MAIN STREET MEDICAL OFFICE BUILDING PROJECT

INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION NO. 1872-20

December 2020

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INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION NO. 1872-20

Submitted to:

City of Orange
Community Development Department
Planning Division
300 East Chapman Avenue
Orange, California 92866-1591
(714) 744-7220
(714) 744-7222 (Fax)
www.cityoforange.org

Prepared by:

LSA
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. PMB2001

December 2020

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TABLE OF CONTENTS

Sections **Page #**

Figures

Tables

Appendices

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AAQS	ambient air quality standards
AB	Assembly Bill
af	acre-feet
afy	acre-feet per year
APN	Assessor's Parcel Number
Applicant	Pacific Medical Buildings
AQMP	Air Quality Management Plan
ASTM	American Society for Testing Materials
BACM	best available control measures
Basin	South Coast Air Basin
Basin Plan	Santa Ana RWQCB's Water Quality Control Plan
bgs	below ground surface
BMPs	Best Management Practices
BTU	British Thermal Units
CAA	(Federal) Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	(CAPCOA) California Emissions Estimator Model
CALGreen	California Green Building Standards Code
California Register	California Register of Historical Resources

CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
City	City of Orange
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CREC	Controlled Recognized Environmental Condition
County	County of Orange
CWA	Clean Water Act

cy	cubic yard(s)
dB	decibel(s)
dBA	A-weighted decibel(s)
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EDR	Environmental Data Resources, Inc.
EIA	United States Energy Information Administration
EIFS	exterior insulation finishing system
EIR	Environmental Impact Report
EMFAC	EMission FACtor Model
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
EVs	electric vehicles
EVSE	electric vehicle supply equipment
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Federal Insurance Rate Map
ft	foot/feet
FTA	Federal Transit Administration
GCC	global climate change
GHG	greenhouse gas
GSAs	Groundwater Sustainability Agencies
GWh	gigawatt-hours

GWP	global warming potential
H_2S	hydrogen sulfide
HFCs	hydrofluorocarbons
HCM	*Highway Capacity Manual*
HCP	Habitat Conservation Plan
HREC	Historical Recognized Environmental Condition
HSC	California Health and Safety Code
HVAC	heating ventilation and air conditioning
I-5	Interstate 5
ICU	Intersection Capacity Utilization
inch/sec	inch(es) per second
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
IWMD	(Orange County) Integrated Waste Management Department
kBTU	thousand British Thermal Units
kWh	kilowatt hours
LACM	Natural History Museum of Los Angeles County
lbs/day	pounds per day
L_{dn}	day-night average noise level
LED	light-emitting diode
L_{eq}	equivalent continuous sound level
LID	Low Impact Development
LIP	Local Implementation Plan
L_{max}	maximum A-weighted sound level

L_{min}	minimum A-weighted sound level
LOS	level of service
LST	Localized Significance Threshold
Ma	million years ago
MBTA	Migratory Bird Treaty Act
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
mgd	million gallons per day
mL	milliliters
MLD	Most Likely Descendant
MM	Mitigation Measure
MMT	million metric tons
MOB	medical office building
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MT	metric tons
MT CO_2e	metric tons of carbon dioxide equivalent
MT CO_2e/yr	metric tons of carbon dioxide equivalent per year
MW	megawatt
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission

NALMA	North American Land Mammal Age
National Register	National Register of Historic Places
NCCP/HCP	Natural Communities Conservation Plan/Habitat Conservation Plan
NHTSA	National Highway Traffic Safety Administration
NMIX	Neighborhood Mixed-Use (General Plan Designation)
NMU-24	Neighborhood Mixed Use (Zoning Classification)
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OCWR	Orange County Waste and Recycling
OITC	Outdoor/Indoor Transmission Class
OP	Operating Memorandum
OPR	(California) Governor's Office of Planning and Research
PEIR	Program Environmental Impact Report
PFCs	perfluorocarbons
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	California Public Resources Code

RCM	Regulatory Compliance Measure
REC	recognized environmental condition
RMS	root-mean-square
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
sf	square foot/feet
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazard Mapping Act
SIP	State Implementation Plan
SLCP	short-lived climate pollutants
SLF	Sacred Lands File
SO_2	sulfur dioxide
SO_X	sulfur oxides
SoCalGas	Southern California Gas Company
SR-22	State Route 22
SR-55	State Route 55

SR-91	State Route 91
SRA	Source Receptor Area, also State Responsibility Area
STC	sound transmission class
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TSF	thousand square feet
UNFCCC	United Nations Framework Convention on Climate Change
USC	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
v/c	volume-to-capacity
VdB	vibration velocity decibels
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WQMP	Water Quality Management Plan
WRCC	Western Regional Climate Center
ZEVs	zero emission vehicles
ZNE	zero net energy

SECTION 1.0 INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA) and the *State CEQA Guidelines*, this Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the Main Street Medical Office Building Project (proposed project) at 353 South Main Street, 331 South Main Street, and 393 South Main Street in the City of Orange (City). Consistent with *State CEQA Guidelines* Section 15071, this IS/MND includes a description of the project, an evaluation of the potential environmental impacts, and findings from the environmental review.

This IS/MND evaluates the potential environmental impacts that may result from implementing the proposed project. The City is the Lead Agency under CEQA, and its City Council is responsible for adoption of the environmental analysis and approval of the project.

CONTACT PERSON

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

Robert Garcia, Senior Planner
City of Orange
300 East Chapman Avenue
Orange, California 92866-1591
Phone: (714) 744-7220
Fax: (714) 744-7222
rgarcia@cityoforange.org

Project Title: Main Street Medical Office Building Project	**Reference Application Numbers:** Major Site Plan Review No. 1017-20; Tentative Parcel Map No. 0019-20 Design Review No. 5014-20; and Environmental Review No. 1872-20 – St. Joseph MOB – 331, 353, and 393 S. Main Street
Lead Agency: City of Orange 300 East Chapman Avenue Orange, California 92866	**Contact Person and Telephone No.:** Robert Garcia, Senior Planner (714) 744-7220
Project Proponent and Address: Pacific Medical Buildings 3394 Carmel Mountain Road, Suite 200 San Diego, California 92121	**Contact Person and Telephone No.:** Pietro Martinez, Assoc. AIA, Design & Construction Project Manager (858) 794-1900
Project Location: 353 South Main Street, 331 South Main Street, and 393 South Main Street, Orange, California (near the northeast corner of Main Street and Culver Avenue/Stewart Drive)	
Existing General Plan Designation: Neighborhood Mixed-Use (NMIX)	**Existing Zoning Classification:** Neighborhood Mixed Use (NMU-24)

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SECTION 2.0 PROJECT DESCRIPTION

This section describes the proposed Main Street Medical Office Building (MOB) Project (proposed project) that is evaluated in this Initial Study/Mitigated Negative Declaration (IS/MND). A description of the proposed project's location, characteristics, and required approvals is provided below.

PROJECT OVERVIEW

The proposed Main Street MOB Project includes the demolition of existing motel and medical office buildings, and the construction and operation of a four-story building with up to 137,500 square feet (sf) of medical office space on an approximately 1.14-acre site (project site) at the northeast corner of Main Street and Culver Avenue/Stewart Drive in the City of Orange (City). The proposed project would also include up to five levels of subterranean parking.

PROJECT LOCATION AND SITE DESCRIPTION

The project site, which is rectangular in shape, is located at 353 South Main Street, 331 South Main Street, and 393 South Main Street, near the northeast corner of Main Street and Culver Avenue/ Stewart Drive on the western side of the St. Joseph Hospital Campus. The project site currently contains a motel, two medical office buildings, and associated parking areas. Columbia Place, which serves as a driveway to an adjacent parking structure, bisects the project site. An alley along the east side of the project site provides access to Palmyra Avenue to the north and other properties to the east. The portion of the project site north of Columbia Place contains a surface parking lot. The project site includes Assessor's Parcel Numbers (APNs) 390-681-06, 390-681-25, and 390-681-26. Refer to Figure 2-1, Project Location, for the project site's location within the larger region.

The project site is bounded to the north by a vacant lot containing two unoccupied commercial structures; to the east by a St. Joseph Hospital parking structure; to the south by Stewart Drive; and Main Street to the west. A commercial retail center and a medical office building associated with the St. Joseph Hospital Campus are located on the south side of Stewart Drive, and a commercial retail center is located on the west side of Main Street.

