response 4.4.F.

MITIGATION MEASURES

No mitigation measures are required.

4.11. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?				✓

Sources Cited in Section 4.11

City of Garden Grove, *Garden Grove General Plan*, August 2008.

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?

NO IMPACT

The project site is currently developed and not identified as a site with mineral resources that would be of value to the region or the residents of the State. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

The *Garden Grove General Plan* does not identify the project site as an important mineral resource recovery site. Thus, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

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4.12. NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant Impact 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?				✓

Sources Cited in Section 4.12

City of Garden Grove, *Garden Grove Municipal Code*, Section 8.47, Noise Control.

City of Garden Grove, *Garden Grove General Plan* Noise Element, August 2008.

Pomeroy Environmental Services, Noise Analysis and Modeling (Modeling Data refer to Appendix E).

A. WOULD THE PROJECT RESULT IN 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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (i.e., loudness) and frequency (i.e., pitch). The standard unit of sound amplitude measurement is the decibel (dB). The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted dB scale (dBA) provides this compensation by emphasizing frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound audible at such a level that the sound becomes an undesirable by-product of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, causes actual physical harm, or

results in adverse health effects. The definition of noise as unwanted sound implies that it has an adverse effect, or causes a substantial annoyance, to people and their environment. However, not every unwanted audible sound interferes with normal activities, causes harm, or has adverse health effects. For unwanted audible sound (i.e., noise) to be considered adverse, it must occur with sufficient frequency and at such a level that these adverse impacts are reasonably likely to occur. Thresholds of significance, set forth below, are established to differentiate between benign, unwanted audible sound and potentially significant and adverse unwanted audible sound.

A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise, such as traffic on a major highway. Several rating scales have been developed to analyze the adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effects of noise on people are largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

Leq: An Leq, or equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

Lmax: The maximum instantaneous noise level experienced during a given period of time.

Lmin: The minimum instantaneous noise level experienced during a given period of time.

CNEL: The Community Noise Equivalent Level (CNEL) is a 24-hour average Leq with a 5 dBA "weighting" during the hours of 7:00 P.M. to 10:00 P.M. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a constant 60 dBA 24 hour Leq would result in a CNEL of 66.7 dBA.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. For residential uses, environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high above 70 dBA. Frequent exposure to noise levels greater than 85 dBA over time can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA.

It is widely accepted that in the community noise environment the average healthy ear can barely perceive CNEL noise level changes of 3 dBA. CNEL changes from 3 to 5 dBA may be

noticed by some individuals who are extremely sensitive to changes in noise. A 5 dBA CNEL increase is readily noticeable to most people, while the human ear perceives a 10 dBA CNEL increase as a doubling of sound. However, there is no direct correlation between increasing or even doubling noise-generating uses and what is detectable by the human ear as an increase in noise level.

The human ear perceives a 10 dB(A) increase in sound level to be a doubling of sound volume, but doubling the sound energy (i.e., the noise-generating activity) only results in a 3 dB(A) increase in sound. This means that a doubling of sound wave energy (e.g., doubling the volume of traffic on a roadway) would result in a barely perceptible change in sound level to the human ear. Thus, relatively sizeable increases in baseline noise generation are not necessarily perceived as significant noise increases by the human ear.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors, such as the weather and reflective barriers, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source (assume a starting point of 50 feet), the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels are also generally reduced by about 1 dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures. Generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 10 dBA. The normal noise attenuation within residential structures with open windows is about 17 dBA, while the noise attenuation with closed windows is about 25 dBA. The exterior-to-interior reduction of newer homes and office buildings can be more than 30 dBA, depending on construction materials and methods used.

City Noise Standards

The City of Garden Grove maintains a comprehensive Noise Ordinance within its *Municipal Code* that establishes citywide interior and exterior noise level standards. The City has adopted a number of policies that are directed at controlling or mitigating environmental noise effects. The City's Noise Ordinance (*Municipal Code* Section 8.47, Noise Control,) establishes daytime and nighttime noise standards; refer to *Table 4.12-1*, *Garden Grove Noise Ordinance Standards*.

TABLE 4.12-1 GARDEN GROVE NOISE ORDINANCE STANDARDS

Land Use Designation		Ambient Base Noise Level (dBA)	Time of Day
Sensitive Uses	Residential Use	55	7:00 AM – 10:00 PM
		50	10:00 PM – 7:00 AM
Conditionally Sensitive Uses	Institutional Use	65	Any Time
	Office-Professional Use	65	Any Time
	Hotels and Motels	65	Any Time
Non-Sensitive Uses	Commercial Uses	70	Any Time
	Commercial/Industrial Uses within 150 feet of Residential Uses	65	7:00 AM – 10:00 PM
		50	10:00 PM – 7:00 AM
	Industrial Uses	50	Any Time

Sources:
Pomeroy Environmental Services (September 2016)
General Plan Noise Element, Table 7-2; and City of Garden Grove, Municipal Code, Section 8.47, Noise Control, 2005.

The ordinance is designed to control unnecessary, excessive and annoying sounds generated from a stationary source impacting an adjacent property. It differentiates between environmental and nuisance noise. Environmental noise is measured under a time average period while nuisance noise cannot exceed the established Noise Ordinance levels at any time. At the boundary line between a residential property and a commercial and manufacturing property, the noise level of the quieter zone is required to be used pursuant to the residential use standards.

Municipal Code Section 8.47.060, Special Noise Sources, also includes the following provisions for construction activities:

> *(d) Construction of Buildings and Projects. It shall be unlawful for any person within a residential area, or within a radius of 500 feet there from, 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 hour 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(a), is caused discomfort or annoyance unless such operations are of an emergency nature.*

Municipal Code Section 8.47.050, General Noise Regulation includes the following noise disturbance criteria:

> *(a) Noise Disturbance Criteria. It shall be unlawful for any person to willfully make, continue, or cause to be made or continued, any loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitiveness.*

Section 8.47.050 also includes the criteria that is to be used in determining whether a violation of the provisions of the section exists and criteria for the duration of noise.