Regional access to the project site is provided by Main Street, State Route 22 (SR-22), which is located approximately 0.3 mile south of the project site, Interstate 5 (I-5), which is located approximately 0.6 mile southwest of the project site, and State Route 57 (SR-57), which is located approximately 0.5 mile west of the project site.

PROPOSED PROJECT

Pacific Medical Buildings (Applicant) proposes to construct a four-story building of up to 137,500 sf for medical office and supporting ground-level retail adjacent to the existing St. Joseph Hospital Campus. Parking would be provided on site within a subterranean garage containing up to five levels of parking. Refer to Figure 2-2, Conceptual Site Plan, for the project's proposed site plan.

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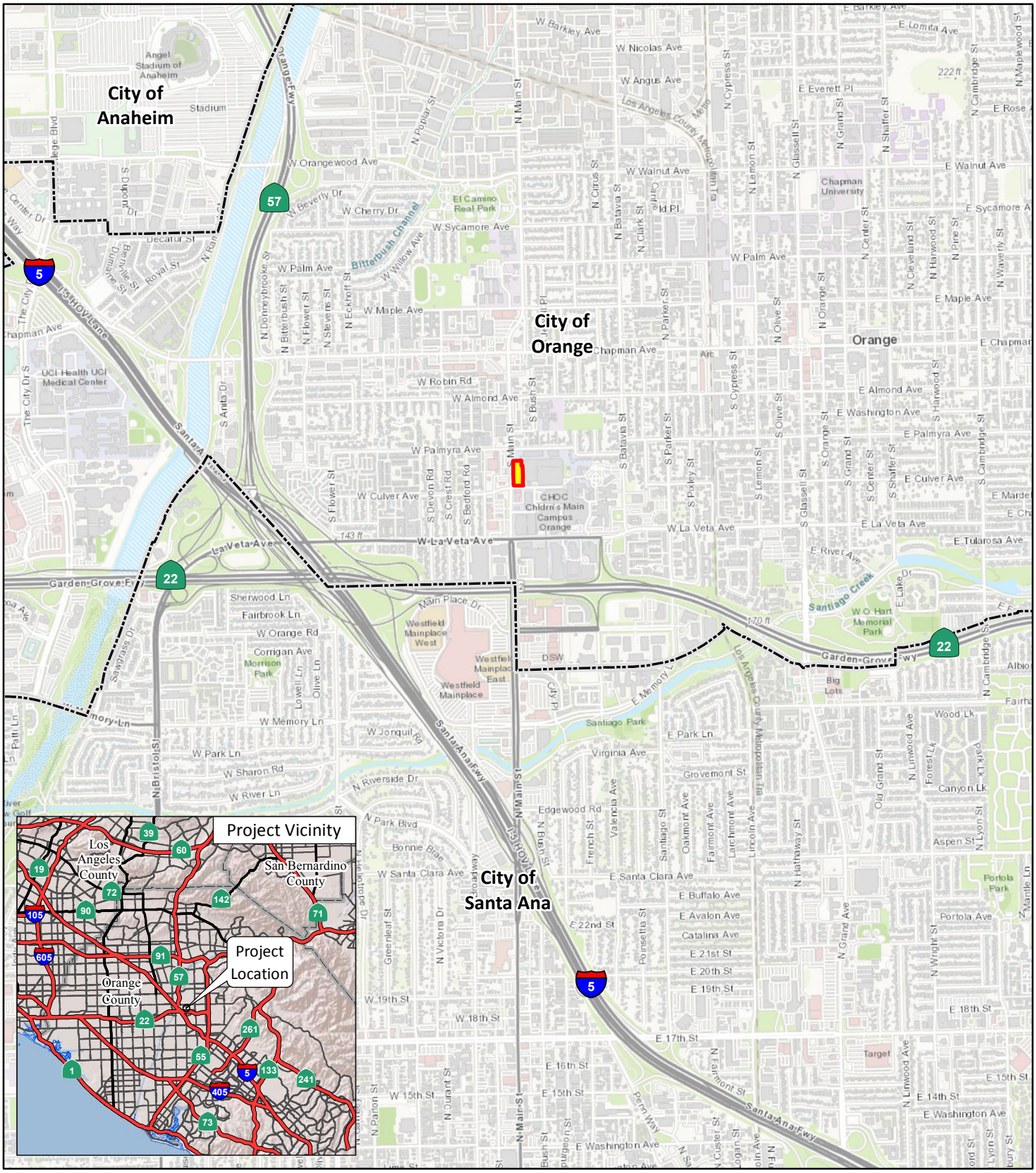

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FIGURE 2-1

SOURCE: Esri (2020)

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Main Street Medical Office Building Project

Project Location

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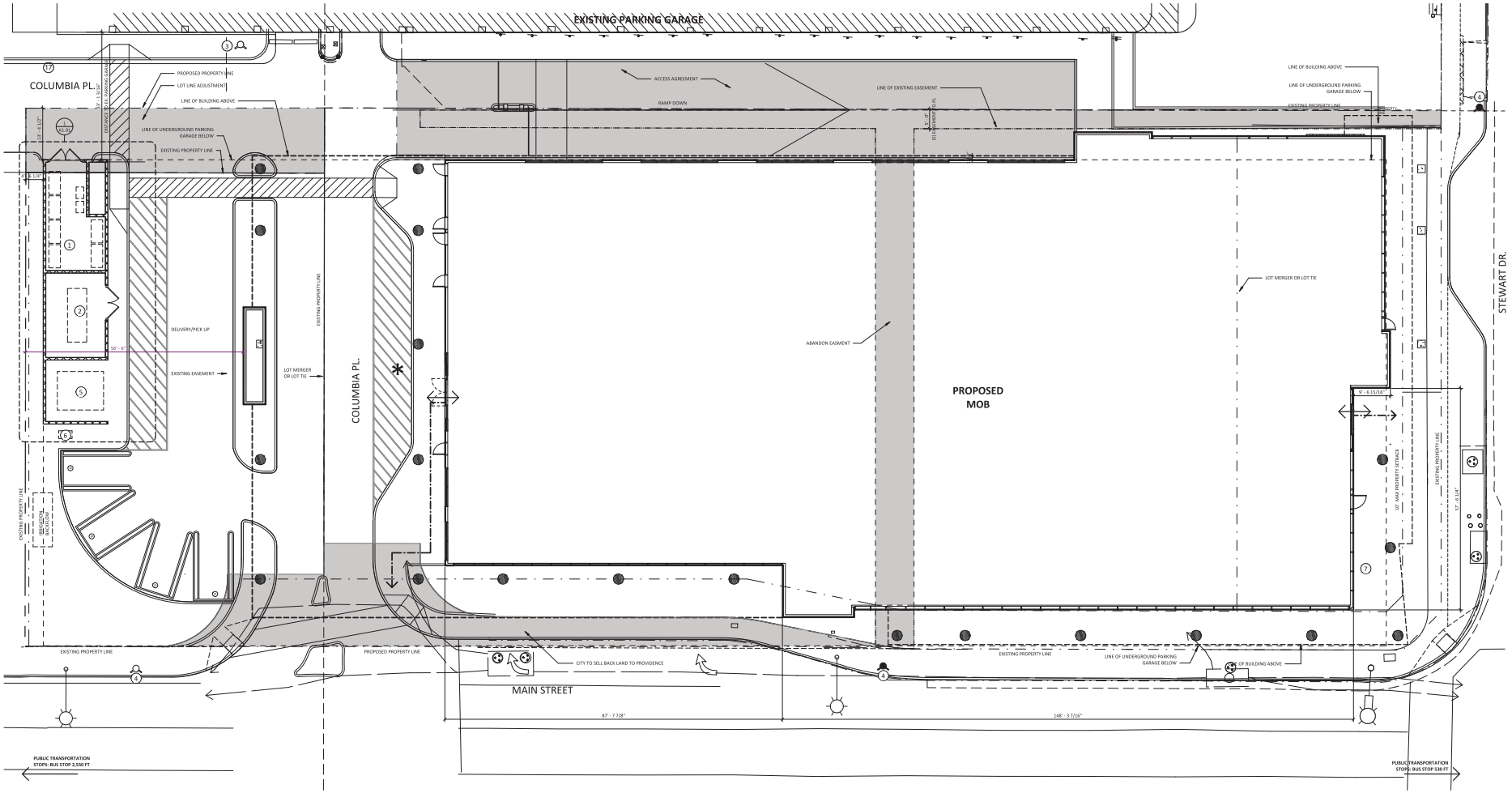