Existing Noise Levels

To identify the existing ambient noise levels in the general vicinity of the project site, noise measurements were taken with a 3M SoundPro SP DL-1 sound level meter, which conforms to industry standards set forth in ANSI S1.4-1983 (R2006) – Specification for Sound Level Meters/Type 1. This noise meter also meets and exceeds the requirements of a sound level meter defined in *Municipal Code* Section 8.47.020. This instrument was calibrated and operated according to the manufacturer's written specifications. At the measurement sites, the microphone was placed at a height of approximately five feet above grade. The measured noise levels are shown in *Table 4.12-2*, *Existing Ambient Daytime Noise Levels*. See Appendix E for a graphic illustrating the noise measurement locations. The measured noise levels are consistent with the Noise Element's normally acceptable range for residential uses.

TABLE 4.12-2 EXISTING AMBIENT DAYTIME NOISE LEVELS

No.	Location	Primary Noise Sources	Noise (dBA)[a]		
			L_{eq}	L_{min}	L_{max}
1	Near the southwestern boundary of the project site fronting 11th St.	Traffic/pedestrians along 11th St., light gardening in distance.	52.7	44.2	65.9
2	Near the northeast corner of the project site, on surface parking.	Traffic/pedestrians along 11th St., light parking activity.	50.5	44.7	68.0
Source: Pomeroy Environmental Services (September 2016)					
Notes: Noise measurements were taken on August 9, 2016 at each location for a duration of 15 minutes. See Appendix E for noise measurement data.					

Construction Noise Impacts

Construction of the proposed project would require the use of heavy equipment for demolition, grading and site preparation, the installation of utilities, architectural coatings, paving, and building construction. During each construction phase there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of each activity. The U.S. Environmental Protection Agency (USEPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. The data pertaining to the types of construction equipment and activities that would occur at the project site are presented in *Table 4.12-3*, *Noise Range of Typical Construction Equipment*, and *Table 4.12-4*, *Typical Outdoor Construction Noise Levels*, respectively, at a distance of 50 feet from the noise source (i.e., reference distance).

The noise levels shown in *Table 4.12-3* represent composite noise levels associated with typical construction activities, which take into account both the number of pieces and spacing of heavy construction equipment that are typically used during each phase of construction. As shown, construction noise during the heavier initial periods of construction is presented as 86 dBA Leq when measured at a reference distance of 50 feet from the center of construction activity. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA Leq

measured at 50 feet from the noise source to the receptor would reduce to 78 dBA Leq at 100 feet from the source to the receptor, and reduce by another 6 dBA Leq to 72 dBA Leq at 200 feet from the source to the receptor. Thus, construction activities associated with the proposed project would be expected to generate noise levels consistent with these estimates at the surrounding uses.

TABLE 4.12-3 NOISE RANGE OF TYPICAL CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level in dBA L_{eq} at 50 Feet[1]
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88
Source: United States Environmental Protection, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.	
Notes: 1. Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.	

TABLE 4.12-4 TYPICAL OUTDOOR CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Levels at 50 Feet with Mufflers (dBA L_{eq})	Noise Levels at 60 Feet with Mufflers (dBA L_{eq})	Noise Levels at 100 Feet with Mufflers (dBA L_{eq})	Noise Levels at 200 Feet with Mufflers (dBA L_{eq})
Ground Clearing	82	80	76	70
Excavation, Grading	86	84	80	74
Foundations	77	75	71	65
Structural	83	81	77	71
Finishing	86	84	80	74
Source: United States Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.				

The nearest sensitive receptors to the project site are residential uses located immediately adjacent to the west, east and south, and The Islamic Society of Orange County and the Orange Crescent School to the northwest. Multi-family residences are located approximately 35 and 45 feet to the east and west, respectively. Single-family residences are located approximately 50 feet to south on the south side of 11th Street. The Islamic Society of Orange County and Orange Crescent School are located approximately 190 feet and 65 feet to the northwest, respectively.

It should be noted that any increase in noise levels at off-site receptors during construction of the proposed project would be temporary in nature, and would not generate continuously high noise levels, although occasional single-event disturbances from construction are possible. In addition, the construction noise during the heavier initial periods of construction (i.e., grading work) would typically be reduced in the later construction phases (i.e., interior building construction at the proposed buildings) as the physical structure of the proposed project would break the line-of-sight noise transmission from the construction areas to the nearby receptors.

The City does not have specific limitation on construction noise levels. Instead, construction noise is regulated by limiting construction activity to the less noise sensitive daytime hours. Specifically, proposed project construction and other noise-generating activities would occur at the project site between the hours of 7:00 AM and 10:00 PM in accordance with the City's Noise Ordinance (*Municipal Code* Section 8.47.060 Special Noise Sources (D)). As the City permits construction related noise to occur during these hours, for the purpose of this analysis, the proposed project's construction activities are assumed to result in less than significant impacts if construction related activities occur between 7:00 AM and 10:00 PM. The proposed project would comply with the City's Noise Ordinance and therefore impacts with respect to construction noise would be less than significant. However, Mitigation Measure NOI-1 has been included to ensure construction noise levels remain at less than significant levels.

OPERATIONAL NOISE IMPACTS

On-site operational noise would be generated by heating, ventilation, and air conditioning (HVAC) equipment installed for the new residences. However, the noise levels generated by these equipment types are not anticipated to be substantially greater than those generated by the current HVAC equipment serving the existing in the project vicinity. As such, the HVAC equipment associated with the proposed project would not represent a new source of noise in the project vicinity. In addition, the operation of any on-site stationary sources of noise would also be required to comply with the *Municipal Code* Section 8.47.060(C), which states it shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise that would cause the noise level at the property line of any property to exceed either the ambient base noise level or the actual measured ambient noise level by more than five decibels. As such, on-site operational noise impacts would be less than significant.

In addition, on-site residences would not be adversely impacted by elevated ambient urban noise levels as the proposed project would be constructed to meet and exceed Title 24 insulation standards of the *California Code of Regulation*s for residential buildings, which serves to provide an acceptable interior noise environment for sensitive uses. Specifically, as required

by Title 24, the proposed project would be designed and constructed to ensure interior noise levels would be at or below a CNEL of 45 dBA in any habitable room. Given the existing measured noise levels of up to 52 dBA in the vicinity and the approximate 25 to 30 dBA exterior-to-interior noise reduction for new residential construction,[4] standard construction methods and materials would achieve interior noise levels at or below 45 dBA. As such, impacts associated with interior noise levels at the proposed residences would be less than significant.

MITIGATION MEASURES

NOI-1 During construction, the Applicant and/or Construction Contractor shall ensure that the following construction best management practices are implemented:

- Provide advance notification to adjacent property owners and post notices around the boundaries of the project site with information detailing the schedule of construction activities.
- All construction equipment with a high noise-generating potential, including all equipment powered by internal combustion engines, must be muffled or equipped with other State required noise attenuation devices.
- Machinery, including motors, must be turned off when not in use.
- All noise-generating construction equipment and construction staging areas must be placed away from noise-sensitive uses, where feasible.
- Construction activities shall not take place between the hours of 10:00 PM and 7:00 AM Monday through Saturday, or at any time on Sunday or a federal holiday.
- Additional noise attenuation measures must be implemented to the extent feasible, which may include, without limitation, additional noise barriers and/or noise blankets.

B. WOULD THE PROJECT RESULT IN EXPOSURE OF PERSONS TO OR GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

LESS THAN SIGNIFICANT IMPACT

Construction activities for the proposed project have the potential to generate low levels of groundborne vibration. The operation of construction equipment generates vibrations that propagate though the ground and diminishes in intensity with distance from the source. Vibration impacts can range from no perceptible impacts at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage of buildings at the highest levels. The construction activities could have an adverse impact on both sensitive structures (i.e., building damage) and people (i.e., annoyance).

4 Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings requires substantial building insulation and windows that reduces exterior to interior noise transmission.

In terms of construction impacts on buildings, the City has not adopted policies or guidelines relative to groundborne vibration. Consequently, the Federal Transit Administration (FTA) and California Department of Transportation's (Caltrans) vibration standards for buildings are used to evaluate potential construction impacts. Based on the FTA and Caltrans criteria, construction impacts relative to groundborne vibration would be significant if the following were to occur:[5]

- proposed project construction activities would cause a PPV groundborne vibration level to exceed 0.5 inches per second at any building that is constructed with reinforced-concrete, steel, or timber;
- proposed project construction activities would cause a PPV groundborne vibration level to exceed 0.3 inches per second at any engineered concrete and masonry buildings;
- proposed project construction activities would cause a PPV groundborne vibration level to exceed 0.2 inches per second at any non-engineered timber and masonry buildings; or
- proposed project construction activities would cause a PPV ground-borne vibration level to exceed 0.12 inches per second at any historical building or building that is extremely susceptible to vibration damage.

In addition, the City has not adopted any thresholds associated with human annoyance for groundborne vibration impacts. Therefore, this analysis uses the FTA's vibration impact thresholds for human annoyance. These thresholds include 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences) and 83 VdB at institutional buildings, which includes schools and churches. No thresholds have been adopted or recommended for commercial and office uses.

Table 4.12-5, *Vibration Source Levels for Construction Equipment* identifies various PPV and RMS velocity (in VdB) levels for the types of construction equipment that would operate at the project site during construction. As shown in *Table 4.12-5*, vibration velocities could range from 0.003 to 0.089 inch/sec PPV at 25 feet from the source activity, with corresponding vibration levels ranging from 58 VdB to 87 VdB at 25 feet from the source activity, depending on the type of construction equipment in use.

With respect to construction vibration impacts upon existing off-site structures, there are no historical buildings or buildings that are extremely susceptible to vibration damage within 25 feet of proposed heavy construction activity. As shown in *Table 4.12-5*, at distances beyond 25 feet from the project site boundary, construction vibration levels would not exceed 0.089 PPV.

As previously discussed, the most restrictive threshold for building damage from vibration is 0.12 PPV for historic buildings and buildings that are extremely susceptible to vibration damage, and the least restrictive threshold is 0.5 PPV at any building that is constructed with reinforced-concrete, steel, or timber. As maximum off-site vibration levels at existing structures would not have the potential to exceed 0.089 PPV, the proposed project's construction activities

5 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006; and California Department of Transportation, *Transportation- and Construction-Induced Vibration Guidance Manual*, June 2004.

would not exceed the thresholds of significance for building damage from vibration. As such, impacts with respect to building damage upon off-site structures would be less than significant.

TABLE 4.12-5 VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate PPV (in/sec)					Approximate RMS (VdB)				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Caisson Drilling	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Loaded Trucks	0.076	0.027	0.020	0.015	0.010	86	77	75	72	68
Jackhammer	0.035	0.012	0.009	0.007	0.004	79	70	68	65	61
Small Bulldozer	0.003	0.001	0.0008	0.0006	0.0004	58	49	47	44	40
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Final Report, 2006.										
Note: in/sec = inches per second										

In terms of human annoyance resulting from vibration generated during construction, the nearest sensitive receptors to the project site are residential uses located immediately adjacent to the west, east and south, and The Islamic Society of Orange County and the Orange Crescent School to the northwest. Multi-family residences are located approximately 35 and 45 feet to the east and west, respectively. Single-family residences are located approximately 50 feet to south on the south side of 11th Street. The Islamic Society of Orange County and Orange Crescent School are located approximately 190 feet and 65 feet to the northwest, respectively. Based on the data in *Table 4.12-5*, uses within 40 feet of the project site could experience vibration levels that reach the 80 VdB residential annoyance threshold. The uses beyond 40 feet would experience vibration levels below the 80 VdB residential annoyance threshold and the 83 VdB institutional annoyance threshold. For receptors within 40 feet, proposed project construction, including ground clearing, grading, structural, and other vibration-generating activities would occur at the project site between the hours of 7:00 AM and 10:00 PM in accordance with the City's Noise Ordinance. As the City permits construction to occur during these hours, for the purpose of this analysis, the proposed project's construction activities are assumed to result in less than significant impacts if construction related activities occur between 7:00 AM and 10:00 PM. The proposed project would comply with the City's Noise Ordinance and therefore impacts with respect to construction vibration would be less than significant.