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FIGURE 2-2

GENERAL NOTES

1. THIS PROJECT IS PROPOSED AS A SINGLE PHASE.

ACCESSIBILITY GRAPHICS	SITE GRAPHICS
ACCESSIBLE PARKING STALL	STALLS INDICATED FOR MOB USE
ACCESSIBLE PATH OF TRAVEL NO ABRUPT CHANGES IN ELEVATION ALONG THE PATH OF TRAVEL SHOWN. THE SLOPE AND CROSS-SLOPE ALONG THE PATH OF TRAVEL SHALL NOT EXCEED 5% AND 2% RESPECTIVELY. INSPECTOR TO VERIFY.	1 TRASH ENCLOSURE, PER CITY OF ORANGE MUNICIPAL CODE
BUILDING ENTRY	2 GENERATOR ENCLOSURE
BUS STOP	3 RELOCATED FIRE HYDRANT
PASSENGER LOADING ZONE	4 NEW FIRE HYDRANT
FRONTAGE USED FOR ALLOWABLE AREA INCREASES PER CBC SECTION 506.2 SHALL BE PERMANENTLY MAINTAINED	5 TRANSFORMER
	6 IRRIGATION CONTROLLER
	7 BIKE RACKS

N

0 20 40
FEET

SOURCE: Boulder Associates Architects

Main Street Medical Office Building

Conceptual Site Plan

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Construction would include the demolition of the existing motel and medical office buildings, vegetation and parking lot removal, excavation, grading, placement of new concrete foundations, building construction, and the installation of landscaping, irrigation, lighting, storm drain facilities, and underground utilities. Refer to Table 2.A, Existing Structures, for details on the square footage of the motel and medical offices, and number of rooms provided at the existing motel.

Table 2.A: Existing Structures

	Footprint Square Footage	Square Footage	Number of Rooms
Motel	3,914	3,914	12
Medical Offices – Building 1 (La Amistad)	4,332	4,332	N/A
Medical Offices – Building 2 (Mother Baby Assessment Center)[1]	8,744	16,550[1]	N/A
Total	**16,990**	**24,796**	**N/A**

Sources: ALTA/NSPS Survey and Topographic Survey (PBLA Surveying, Inc., 2020).
[1] Building 2 Calculations:
FL1 = 8,744 sf – 744 sf (courtyard) = 8,000 sf
FL2 = 8,000 sf – 550 sf (overhang) = 8,550
Total = 8,000 + 8,550 = 16,550 sf
FL = floor
N/A = not applicable
sf = square foot/feet

As shown on Figure 2-3, Proposed Parcel Boundaries, the site contains three existing parcels (Parcels A, B, and C). Parcels A and B are currently owned by St. Joseph Hospital of Orange/Providence and Parcel C, currently containing the motel, is owned by Twin Cypress, LLC[1]. The lot line along the eastern boundary of Parcel A would be adjusted further east in order to accommodate the subterranean parking garage, and would then align with the eastern boundaries of Parcels B and C. Approximately 2,075 sf of land along Main Street at Columbia Place would be purchased from the City and combined with Parcels A, B, and C through a Parcel Map. A tentative parcel map will be processed as part of the project.

According to the City's Zoning Map and General Plan, the project site is currently zoned for Neighborhood Mixed Use (NMU-24) and has a General Plan land use designation of Neighborhood Mixed Use (NMIX). The NMU-24 zoning district is intended to provide local- and neighborhood-supporting mixed-use activity centers and corridors. Residential uses and uses supportive of a medical-related corridor are encouraged along South Main Street. The NMIX General Plan land use designation allows for structures with commercial retail uses as the primary uses on the ground floor. Professional office and residential uses are also allowed within the NMIX land use designation, integrated either with a commercial use or as separate, free-standing uses. As such, no zone change or General Plan Amendment would be required as part of the project. Two of the three parcels included in the project site (the existing medical office buildings) are subject to a Development Agreement approved in 2004 that addresses development capacity within the St. Joseph Hospital Campus. An administrative amendment to the 2004 Development Agreement between St. Joseph Hospital and the City is anticipated. A provision in the 2004 Development Agreement allows the City to establish an Operating Memorandum (OP) for administrative modifications by the City Manager. It is anticipated that an OP would be created to amend the 2004 Development Agreement for the proposed project.

[1] This parcel would be purchased by St. Joseph Hospital of Orange/Providence.

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LEGEND

- Parcel A (Existing)
- Parcel B (Existing)
- Parcel C (Existing)
- 2,075 sf to be Purchased from City of Orange
- Lot Line Following Merger and Adjustment (Proposed)
- Lot Line Adjustment Area for Subterranean Parking Structure

0 25 50
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SOURCE: Google Earth

FIGURE 2-3

Main Street Medical Office Building

Proposed Parcel Boundaries

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PROJECT CHARACTERISTICS

Building Design. The proposed project's medical office building would be approximately four stories in height, and constructed in a modern architectural style. Refer to Figure 2-4, Conceptual Elevations, for the project's proposed design. All four stories of the medical office building would feature a glass façade, with a geometric design comprised of metal panels. The primary façades facing Main Street and Stewart Drive would be composed primarily of glass with low exterior reflectance (less than 20 percent) and moderate light transmittance. The first-floor elevation would sit back from the stories above to highlight the proposed retail tenants. These façades would also incorporate the use of metal panels to break up the length of the elevation along Main Street and to celebrate the entrance to the St. Joseph Hospital Campus. The north and west sides of the medical office building would use an exterior insulation finishing system (EIFS) with reveals and punched openings. The materials and colors would complement the architectural design already established on the existing St. Joseph Hospital Campus.

Vehicles Access and Parking. Access to the project site would be provided via an unsignalized intersection at Main Street/Columbia Place and an internal exit-only driveway along Palmyra Avenue. Internal routes via Columbia Place would connect the site to the surrounding roadway network. Circulation within the project site's subterranean parking garage would be provided by two 25-foot (ft) wide drive aisles. Limited time parking and loading areas will be accomodated by multiple loading zones provided along Columbia Place and Stewart Drive. The five-level subterranean parking garage, which would be accessible by an entrance/exit ramp from Columbia Place along the eastern edge of the project site, would provide 550 parking spaces for the project's employees and visitors. The first level of the subterranean parking garage would contain a bicycle storage and locker room and restrooms with showers and changing areas for use by the medical office building employees. The *Main Street Medical Office Building Parking Management Plan* (provided in Appendix G) has been prepared to demonstrate that the project would provide adequate on-site parking.

Pedestrian Access and Circulation. As discussed above, the proposed project would include entrances on the north and south sides of the medical office building. Pedestrians would be able to access the southern entrance from the sidewalk along Stewart Drive. A walkway along the north side of the medical office building would provide access to the northern building entrance. Crosswalks would provide safe pedestrian access between the building entrance and the short-term parking spaces off Columbia Place as well as the existing St. Joseph Hospital Campus parking garage to the east of the project site.

Landscaping. All of the existing landscaping and trees on the project site, including one street tree along Main Street, would be removed and replaced with a new plant palette. On-site landscaping would include raised concrete planters containing ornamental grasses along Main Street. Street trees would be planted along Main Street and Stewart Drive and decorative concrete pavers and square plant containers would be installed along the Stewart Drive frontage. All on-site landscaping would be installed in compliance with Section 17.19.160, Landscaping, of the City's Municipal Code. A plaza located at the corner of Main Street and Stewart Drive would activate the entrance to the St. Joseph Hospital Campus. The plaza would be defined with decorative concrete pavers, outdoor tables and chairs, umbrellas, plant containers, a vertical obelisk, and signage. Raised planters located between the building columns along Main Street would soften the building elevation and create a pedestrian friendly environment. Similar planters are also proposed to screen the at-grade short-term parking lot. Refer to Figure 2-5, Conceptual Landscape Plan, for the project's proposed landscape design.