MITIGATION MEASURES

No mitigation measures are required.

C. WOULD THE PROJECT RESULT IN A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE LEVELS EXISTING WITHOUT THE PROJECT?

LESS THAN SIGNIFICANT IMPACT

The noise level generated by the normal operations of the 10 residential units would not result in a significant increase in the ambient noise levels, nor impact the sensitive receptors near the

project site. Noise that is typical of residential areas includes children playing, pets, amplified music, mechanical equipment, car repair, and home repair. Noise from residential stationary sources would primarily occur during the daytime activity hours and would be less than significant.

Implementation of the proposed project would result in additional traffic (67 daily trips) on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. However, due to the low volume of project-related trips that would be added to the local roadway network, there would not be an increase in traffic noise levels. Since the proposed project would not increase noise levels along the roadway segments analyzed, a less than significant impact would occur. Thus, the cumulative traffic associated with the proposed project would not be great enough to result in a measurable or perceptible increase in traffic noise (it typically requires a doubling of traffic volumes to increase the ambient noise levels to 3.0 dBA or greater per the Federal Highway Administration[6]). As a result, the traffic noise impacts resulting from the proposed project's occupancy are deemed to be less than significant.

The proposed project would be required to adhere to all pertinent City noise regulations. Therefore, impacts in this regard are less than significant.

MITIGATION MEASURES

No mitigation measures are required.

D. WOULD THE PROJECT RESULT IN A SUBSTANTIAL TEMPORARY OR PERIODIC INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE THE LEVELS EXISTING WITHOUT THE PROJECT?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Responses 4.12.A through 4.12.C.

MITIGATION MEASURES

Refer to Mitigation Measure NOI-1. No additional mitigation measures are 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 EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

NO IMPACT

The project site is not located within an airport land use plan or within two miles of an airport. The nearest military airport is the Los Alamitos Joint Forces Training Base, located approximately 5.25 miles northwest south of the project site. The nearest public airports are the Fullerton Municipal Airport and the Long Beach Airport, located approximately 8 miles north

6 Source: United States Department of Transportation, Federal Highway Administration website https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/polguide/polguide02.cfm; accessed February 11, 2017.

and 12 miles northwest of the project site, respectively. In addition, the proposed multi-family residential uses are not in close proximity to a private airport. Implementation of the proposed project would not expose people residing or working on the project site to excessive noise impacts from a public or private airport. Therefore, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

Refer to Response 4.12.E.

MITIGATION MEASURES

No mitigation measures are required.

4.13. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

Sources Cited in Section 4.13

City of Garden Grove, *Garden Grove General Plan*, August 2008.

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

State of California Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2015, With 2010 Benchmark*, May 1, 2015.

Southern California Association of Governments, *2012-2035 Regional Transportation Plan, Sustainable Communities Strategy Towards a Sustainable Future Growth Forecast Appendix*, Adopted April 2012.

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)?

LESS THAN SIGNIFICANT MPACT

The project proposes to demolish the two on-site residential units and construct a 10-unit apartment project on the 0.44-acre project site, which would result in a direct growth of the City's permanent population by approximately 40 persons, based on an average of 3.76 people per household[7]. This population forecast would represent approximately 0.02 percent growth over the City's existing 2015 population of approximately 174,774 persons.[8] SCAG is the responsible agency for developing and adopting regional housing and population forecasts for local Orange County governments, among other counties, and provides population projection estimates in five-year increments from 2005 to 2035. SCAG projects that the City's population will be 180,300 persons[9] in 2035. Thus, the proposed project is within SCAG's 2035 population forecast for the City. Additionally, the small increase in residential units and population is

7 State of California Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2015, With 2010 Benchmark,* May 1, 2015.

8 *Ibid.*

9 Southern California Association of Governments, *2012-2035 Regional Transportation Plan, Sustainable Communities Strategy Towards a Sustainable Future Growth Forecast Appendix*, Adopted April 2012.

consistent with the growth projections in the *Garden Grove General Plan Environmental Impact Report*, which forecasted the City's population to be approximately 196,397 persons in 2030. Therefore, the proposed project is within the City's 2030 population forecast. Also, the increase in residential units and population is consistent with the City's recently adopted and certified *2014-2021 Housing Element*.

In conclusion, implementation of the proposed project would not induce substantial population growth within the City either directly or indirectly, resulting in less than significant impacts.

MITIGATION MEASURES

No mitigation measures are required.

B. WOULD THE PROJECT DISPLACE SUBSTANTIAL NUMBERS OF EXISTING HOUSING, NECESSITATING THE CONSTRUCTION OF REPLACEMENT HOUSING ELSEWHERE?

LESS THAN SIGNIFICANT IMPACT

The project proposes to demolish the two on-site residential units that are currently vacant and unoccupied, and construct a 10-unit apartment project on the 0.44-acre project site. Thus, there would be no displacement of existing housing or the need to construct replacement housing elsewhere. No impacts would occur in this regard. There would be a displacement of two residential housing units (ownership or rental), but not the need to construct replacement housing elsewhere, as there is sufficient housing supply in the City. In 2015, the California Department of Finance reported 27,317[10] single-family detached homes in the City. Thus, the small decrease of two homes represents 0.007 percent of the City's total. The proposed project would displace up to eight residents, but this would not require the construction of replacement housing elsewhere in the City, given the available housing stock (rental and for-sale) and that the proposed project would be providing 10 units in the City.

MITIGATION MEASURES

No mitigation measures are required.

C. WOULD THE PROJECT DISPLACE SUBSTANTIAL NUMBERS OF PEOPLE, NECESSITATING THE CONSTRUCTION OF REPLACEMENT HOUSING ELSEWHERE?

LESS THAN SIGNIFICANT IMPACT

Refer to Response 4.13.B.

MITIGATION MEASURES

No mitigation measures are required.

10 Source: California Department of Finance E-5 City/County Population and Housing Estimates, January 1, 2015.

4.14. PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1) Fire protection?			✓	
2) Police protection?			✓	
3) Schools?		✓		
4) Parks?		✓		
5) Other public facilities?				✓

Sources Cited in Section 4.14

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

City of Garden Grove, *Municipal Code* Chapter 8.32 Fire Code

City of Garden Grove, *Municipal Code* Title 9, Chapter 9.40

A. WOULD THE PROJECT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE PROVISION OF NEW OR PHYSICALLY ALTERED GOVERNMENTAL FACILITIES, NEED FOR NEW OR PHYSICALLY ALTERED GOVERNMENTAL FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL IMPACTS, IN ORDER TO MAINTAIN ACCEPTABLE SERVICE RATIOS, RESPONSE TIMES OR OTHER PERFORMANCE OBJECTIVES FOR ANY OF THE PUBLIC SERVICES:

1. FIRE PROTECTION?

LESS THAN SIGNIFICANT IMPACT

The Garden Grove Fire Department (GGFD) provides fire and emergency services to the project site. The GGFD operates seven fire stations within its service area. The nearest station to the project site is Garden Grove Fire Department Station 7 at 14162 Forsyth Lane, which is located 0.20 miles northeast of the project site.

Implementation of the proposed project could potentially result in additional demand for fire protection and emergency medical services, including possible additional wear on fire equipment and increased use of medical supplies. The GGFD has 92 sworn firefighters that serve a community of over 175,000 people year-round. This translates into a service ratio of 0.53 firefighters per 1,000 residents. The proposed project would result in an increase in the local population by 40 residents. This increase would not result in a measurable change in the service ratio or calls for service by the GGFD.

The proposed project would be required to comply with the *Garden Grove Municipal Code* Chapter 18.32, Fire Code, as applicable. In addition, the GGFD reviews all new development plans, and the proposed project would be required to conform to all fire protection and prevention requirements, including, but not limited to, building setbacks, emergency access, the availability of fire hydrants, use of interior sprinklers, and adequate water pressure. Any conditions of approval required by the GGFD would be incorporated into the applicable plans prior to the issuance of building permits. Thus, implementation of the proposed project would result in less than significant impacts to fire protection services.

MITIGATION MEASURES

No mitigation measures are required.

2. POLICE PROTECTION?

LESS THAN SIGNIFICANT IMPACT

The Garden Grove Police Department (GGPD) provides law enforcement services to the City. The GGPD operates from a central facility located in the Civic Center complex at 11301 Acacia Parkway.

No road closures are anticipated during project construction. As such, police service in the project vicinity would not be interrupted during project construction. The GGPD has 159 sworn members that serve a community of over 175,000 people year-round. This translates into a service ratio of 0.91 police officers per 1,000 residents. The proposed project would result in an increase in the local population by 40 residents. This increase would not result in a measurable change in the service ratio or calls for service by the GGPD.

The proposed site plan and other required improvements must be reviewed by the GGPD. Any conditions of approval required by the GGFD would be incorporated into the applicable plans prior to the issuance of building permits. Thus, implementation of the proposed project would result in less than significant impacts to police protection services.

MITIGATION MEASURES

No mitigation measures are required.

3. SCHOOLS?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

The Garden Grove Unified School District (GGUSD) oversees the elementary, middle/ intermediate, and high schools within Garden Grove. The closest schools to the project site are Hill Elementary, Jordan Intermediate, and Bolsa Grande High.

The proposed project includes the construction of 10 apartment units, which is estimated to generate two elementary school students, 1 intermediate school student, and 1 high school

students for a total of four students.[11] In order to maintain adequate classroom seating and facilities standards, individual development projects would be required to pay statutory fees in place at the time to GGUSD in order to compensate for the impacts of development on school capacities.

Pursuant to SB 50, payment of fees to the School Districts is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. Therefore, the Applicant would be required to pay statutory fees (Mitigation Measure PS-1), reducing impacts to a less than significant level.

MITIGATION MEASURES

PS-1 The Applicant shall pay all applicable Development Impact Fees to the Garden Grove Union High School District. Proof of fee payment shall be provided to the City of Garden Grove prior to the issuance of building permits.

4. PARKS?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

The City requires new residential development to dedicate land and/or pay fees for the purposes of providing park and recreation facilities in accordance with *Garden Grove Municipal Code* Title 9, Chapter 9.40, Section 9.40.140. Dedication and/or payment of the applicable fees (Mitigation Measures PS-2) would reduce potential impacts to a less than significant level.

MITIGATION MEASURES

PS-2 The Applicant shall pay applicable In-Lieu Park Fees to the City of Garden Grove prior to the issuance of building permits.

5. OTHER PUBLIC FACILITIES?

NO IMPACT

The project site is in a developed area, currently served by the City of Garden Grove. The proposed project would not require the construction of any new facilities or alteration of any existing facilities or cause a decline in the levels of service, which could cause the need to construct new facilities. Therefore, no impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

11 Source: *Garden Grove General Plan Environmental Impact Report* Table 4.14-2. Elementary school generation factor 0.153; intermediate school generation factor 0.026; and high school generation factor 0.044.

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4.15. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?		✓		

Sources Cited in Section 4.15

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

City of Garden Grove, *Municipal Code* Title 9, Chapter 9.40

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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Implementation of the proposed project would increase the use of park facilities located within the City, as the proposed project would construct 10 apartment units and generate approximately 40 new residents.

The nearest City public park is Garden Grove Park at 9301 Westminster Avenue, which is 0.60-miles northwest of the project site. The increase in residential units and population is consistent with the growth projections in the *Garden Grove General Plan* and no additional impacts beyond those identified in the *Garden Grove General Plan Environmental Impact Report* would occur with implementation of the proposed project. Therefore, the population increase associated with the proposed project would not significantly impact the use of the City's existing parks and/or other recreational facilities. However, the proposed project would be required to dedicate land and/or pay fees for the purpose of providing park and recreation facilities in accordance with *Garden Grove Municipal Code* Title 9, Chapter 9.40, Section 9.40.140 (Mitigation Measure PS-2). Thus, while the proposed project's population increase would increase the use of parks and other recreational facilities in the City, these impacts are considered less than significant.