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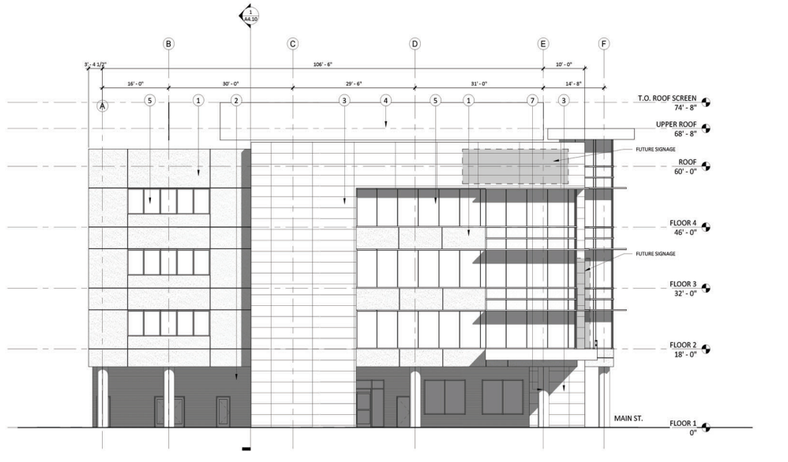
1 EAST ELEVATION SIGNAGE TO BE SUBMITTED AT LATER DATE

A0.08 | A3.10 3/32" = 1'-0"



2 NORTH ELEVATION SIGNAGE TO BE SUBMITTED AT LATER DATE

A2.11 | A3.10 3/32" = 1'-0"

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FIGURE 2-4
Page 1 of 2

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SOURCE: Boulder Associates Architects

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Main Street Medical Office Building
Conceptual Elevations

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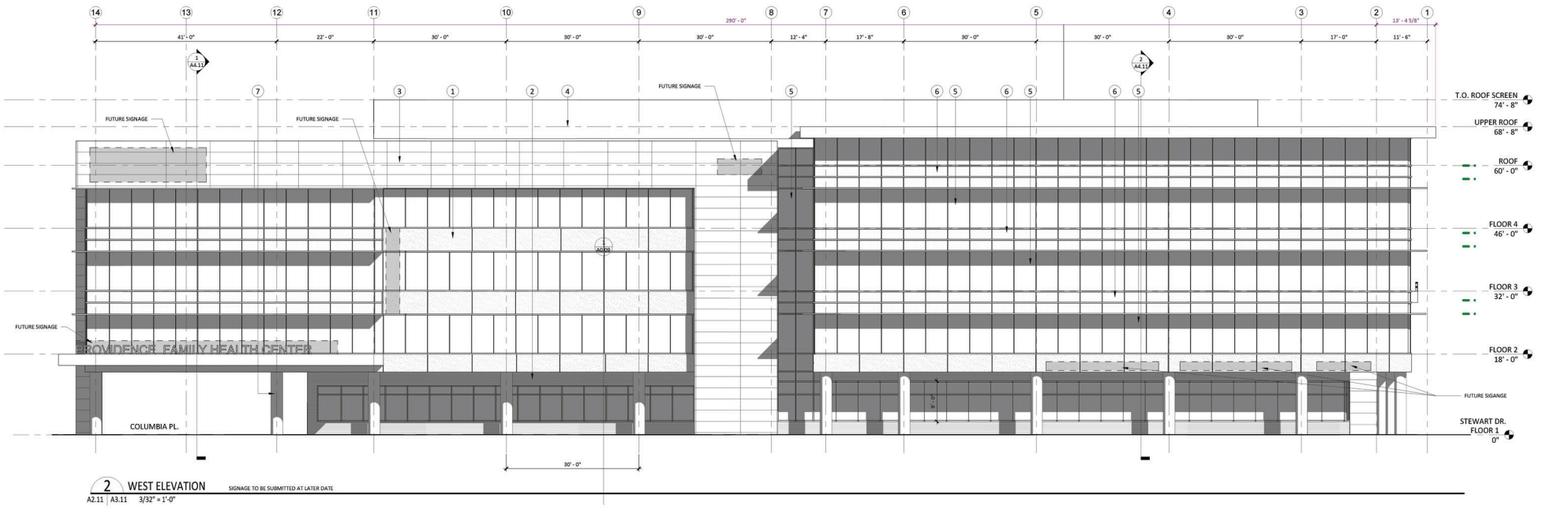
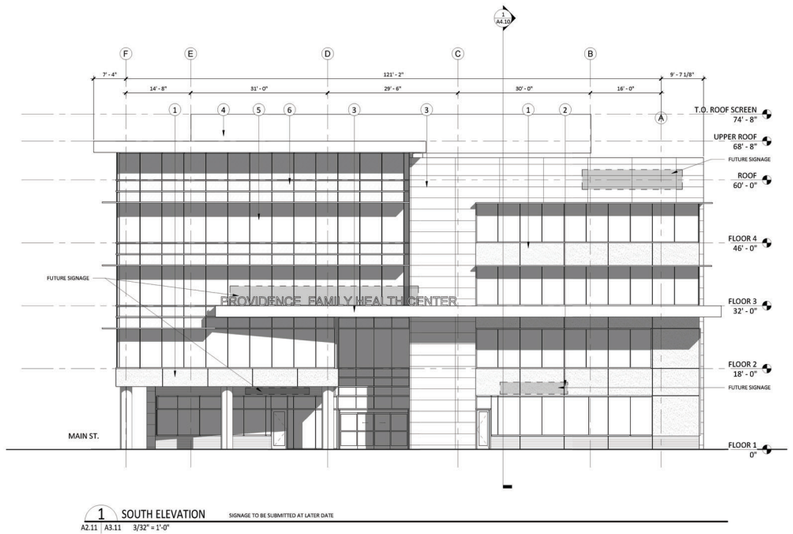


2 WEST ELEVATION SIGNAGE TO BE SUBMITTED AT LATER DATE

A2.11 | A3.11 3/32" = 1'-0"



1 SOUTH ELEVATION SIGNAGE TO BE SUBMITTED AT LATER DATE

A2.11 | A3.11 3/32" = 1'-0"

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FIGURE 2-4
Page 2 of 2

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SOURCE: Boulder Associates Architects

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Main Street Medical Office Building
Conceptual Elevations

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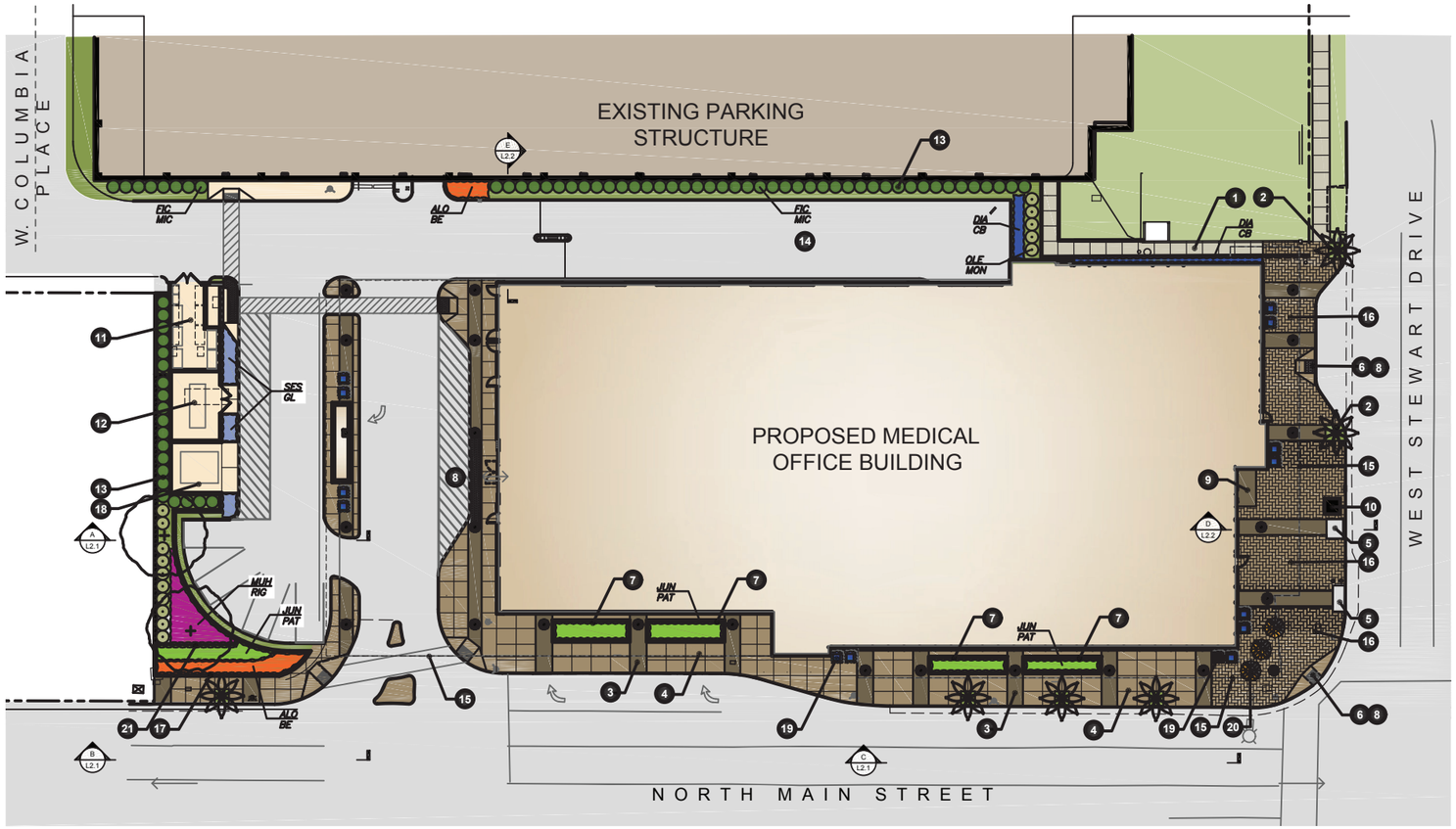