MITIGATION MEASURES

Refer to Mitigation Measure PS-2. No additional mitigation measures are required.

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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Refer to Response 4.15.A.

MITIGATION MEASURES

Refer to Mitigation Measure PS-2. No additional mitigation measures are required.

4.16. TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

Sources Cited in Section 4.16

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

Institute of Transportation Engineers, *2012 ITE Trip Generation Manual*, 9th Edition.

Orange County Transportation Authority, *2014 Long Range Transportation Plan*, September 12, 2014.

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?

LESS THAN SIGNIFICANT IMPACT

To calculate trips forecast to be generated by the proposed project, Institute of Transportation Engineers (ITE) trip generation rates were utilized. The table below summarizes the ITE trip generation rates used to calculate the number of trips forecast to be generated by the proposed project.

Land Use (ITE Code)	Units	AM Peak Hour Rates			PM Peak Hour Rates			Daily Trip Rates
		In	Out	Total	In	Out	Total	
Apartment (220)	Dwelling Unit	0.10	0.41	0.51	0.40	0.22	0.62	6.65
Source: 2012 ITE Trip Generation Manual, 9th Edition.								

The proposed project would remove the two existing residential units and construct a 10-unit apartment complex. As shown in *Table 4.16-1*, the proposed project would generate a total of 67 daily trips with 5 in the AM peak hour and 6 in the PM peak hour.

TABLE 4.16-1 PROPOSED PROJECT TRIP GENERATION

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
10 Apartment Units	1	4	5	4	2	6	67
Project Total	1	4	5	4	2	6	67

Table 5.4-10 in the *Garden Grove General Plan Environmental Impact Report* indicates the following intersection levels of service (LOS) closest to the project site for the General Plan buildout scenario:

- Westminster Avenue/Brookhurst Street – LOS C (AM)/LOS C (PM)
- SR22 EB On-Ramp/Off-Ramp & Brookhurst Street – LOS C (AM)/LOS C (PM)
- Trask Ave & SR-22 WB On-Ramp/Off-Ramp Signalized – LOS D (AM)/LOS E (PM)

The traffic volumes fall below the threshold of 50 peak hour trips that have been identified as requiring a project traffic study. Also, the proposed project is an urban infill development that would be effective in reducing overall vehicle miles travelled. Therefore, a full traffic study is not required. In addition, the trips generated by the proposed project have been accounted for in the *Garden Grove General Plan Environmental Impact Report*. Thus, implementation of the proposed project would result in less than significant impacts in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

LESS THAN SIGNIFICANT IMPACT

The goals of Orange County's *Congestion Management Program* (*CMP*) are to support regional mobility and air quality objectives by reducing traffic congestion; to provide a mechanism for coordinating land use and development decisions that support the regional economy; and to

determine gas tax fund eligibility. In conformance with Congestion Management Program Meeting CMP Traffic Impact Analysis Requirements, a traffic impact analysis is required for *CMP* purposes for all proposed developments generating 2,400 or more daily trips. For developments which will directly access a CMP Highway System link, the threshold for requiring a traffic impact analysis is reduced to 1,600 or more trips per day. In the City, the SR-22 Freeway, Valley View Street, Katella Avenue, Harbor Boulevard, and Westminster Avenue are arterials in the CMP Highway System, and the SR-22/Harbor Boulevard and SR-22/Valley View Street intersections are CMP intersections. Westminster Avenue is the closest CMP arterial to the project site.

At buildout, the proposed project is estimated to generate approximately 67 vehicle trips on a daily basis, with 5 trips in the morning peak hour and 6 trips in the evening peak hour. Thus, no additional analysis is required. Impacts would be less than significant in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

NO IMPACT

The nearest military airport is the Los Alamitos Joint Forces Training Base, located approximately 5.25 miles northwest of the project site. The nearest public airports are the Fullerton Municipal Airport and the Long Beach Airport, located approximately 8 miles north and 12 miles northwest of the project site, respectively. Due to the distance and nature of the proposed project, implementation of the proposed project would not result in any change in air traffic patterns or traffic levels. Therefore, no impact would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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)?

LESS THAN SIGNIFICANT IMPACT

Ingress and egress movements at the site would be facilitated via a single driveway on 11th Street. The proposed project would be subject to review and approval by the City of Garden Grove Community Development and Public Works Departments. Access to the project site would be required to comply with all City design standards, which would preclude the potential for dangerous conditions. Further, the proposed multi-family residential development would be similar to existing residential uses in the project area. Thus, impacts would be less than significant in this regard.

MITIGATION MEASURES

No mitigation measures are required.

E. WOULD THE PROJECT RESULT IN INADEQUATE EMERGENCY ACCESS?

LESS THAN SIGNIFICANT IMPACT

The proposed project provides a single access point on 11th Street for ingress and egress movements. Constructed roadways and driveways are required to meet access standards of the Garden Grove Fire Department and the Garden Grove Police Department. Compliance with Garden Grove Fire Department and Garden Grove Police Department requirements would ensure impacts remain less than significant levels.

MITIGATION MEASURES

No mitigation measures are required.

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?

LESS THAN SIGNIFICANT IMPACT

Transit

Public transit service in Garden Grove includes local fixed-route bus service, commuter bus service, and paratransit services. Numerous Orange County Transportation Authority (OCTA) bus routes have stops within the City of Garden Grove, including along Brookhurst Street. The proposed project does not involve any modifications to the roadway system within the project vicinity. As the proposed project consists of a multi-family residential development, minor increased use of the public transportation system could result. However, this increase would not be substantial. OCTA has planned for additional bus ridership in its *2014 Long Range Transportation Plan*, indicating a growth to 189,407 daily transit trips in 2035 from 133,469 daily transit trips in 2010, and would be able to accommodate additional ridership resulting from the proposed project. Thus, the proposed project is not anticipated to impact the effectiveness or performance of existing transit systems. Impacts would be less than significant in this regard.