LEGEND

1. NATURAL CONCRETE PAVING TO RECEIVE TOPCAST 05 FINISH
2. 5 X 5 TREE WELL WITH DECORATIVE TREE GRATE
3. INTEGRAL COLORED CONCRETE BAND - CHARCOAL GREY TO RECEIVE TOPCAST 05
4. INTEGRAL COLORED CONCRETE INFILL - MESA BEIGE WITH SAW-CUT JOINTS AND TOPCAST 05 FINISH
5. EXISTING SITE UTILITIES TO BE PROTECTED IN PLACE
6. ACCESSIBLE RAMP
7. FORMED IN PLACE CONCRETE 30" HIGH RAISED PLANTERS
8. ZERO INCH CURB AND DETECTABLE WARNING TILES AT DROP-OFF
9. STAINLESS STEEL WALK OFF MAT
10. VERTICAL OBELISK GATEWAY ELEMENT
11. TRASH ENCLOSURE
12. TRANSFORMER
13. SCREENING HEDGE
14. VEHICULAR RAMP DOWN
15. LINE OF BUILDING ABOVE
16. CONCRETE PAVERS
17. SITE RETAINING WALL
18. FUTURE GENERATOR PAD
19. PRECAST CONCRETE PLANT CONTAINERS WITH DWARF CITRUS TREES
20. TABLE CHAIRS AND UMBRELLAS FOR BLUE BOWL RESTAURANT
21. PROJECT WALL MOUNTED OR FREE-STANDING LETTERS SIGNAGE

PROPOSED PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	WATER USE	DESCRIPTION	QTY.
TREES							
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	24" BOX	STD.	L	FLOWERING TREE	2
	ARCHONTOPHOENIX CUNNINGHAMIANA	KING PALM	16' BTH	SKINNED	M	PALM ACCENT	6

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WATER USE	DESCRIPTION	QTY.
SHRUBS, GRASSES, & GROUNDCOVERS								
	ALO BE	ALOE 'BLUE ELF'	BLUE ELF ALOE	5 GAL.	24" O.C.	L	SUCCULENT ACCENT	
	DIA CB	DIANELLA 'CASSA BLUE'	CASS BLUE FLAX LILY	1 GAL.	24" O.C.	L	UPRIGHT ACCENT	
	FIC MIC	FICUS MICROCARPA	INDIAN LAUREL	15 GAL. COLUMNS	48" O.C.	M	COLUMNAR HEDGE	79
	MUH RIG	MUHLENBERGIA RIGENS	DEER GRASS	1 GAL.	30" O.C.	L	ORNAMENTAL GRASS	
	OLE MON	OLEA EUROPEA 'MONTRA'	LITTLE OLLIE	5 GAL.	48" O.C.	L	EVERGREEN HEDGE	15
	SES GL	SESLERIA AUTUMNALIS 'GREENLEE'	GREENLEE AUTUMN MOOR GRASS	1 GAL.	18" O.C.	M	ORNAMENTAL GRASS	
	JUN PAT	JUNCUS PATENS	CALIFORNIA GRAY RUSH	1 GAL.	24" O.C.	L	ORNAMENTAL GRASS	

WATER USE KEY:
VL = VERY LOW WATER USE, L = LOW WATER USE, M = MODERATE WATER USE, H = HIGH WATER USE. WATER USE STATED IS PER 'WATER USE CLASSIFICATION OF LANDSCAPE SPECIES' (ALSO REFERRED TO AS WUCOLS IV) FOR THE CITY OF ORANGE.

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FIGURE 2-5

NO SCALE

SOURCE: Boulder Associates Architects

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Main Street Medical Office Building
Conceptual Landscape Plan

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Earthwork and Grading. Given the depth of excavation required to develop a five-level subterranean parking garage in an area that is currently developed at grade, the project would require the removal of a substantial amount of excavated material from the site. Approximately 100,000 cubic yards (cy) of soil export is anticipated. Excavated soil would be exported to a disposal site in the region that has already been approved to accept such material. Excavated soil would be exported via northbound Main Street and westbound West Chapman Avenue to a receiving site via I-5. Given the volume of soil export, a haul permit obtained from the City Council would be required. The maximum depth of excavation would be approximately 63 ft.

Infrastructure. Utilities for the proposed project would include water provided and collected by the City's Water Division, the treatment of wastewater provided by the Orange County Sanitation District Drainage from this storm drain system is conveyed to the Santa Ana River and ultimately to the Pacific Ocean. The project would incorporate structural and non-structural best management practices (BMPs) to reduce or eliminate pollutants in stormwater runoff.

Construction Duration and Phasing. It is anticipated that construction activities would take up to 30 months in one continuous phase, which would be completed sequentially in the following sub-phases: (1) demolition; (2) site preparation; (3) grading; (4) building construction; (5) paving; and (6) architectural coating. It is assumed that construction would utilize standard construction equipment and techniques, and no specialized construction equipment would be necessary to construct the proposed project.

Off-Site Improvements. The proposed project would include minor modifications to the landscaping on the western portions of the adjacent properties to the east of the project site. Fire hydrants would be provided in multiple locations on and adjacent to the project site along Main Street, Stewart Drive, and internally between the existing St. Joseph Hospital Campus parking garage and the new building, which will become part of the St. Joseph Hospital Campus.

ANTICIPATED APPROVALS AND PERMITS

- Parcel Map
- OP to the 2004 City Development Agreement
- Lot Line Adjustment
- Fire Master Plan
- Parking Management Plan
- Uniform Sign Program
- Traffic Management Plan and Haul Permit
- Water Quality Management Plan (WQMP)

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SECTION 3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist in Chapter 4.0.

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

DETERMINATION

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

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

☐ I find that the proposed project **MAY** have a "Potentially Significant Impact" or "Potentially Significant Unless Mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

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

Signature

12/03/2020

Date

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SECTION 4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a. Earlier Analysis Used. Identify and state where they are available for review.

   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   a. The significance criteria or threshold, if any, used to evaluate each question; and
   b. The mitigation measure identified, if any, to reduce the impact to less than significant.

4.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Impact Analysis

a) Would the project have a substantial effect on a scenic vista?

California State Government Code Section 65560(b)(3) stipulates that city and county General Plans address "…Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historical and cultural value; areas particularly suited for park and recreation purposes, including access to lakes shores, beaches, and rivers, and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors…" A scenic vista is generally defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public.

According to the City of Orange's (City) 2010 General Plan Program Environmental Impact Report (PEIR), scenic vistas are primarily available in the eastern portion of the City due to the varied topography and open space allowing for scenic views. The City has three officially designated viewscape corridors: the portion of Newport Boulevard within the City's boundary, Chapman Avenue east of Newport Boulevard, and State Route 91 (SR-91) north of Nohl Ranch Road (General Plan PEIR, Figure 5.1-1: Viewspace Corridors). Given the proposed project's location in the western portion of the City, scenic views associated with these corridors are not visible from the project site or in the project area. According to the City's General Plan Natural Resources Element (revised December 2015), scenic resources in the City include public parks and open spaces, such as Hart Park, Eisenhower Park, Plaza Park, and the Irvine Ranch Land Reserve. However, none of these scenic resources is located within the project area. Hart Park, the closest resource, is located approximately 0.9 mile southeast of the project site.

The surrounding views include urban views of a commercial retail center to the south and to the west, and of medical facilities and a parking structure associated with the St. Joseph Hospital Campus. Given the urbanized nature of the area and the lack of varied topography, scenic views are not available from the project site, or in the project area. The proposed scale and density and scale of the project would be similar to that of existing development, specifically the St. Joseph Hospital Campus. Because there are no scenic resources that would be obstructed by the proposed project, and the surrounding area is characterized by commercial development of similar heights, the proposed project would neither alter an existing scenic vista, nor block views of any scenic vistas. No impact would occur, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The California Department of Transportation's (Caltrans) Landscape Architecture Program administers the Scenic Highway Program, contained in the Streets and Highways Code, Sections 260–263. State Highways are classified as either Officially Listed or Eligible. There are no officially designated or eligible State Scenic Highways in the City of Orange.[1] Furthermore, the City's General Plan Circulation and Mobility Element (revised December 2015) does not identify or designate any scenic roadways or corridors. Therefore, no impacts to scenic resources, including trees, rock outcroppings, or historic buildings visible from a State Scenic Highway would occur. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The project is located within a fully urbanized area characterized by commercial and medical office development. The project site is currently developed with a motel, two medical office buildings, and associated surface parking areas. The proposed project involves the demolition of the motel and medical office buildings, and the construction of a four-story medical office building and subterranean parking garage. As discussed below, the proposed project would not conflict with applicable zoning and General Plan regulations governing scenic quality.

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[1] California Department of Transportation (Caltrans). 2011. California Scenic Highways, Introduction. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed June 26, 2020).

Zoning. The project site is currently zoned Neighborhood Mixed Use (NMU-24), which is intended to provide local- and neighborhood-supporting mixed-use activity centers and corridors. Commercial retail uses are the primary uses allowed on the ground floor. Professional office and residential uses are also allowed, integrated either with a commercial use or as separate, free-standing uses. Residential uses and uses supportive of a medical-related corridor are encouraged along South Main Street. The proposed uses are allowable under the NMU-24 zoning designation. As such, no zone change would be required as part of the proposed project.

Section 17.19, Mixed Use Districts, of the City's Municipal Code, outlines permitted uses and minimum development standards allowed in the NMU-24 district. One purpose of these regulations is to ensure compliance with appropriate standards related to aesthetics and scenic quality. The following development standards in Section 17.19.120, Development Standards, are applicable to the NMU-24 zone:

- A minimum lot area of 40,000 square feet (sf)
- A minimum lot width of 100 feet (ft)
- A Floor Area Ratio (FAR) range between 1.0 and 1.5
- A maximum front and street side setback of 10 ft, or up to 20 ft for projects that incorporate sidewalk-oriented pedestrian amenities, subject to the approval of the Community Development Director
- A minimum side and rear setback of 0 ft
- A maximum height of 45 ft or three stories, whichever is less, unless no part of the building exceeds one-quarter the horizontal distance between the ground point of the building and the nearest single-family residential district

Section 17.19.120 also outlines standards regarding the following:

- Lot Area Requirements: For newly created lots, lot sizes should allow for adequate provisions for safe and orderly pedestrian and vehicular circulation, adequate parking, adequate consideration of the compatibility of the site's development with surrounding development, and adequate considerations for the effect on growth or development of adjacent properties.
- Fences and Walls: A maximum fence/wall height of 42 inches is permitted in the front and street side yard, and 6 ft in all other areas. Additionally, no fences/walls may be constructed on a portion of the property other than the property line, unless approved by the Community Development Director.
- Landscaping: A landscape plan that enhances the appearance of the project, provides pedestrian comfort, creates shaded areas, reduces heat and glare, conserves water, and improves pedestrian and vehicular safety is required to be approved by the Community Development Director.
- Lighting: Lighting must shield spillage, glare, and reflective light on adjacent properties, sidewalks, and thoroughfares.
- Signage: Project signage must be compatible with the building they identify and must not adversely affect surrounding land uses or obscure adjacent conforming signs. Additionally, signage should be consistent with any applicable redevelopment area design themes.

Exceptions to the following development standards required by Section 17.19.120 would be granted in accordance with the OP to update the 2004 Development Agreement:

- Upon a lot line adjustment and consolidation of the three parcels that currently comprise the project site into a single parcel, the project site would be 47,978 sf, which exceeds the minimum lot area requirement of 40,000 sf.
- The proposed parcel described above would be approximately 140 ft wide, which exceeds the minimum lot width of 100 ft.
- The front setback of the proposed project would exceed 20 ft in order to include a publicly accessible outdoor plaza with seating.
- The proposed medical office building would be 74 ft, 8 inches, and four-stories in height, which would exceed the maximum allowable height of 45 ft, or three stories, but would be allowed as no part of the building would exceed one-quarter of the horizontal distance between the ground point of the building and the nearest single-family residential district boundary line. In addition, the proposed medical office building would be consistent with the OP to update the 2004 Development Agreement. A four-story medical office building would be characteristic of existing medical office and hospital-related uses in the immediate project area. As such, the height of the proposed project is consistent with existing development and would not disrupt visual and aesthetic quality in the area.

As shown on Figure 2-3, Proposed Parcel Boundaries, the site contains three existing parcels (Parcels A, B, and C). The lot line along the eastern boundary of Parcel A would be adjusted further east in order to accommodate the subterranean parking garage, and would then align with the eastern boundaries of Parcels B and C. Approximately 2,075 sf of land along Main Street at Columbia Place would be purchased from the City and combined with Parcels A, B, and C through a Parcel Map. The lots will be merged and lot lines adjusted via the Parcel Map process, resulting in a lot that would be adequately sized to promote a safe and orderly pedestrian and vehicular environment by providing a full-access driveway and 25 ft wide drive aisles within the subterranean parking garage, and a publicly accessible pedestrian-friendly environment and outdoor plaza with a seating area near the building's frontage. The project is intended to redevelop underutilized properties along the South Main Street Corridor, which aims to expand on the existing medical office and hospital-related uses in the area. As such, the proposed project, and its lot size, is compatible with the intended growth and development for the surrounding area. No walls or fences are proposed as part of the proposed project. A landscape plan would be submitted for review as part of the City's Design Review process. The project's proposed landscaping includes raised concrete planters containing ornamental grasses, decorative concrete pavers, and square plant containers. The plaza area would feature outdoor tables, chairs, umbrellas, plant containers, a vertical obelisk, and signage. All on-site landscaping would feature drought-tolerant, water efficient plants. Refer to Regulatory Compliance Measure (RCM) RCM-UTL-1, in Section 4.19, Utilities. Water Efficient Landscape Ordinance. The decorate pavers would clearly define pedestrian areas, and the plaza area would create a comfortable, shaded outdoor area.

As discussed in Response 4.1(d), a Photometric Plan that demonstrates the use of appropriate lighting that shields adjacent properties from spillage, glare, and reflective life would be prepared and approved prior to the issuance of a building permit (refer to RCM-AES-1 in Section 4.1, Aesthetics). Project signage would be minimal, and would be limited to wall-mounted or

freestanding letters installed along the Main Street frontage. The proposed signage would be compatible with the existing architectural style and signage in the project area, and would not adversely affect surrounding land uses.

Southwest Design Standards. The City has adopted design standards for the purpose of improving the aesthetic environment and encouraging reinvestment by property owners in the areas that were formerly located within the Southwest Redevelopment Project Area (City 2018). Separate design standards regulate development within each of the three thematic districts that are subject to the Southwest Design Standards. The project site is located within the South Main/La Veta Thematic District, which includes financial, medical, and business offices as well as retail commercial developments. An urban contemporary theme has been established for the South Main/La Veta Thematic District. Therefore, the proposed project would comply with the City's Southwest Design Standards that apply to the South Main/La Veta Thematic District.

General Plan. According to the General Plan Land Use Element (revised December 2015), the project site has a land use designation of Neighborhood Mixed Use (NMIX). This land use designation provides for professional offices, commercial retail, and housing uses, either as integrated with a commercial use or as separate, free-standing uses. The proposed project would develop the site with medical office space available for rental and operation by medical professionals, and would allow for commercial retail tenants on the first floor. As such, the proposed project would be consistent with the NMIX land use designation, and no General Plan Amendment would be required as part of the project.

The Land Use Element includes the following relevant goals and policies related to urban design and aesthetics.

Goal 1.0: Meet the present and future needs of all residential and business sectors with a diverse and balanced mix of land uses.

> **Policy 1.4**: Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development.
>
> **Policy 1.6**: Minimize effects of new development on the privacy and character of surrounding neighborhoods.

Goal 6.0: Advance development activity that is mutually beneficial to both the environment and the community.

> **Policy 6.1:** Ensure that new development is compatible with the style and design of established structures and the surrounding environment.