Pedestrian and Bicycle Facilities

Sidewalks for pedestrians are currently provided on 11th Street, as well as on surrounding streets, including Brookhurst Street. According *to Garden Grove General Plan Environmental Impact Report* Exhibit 5.15-2, no Class I Bike Trails, Class II Bike Lanes, or Class III Bike Routes are in place in the project area, but future Class II bike lanes are proposed for Westminster Avenue and Brookhurst Street. The proposed project would not significantly impact the effectiveness or performance of existing pedestrian or future bicycle facilities. Thus, impacts would be less than significant in this regard.

MITIGATION MEASURES

No mitigation measures are required.

4.17. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 waste?			✓	

Sources Cited in Section 4.17

City of Garden Grove, *Garden Grove General Plan*, August 2008.

City of Garden Grove, *Garden Grove General Plan Environmental Impact Report*, August 2008.

City of Garden Grove, *2015 Urban Water Management Plan*, June 2016.

County Sanitation Districts of Los Angeles County T*able 1, Loadings for Each Class of Land Use*, http://lacsd.org/civicax/filebank/blobdload.aspx?blobid=3531, accessed August 13, 2016.

CalRecycle, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2015%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d173, accessed August 13, 2016.

A. WOULD THE PROJECT EXCEED WASTEWATER TREATMENT REQUIREMENTS OF THE APPLICABLE REGIONAL WATER QUALITY CONTROL BOARD?

LESS THAN SIGNIFICANT IMPACT

The Garden Grove Sanitation District operates the City's sewer system. The entire system uses gravity flow and the effluent is conveyed to one of several of Orange County Sanitation District's (OCSD) sewer trunk lines. The Orange County Sanitation District (OCSD) is responsible for safely collecting, treating and disposing the wastewater generated by 2.5 million people living in a 479-square-mile area of central and northwest Orange County. The OCSD's system includes approximately 580 miles of sewer lines and two treatment plants located in the Cities of Fountain Valley and Huntington Beach. Through these facilities, OCSD collects,

conveys, treats, and/or reclaims approximately 230 million gallons of wastewater generated daily in its service area. Wastewater from the City's local conveyance system is then conveyed to the OCSD trunk sewers and treated at the OCSD Plant No. 2 located in Huntington Beach. The OCSD Revenue Area 3 serves the City of Buena Park, La Habra, Garden Grove, Anaheim, Cypress, La Palma, Stanton, Los Alamitos, Westminster, and Fountain Valley. All sewage flow from Revenue Area 3 is collected and treated at Treatment Plant No. 2, which is located at 22212 Brookhurst Street, Huntington Beach. The estimated average daily effluent received at Plant No. 2 is 127 million gallons (mgd). This facility currently has a total primary treatment capacity of 168 mgd, with an average daily treatment of approximately 127 mgd. Therefore, there is approximately 41 mgd of excess primary treatment capacity at OCSD Plant No. 2. Plant No. 2 also has 90 mgd of secondary treatment capacity.

The proposed project would generate approximately 1,156 gallons per day of effluent[12], which is well under the capacity of the aforementioned treatment plants. Thus, there is capacity in OCSD Plant No. 2 to accept wastewater from the proposed project. The increase in wastewater flow from the proposed project would not significantly impact OCSD's treatment plants as it represents a minimal percent of the flow directed to the treatment plant. In addition, no new wastewater facilities would be needed to accommodate the excess effluent generated by the proposed project.

The proposed project would connect to an existing sewer line located along 11th Street. The existing sewer lines have sufficient capacity to accommodate the projected flows and adequate sewage collection and treatment are currently available. Therefore, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

12 Source: County Sanitation Districts of Los Angeles County Table 1, Loadings for Each Class of Land Use. Five or more units: 156 gallons per day per unit; http://lacsd.org/civicax/filebank/blobdload.aspx?blobid=3531, accessed August 13, 2016.

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?

LESS THAN SIGNIFICANT IMPACT

Wastewater

Refer to Response 4.17.A.

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[13]. 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* (*2015 UWMP*), 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 10 multi-family residential units, which would equate to a projected water demand of 6,120 gallons per day (6,857 af annually) using the baseline water use rate of 153 gallons per capita per day in the *2015 UWMP*. Therefore, the estimated increase in water demand associated with the proposed project would represent 0.03 percent of the City's current annual water demand, based on the City's consumption of 24,049 af in 2015 or the 2020 estimated water demand of 24,078 af in 2020.

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 but not limited to low-flow toilets, low-flow showerheads, low-flow kitchen faucets, or tankless

13 Source: City of Garden Grove, *2015 Urban Water Management Pla*n, June 2016.

water heaters that would further reduce the water demand as a result of the proposed project. Therefore, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are 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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Storm drainage and flood control in the City of Garden Grove is maintained by the Orange County Flood Control District. The project site area is generally flat and currently drains into public storm drains to an inlet along 11th Street. The stormwater would be collected in publicly maintained drainage facilities, ultimately connecting to an existing engineered OCFCD channel

Under the proposed project, the site would drain to 11th Street via parkway culverts. Runoff associated with the proposed project would be 3.19 cubic feet per second (cfs), which is slightly higher than existing conditions (1.52 fs); however, there is capacity in 11th Street to accept the additional flows generated by the proposed project. In addition, Low Impact Development (LID) BMPs require on-site infiltration, which reduces the rate and amount of surface runoff from the project site. The proposed project is anticipated to use existing storm water drainage facilities, and would not require the construction or expansion of existing facilities. Thus, no significant impacts to the existing storm drain system would result from project implementation. In addition, the proposed project is subject to the requirements of the National Pollutant Discharge System (NPDES) that would reduce impacts to the storm water drainage systems. Mitigation Measure HWQ-1 is recommended to ensure storm water drainage impacts remain at or below existing levels.

MITIGATION MEASURES

Refer to Mitigation Measure HWQ-1. No additional mitigation measures are 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?

LESS THAN SIGNIFICANT IMPACT

The City of Garden Grove receives its water from two main sources: Lower Santa Ana River Groundwater Basin and imported water from the Metropolitan Water District of Southern California (MWD). This imported water is treated at the Robert B. Diemer Filtration Plant located north of Yorba Linda and the F.E. Weymouth Treatment Plant in the City of La Verne.