As previously established, the proposed project would be consistent with all applicable City design standards upon project approval. The medical office building would be designed in a modern architectural style, feating a glass façade, with a geometic design comprised of metal panels. The height, scale, and design of the building would be visually compatible with the existing style of other medical and professional office buildings associated with the St. Joseph Hospital Campus in the immediate vicinity. The materials and colors would complement the architectural style established on the existing St. Joseph Hospital Campus. As such, the features of the proposed medical office

building would be in context with and of a similar character to the surrounding environment. Therefore, the design of the proposed project would be compatible with Land Use Policies 1.4, 1.6, and 6.1.

Summary. The proposed project, once approved with the Operating Memorandum (OP) to update the 2004 Development Agreement, would be consistent with all applicable development standards and General Plan goals and policies pertaining to the visual character of the proposed medical office building. Overall, improvements associated with the proposed project would improve the existing visual character of the project site and would enhance the visual interest and character of the project site and surrounding area. For the reasons stated above, the proposed project would not degrade the visual character of the planning area or conflict with applicable zoning and General Plan regulations governing scenic quality. Impacts would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

The impact of nighttime lighting depends upon the type of use affected, the proximity to the affected use, the intensity of specific lighting, and the background or ambient level of the combined nighttime lighting. Nighttime ambient light levels may vary considerably depending on the age, condition, and abundance of point-of-light sources present in a particular view. The use of exterior lighting for security and aesthetic illumination of architectural features may contribute to ambient nighttime lighting conditions. Spillover light can be problematic in areas where the ambient conditions are very dark, and there are specialized uses that depend on that darkness.

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

Reflective light (glare) is caused by sunlight or artificial light reflecting from finished surfaces (e.g., window glass) or other reflective materials. Glass and other materials can have many different reflectance characteristics. Buildings constructed of highly reflective materials from which the sun reflects at a low angle commonly cause adverse glare. Reflective light is common in urban areas. Glare generally does not result in the illumination of off-site locations but results in a visible source of light viewable from a distance.

Existing sources of light on the project site include pole-mounted lighting in the surface parking areas. Other sources of light in the vicinity of the project site include exterior lighting from adjacent properties, streetlights, and vehicle headlights. The development of a four-story medical office building would introduce sources of light to the project area that are typical of commercial and office uses and similar to existing light sources. Outdoor lighting proposed as part of the project would include pole-mounted lighting, bollards lining pedestrian walkways, ceiling lighting within the

subterranean parking garage, and accent/decorative lighting. All on-site outdoor lighting would be placed to meet safety and orientation needs. Lighting in public areas would be warmly colored, unobtrusive, and angled in a way that minimizes spill and glare. The level of lighting intensity would vary throughout the day, becoming less intense during non-operating hours. Lighting would be shielded and directed downward to avoid off-site light spillage, in compliance with Section 17.12.030, of the City's Municipal Code. The proposed medical office building would replace existing structures that are currently a source of light on the project site.

The project site is currently developed with a motel, medical office buildings, and associated surface parking lots, and is surrounded by a variety of commercial and hospital uses. Uses immediately adjacent to the site, such as the commercial retail centers to the west across Main Street and to the south across Stewart Drive, and the parking garage immediately to the east, would not be considered sensitive receptors to light and glare. As previously discussed, a majority of the medical office building would be designed with a glass façade, which has the potential create a visible source of glare in the project area. However, the primary façades facing Main Street and Stewart Drive would be composed primarily of glass with low exterior reflectance (less than 20 percent) and moderate light transmittance. Incorporation of a minimally reflective glass material into the project's design would reduce potential glare impacts in the project area.

Additionally, the construction of a four-story medical office building on the project site would introduce new sources of light that would potentially create a source of nighttime illumination in the immediate vicinity. Section 17.12.030, Lighting, of the City's Municipal Code, requires that lighting on any property and glare from commercial properties be shielded, screened, or oriented so as not to be seen from any point beyond the exterior boundaries of the property, and so the source shall not be a nuisance to any off-site receptor. Furthermore, as required by Section 17.10.070, Design Review, the proposed project's design, including its lighting features, would undergo review and final approval as part of the City's Design Review Process. As specified in RCM-AES-1 below, the project Applicant shall install all on-site lighting in accordance with the provisions of Section 17.12.030 of the City's Municipal Code for review and approval as part of the City's Design Review Process. RCM-AES-1 is a standard condition based on local regulations that serves to reduce impacts related to lighting. Adherence to RCM-AES-1 would ensure that impacts associated with project-generated light and glare would be less than significant. No mitigation is required.

Regulatory Compliance Measure:

RCM-AES-1 **On-Site Lighting.** As part of the Design Review Process, the project Applicant shall demonstrate that the proposed project would install all on-site lighting in accordance with the provisions of Section 17.12.030, Lighting, of the City's Municipal Code, to the satisfaction of the City of Orange (City) Director of Community Development, or designee. All on-site project lighting shall ensure, to the extent feasible, that the intensity and direction of all on-site outdoor lighting and glare minimize spillage and glare onto surrounding premises.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-AES-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

4.2 AGRICULTURE & 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.) *Would the project:*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Impact Analysis

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

The proposed project is set to be located within a fully urbanized area that does not contain agriculture or forest uses. The project's location in the Important Farmland map in California prepared by the California Department of Conservation (DOC) does not identify the project site as

being located in an area of Prime Farmland, Unique Farmland, or Farmland of Statewide importance.[1] Moreover, the areas zoned Agricultural use (A-1) in the City or Orange are not located within the immediate vicinity of the project site. Therefore, the implementation of the proposed project would not result in any conversion of designated Prime Farmland, Unique Farmland, or Farmland of Statewide importance to a non-agricultural use. No impact would occur, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The project is currently zoned for Neighborhood Mixed Use (NMU-24) and is designated for Neighborhood Mixed Use (NMIX). The project site is not currently zoned or used for any agricultural purposes, and there are no Williamson Act contracts associated with the project site.[2] Therefore, no conflicts would arise regarding agricultural zoning use or a Williamson Act contract. No impact would occur, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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))?

In reference to California's Public Resources Code (PRC) Section 1220(g), PRC Section 4526, or Government Code Section 51104(g), the project site currently is not used for timberland production, is not zoned as forest land or timberland, and does not contain any forest land or timberland refined in the State code. Therefore, no impacts to forest land or timberland would occur, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The project site currently contains a motel, two medical office buildings, and does not contain any type for forest land. Moreover, the future project use would not involve converting any forest land

[1] California Department of Conservation (DOC). 2016. Orange County Important Farmland 2016. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/ora16.pdf.
[2] California DOC. 2017. State of California Williamson Act Contract Land. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2016%20Statewide%20Map/WA_2016_11X17.pdf.

into non-forest use. As such, construction of the proposed project would not involve any environmental changes that would result in the conversion of forest land to a non-forest use. Therefore, no impacts would occur, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The project site is bounded by commercial and medical buildings in a longstanding fully developed area that is not near to any Agricultural zoned parcels. As such, the proposed project would not convert any farmland into a non-agriculture use, and the proposed project would not contribute to environmental changes that could result in the conversion of farmland to non-agricultural use. Therefore, no impact would occur, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

4.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Background

Climate/Meteorology

Air quality in the South Coast Air Basin (Basin) is affected not only by various emissions sources (e.g., mobile, stationary, and area sources) but also by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall. The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the Basin, which lies in the semipermanent high-pressure zone of the eastern Pacific, resulting in a climate that is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted; however, periods of extremely hot weather, winter storms, or Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The Anaheim meteorological station (approximately 4 miles west) ranges from 70.0°F in January to 87.1°F in August. The monthly average minimum temperature ranges from 47.5°F in January to 64.5°F in August (Western Regional Climate Center [WRCC] 2020). January is typically the coldest month, and August is typically the warmest month, in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The monthly average rainfall at the nearest meteorological station in Anaheim typically varies from 33.47 inches in February to 0.53 inch or less between May and October, with an annual total of 14.09 inches (WRCC 2020). Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly on shore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and nitrogen oxides (NO_X) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Local Air Quality

The South Coast Air Quality Management District (SCAQMD), together with the California Air Resources Board (CARB), maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Anaheim station (approximately 4 miles west), which monitors air pollutant data for ozone (O_3), CO, nitrogen dioxide (NO_2), particulate matter less than 10 microns in size (PM_{10}), and particulate matter less than 2.5 microns in size ($PM_{2.5}$). Data for sulfur dioxide (SO_2) was obtained from the Costa Mesa monitoring station (approximately 10 miles south). The air quality trends from these two stations are used to represent the ambient air quality in the vicinity of the proposed project site. Table 4.3.A presents the ambient air quality data monitored at these stations within the past 3 years.