The proposed project is estimated to consume approximately 3,000 gallons of water on a daily basis, assuming 300 gallons per day per unit. The proposed project would connect to an existing water line located along 11th Street. Thus, the construction and operational activities

associated with the proposed project are not anticipated to require a significant amount of water, and this water demand is expected to have a less than significant impact on the local or regional supplies.

MITIGATION MEASURES

No mitigation measures are 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 GENERATION IN ADDITION TO THE PROVIDER'S EXISTING COMMITMENTS?

LESS THAN SIGNIFICANT IMPACT

Refer to Response 4.17.A

MITIGATION MEASURES

No mitigation measures are required.

F. WOULD THE PROJECT BE SERVED BY A LANDFILL WITH SUFFICIENT PERMITTED CAPACITY TO ACCOMMODATE THE PROJECT'S SOLID WASTE DISPOSAL NEEDS?

LESS THAN SIGNIFICANT IMPACT

Buildout of the proposed project includes the development of 10 apartment units on 0.44 acres.

Site preparation (vegetation removal and grading activities) and construction activities would generate typical construction debris, including wood, paper, glass, metals, cardboard, and green wastes. The proposed project would be required to comply with standard Conditions of Approval drafted by the City of Garden Grove, as well as all other reviewing agencies. Non-salvaged construction and demolition waste would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities utilized by the City. Construction-related solid waste could further impact landfills with insufficient capacity and result in an exceedance of this significant threshold criterion. All landfills utilized by the City of Garden Grove have sufficient capacity to support a temporary increase in solid waste during construction of the proposed project.

According to the Jurisdictional Disposal by Facility for Garden Grove, the City disposed of approximately 220,067.48 tons of solid waste in 2015[14]. The proposed project is estimated to generate approximate 122 pounds per day (assuming 12.23 pounds per day per unit)[15], which equates to 0.16 percent of the 78,272 pounds per day estimated for new residential growth in the *Garden Grove General Plan Environmental Impact Report*. Buildout of the proposed project would generate approximately 23 tons of solid waste per year, which represents a 0.01 percent

14 Source: CalRecycle, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2015%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d173, accessed August 13, 2016.

15 Source: *Garden Grove General Plan Environmental Impact Report* Table 5.16-2.

increase to the amount of solid waste generated by the City in 2015. This quantity represents the solid waste generated for buildout conditions of the proposed project under a worst-case scenario without any recycling activities in place.

However, the proposed project would be required to comply with the *Garden Grove Municipal Code*, which requires providing adequate areas for collecting and loading recyclable materials in concert with countywide efforts and programs to reduce the volume of solid waste entering landfills. In addition, the location of recycling/separation areas is required to comply with all applicable federal, public health, state, or local laws relating to fire, building, access, transportation, circulation, or safety. Compliance with all applicable State and Orange County regulations for the use, collection, and disposal of solid and hazardous wastes is also mandated. It can be assumed that the proposed project would include adequate, accessible and convenient areas for collecting recyclable materials. Therefore, it is anticipated that operational solid waste impacts would be reduced to a less than significant level in this regard.

MITIGATION MEASURES

No mitigation measures are required.

G. WOULD THE PROJECT COMPLY WITH FEDERAL, STATE, AND LOCAL STATUTES AND REGULATIONS RELATED TO SOLID WASTE?

LESS THAN SIGNIFICANT IMPACT

The proposed project would comply with all Federal, State, and local statutes and regulations related to solid waste, including the California Integrated Waste Management Act and Garden Grove recycling programs. Therefore, less than significant impacts would occur in this regard.

MITIGATION MEASURES

No mitigation measures are required.

4.18. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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?		✓		

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?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

The project site was previously developed and is surrounded on all sides by urban development. As discussed in Sections 4.4 and 4.5, the project site does not contain threatened or endangered species or sensitive habitats nor any cultural or historical resources. The analysis in Section 4.4 concluded there is no evidence that the proposed project would have an adverse impact on wildlife resources or the habitat upon which any wildlife depends. And the analysis in Section 4.5 concluded there is no evidence that the proposed project would eliminate any important examples of California history or prehistory. However, Mitigation Measures BIO-1, CUL-1, CUL-2, and CUL-3 are included to ensure impacts remain at or less than significant levels. Mitigation Measure BIO-1 requires compliance with the Migratory Bird Treaty Act, which prohibits disturbing or destroying active nests, and that project implementation must be accomplished in a manner that avoids impacts to active nests during the breeding season. 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.

Implementation of Mitigation Measures BIO-1, CUL-1, CUL-2, and CUL-3 would reduce any potential impacts to migratory birds and previously undiscovered cultural resources, paleontological resources, or human remains to less than significant.

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)?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Based on the analysis contained in this Initial Study, the proposed project would not have cumulatively considerable impacts with implementation of project mitigation measures. Implementation of mitigation measures at the project-level would reduce the potential for the incremental impacts of the proposed project to be considerable when viewed in connection with the impacts of past projects, current projects, or probable future projects.

C. DOES THE PROJECT HAVE ENVIRONMENTAL EFFECTS WHICH WILL CAUSE SUBSTANTIAL ADVERSE EFFECTS ON HUMAN BEINGS, EITHER DIRECTLY OR INDIRECTLY?

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED

Previous sections of this Initial Study reviewed the proposed project's potential impacts related to biological resources; cultural resources; geology and soils; hazards and hazardous materials; hydrology and water quality; noise, public services; recreation; and public utilities. As concluded in these previous discussions, the proposed project would result in less than significant environmental impacts with implementation of the recommended mitigation measures. Therefore, the proposed project would not result in environmental impacts that would cause substantial adverse impacts on human beings.

4.19. REFERENCES

Refer to Section 4.1 through Section 4.17 for the listing of references utilized in the preparation of this Initial Study.

4.20. REPORT PREPARATION PERSONNEL

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Initial Study/Mitigated Negative Declaration and Technical Appendices on CD