As shown in Table 4.3.A, the ambient air quality data indicate that CO, NO_2, and SO_2 levels are consistently below the relevant State and federal standards. The State 1-hour O_3 standard was exceeded up to two times in 2016 and one time in 2018. The federal and State 8-hour O_3 standard was exceeded up to four times in 2016 and 2017, and one time in 2018.

The State 24-hour PM_{10} standard was exceeded up to three times in 2016, five times in 2017, and two times in 2018. The State annual PM_{10} standard was exceeded in the past 3 years.

Table 4.3.A: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	NAAQS/CAAQS	2016	2017	2018
Ozone (O_3): Anaheim Monitoring Station				
Maximum 1-hour concentration (ppm)		0.103	0.09	0.112
Number of days exceeded:	State: >0.09 ppm	2	0	1
Maximum 8-hour concentration (ppm)		0.074	0.076	0.071
Number of days exceeded:	State: >0.07 ppm	4	4	1
	Federal: >0.07 ppm	4	4	1
Coarse Particulates (PM_{10}): Anaheim Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		74.0	95.7	94.6
Number of days exceeded:	State: >50 µg/m^3	3	5	2
	Federal: >150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		28.0	26.9	27.7
Exceeded for the year:	State: >20 µg/m^3	Yes	Yes	Yes
Fine Particulates ($PM_{2.5}$): Anaheim Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		44.4	53.9	63.1
Number of days exceeded:	Federal: >35 µg/m^3	1	7	7
Annual arithmetic average concentration (µg/m^3)		9.4	11.7	11.4
Exceeded for the year:	State: >12 µg/m^3	No	No	No
	Federal: >15 µg/m^3	No	No	No
Carbon Monoxide (CO): Anaheim Monitoring Station				
Maximum 1-hour concentration (ppm)		2.6	2.5	2.3
Number of days exceeded:	State: >20 ppm	0	0	0
	Federal: >35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		2.1	2.1	1.9
Number of days exceeded:	State: ≥9.0 ppm	0	0	0
	Federal: ≥9 ppm	0	0	0
Nitrogen Dioxide (NO_2): Anaheim Monitoring Station				
Maximum 1-hour concentration (ppm)		0.064	0.081	0.066
Number of days exceeded:	State: >0.18 ppm	0	0	0
	Federal: >0.10 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.015	0.014	0.014
Exceeded for the year:	State: >0.030 ppm	No	No	No
	Federal: >0.053 ppm	No	No	No
Sulfur Dioxide (SO_2): Costa Mesa Monitoring Station				
Maximum 24-hour concentration (ppm)		0.0007	0.0005	ND
Number of days exceeded:	State: >0.04 ppm	0	0	0
Maximum 1-hour concentration (ppm)		0.0001	0.0001	ND
Number of days exceeded:	State: >0.25 ppm	0	0	0
	Federal: >0.075 ppm	0	0	0

Source**:** Air Data: Air Quality Data Collected at Outdoor Monitors across the U.S. (EPA 2020).

µg/m^3 = micrograms per cubic meter
CAAQS = California ambient air quality standards
CO= carbon monoxide
EPA = United States Environmental Protection Agency
NAAQS = national ambient air quality standards
ND = no data available
NO_2 = nitrogen dioxide
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in size.
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million
SO_2 = sulfur dioxide

Air Pollution Constituents and Attainment Status

CARB coordinates and oversees both State and federal air pollution control programs in the State. CARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the United States Environmental Protection Agency (EPA) and local air quality districts. CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by CARB and the EPA to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent 3 calendar years compared with the ambient air quality standards (AAQS).

A basin classified as attainment may fall into one of the following categories:

- Attainment/unclassified ("unclassifiable" in some lists). Such basins have never violated the air quality standard of interest or do not have enough monitoring data to establish attainment or nonattainment status.
- Attainment/maintenance (national ambient air quality standards [NAAQS] only). Such basins violated an NAAQS in use (they were nonattainment) in or after 1990 but now attain the standard and are officially redesignated as attainment by the EPA with a maintenance State Implementation Plan (SIP).
- Attainment (usually only for California ambient air quality standards [CAAQS] but sometimes for NAAQS). Such basins have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official maintenance period.

Additional restrictions are imposed on nonattainment areas as required by the EPA. The air quality data collected from monitoring stations are also used to monitor progress in attaining air quality standards. Table 4.3.B lists the attainment status for the criteria pollutants in the Basin.

Federal Regulations/Standards

Pursuant to the Federal Clean Air Act (CAA) of 1970, the EPA established the NAAQS. The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health.

As discussed above, data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with CAA requirements for the Basin.

Table 4.3.B: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment[1]
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment[2]	Unclassified/Attainment[2]
All others	Unclassified/Attainment	Unclassified/Attainment

Source: Air Quality Standards and Area Designations (CARB).
[1] The area has a design value of 0.175 ppm and above.
[2] Except in Los Angeles County.

CARB = California Air Resources Board
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million
SO_2 = sulfur dioxide

State Regulations/Standards

In 1967, the State Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus (i.e., the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board), to establish CARB. Since its formation, CARB has worked with the public, the business sector, and local governments to find solutions to the State's air pollution problems.

The California Air Pollution Control Officers Association (CAPCOA) is a nonprofit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA was formed in 1976 to promote clean air and to provide a forum for sharing knowledge, experience, and information among the air quality regulatory agencies around the State. CAPCOA meets regularly with federal and State air quality officials to develop statewide rules and to ensure consistent application of rules and regulations. CAPCOA works with specialized task forces (including regulated industry) by participating actively in the legislative process and continuing to coordinate local efforts with those of the State and federal air agencies. The goal is to protect public health while maintaining economic vitality. California adopted the California Clean Air Act (CCAA) in 1988. CARB administers the CAAQS for the 10 air pollutants designated in the CCAA. These 10 State air pollutants are the six criteria pollutants designated by the CAA as well as four others: visibility-reducing particulates, H_2S, sulfates, and vinyl chloride.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including the following:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: California Green Building Standards Code (CALGreen)

The 1976 Lewis Air Quality Management Act established the SCAQMD and other air quality districts throughout the State. The CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of that state.

CARB is responsible for incorporating Air Quality Management Plans (AQMPs) for local air basins into SIPs for EPA approval. Significant authority for air quality control within them has been given to local air quality districts that regulate stationary-source emissions and develop local nonattainment plans.

SCAQMD Rules

The proposed project would be required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures (BACMs) so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

SCAQMD Rule 403 Measures

- Water active sites at least three times daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet (ft) of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

SCAQMD Rule 1113 Measures

SCAQMD Rule 1113 governs the sale, use, and manufacturing of architectural coating and limits the volatile organic compound (VOC) content in paints and paint solvents. This rule regulates the VOC content of paints available during construction and operation of the proposed project. Therefore, all paints and solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1113.

Thresholds for Construction and Operational Emissions

The SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health within an adequate margin of safety (by the EPA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

The County of Orange (County) utilizes the SCAQMD *CEQA Air Quality Handbook* (April 1993, currently being revised) to identify potentially significant impacts on air quality. Projects in the Basin

with operational emissions that exceed any of these emissions thresholds are considered to be significant under the SCAQMD guidelines. These thresholds, which apply throughout the Basin and were developed by the SCAQMD, apply as both project and cumulative thresholds. If a project exceeds these standards as shown in Table 4.3.C, it is considered to have a project-specific and cumulative impact.

Table 4.3.C: SCAQMD Air Quality Significance Thresholds

Air Pollutant	Construction Phase (lbs/day)	Operational Phase (lbs/day)
VOCs	75	55
CO	550	550
NO_x	100	55
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55

Source: SCAQMD (2019).

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides
VOCs = volatile organic compounds

Thresholds for Localized Impacts Analysis

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008 (SCAQMD 2008b), recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. Localized significance thresholds (LSTs) represent the maximum emissions from a project site that are not expected to result in an exceedance of the NAAQS or CAAQS, as shown in Table 4.3.A. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA for the LST is SRA 17 (Central Orange County).

The SCAQMD has issued guidance on applying CalEEMod modeling results to localized impacts analyses (SCAQMD 2008a). The LST methodology uses lookup tables based on site acreage to determine the significance of emissions for California Environmental Quality Act (CEQA) purposes. However, CalEEMod does not allow the user to mitigate construction emissions by directly modifying acreage disturbed. CalEEMod calculates construction emissions (off-road exhaust and fugitive dust) based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment. While the project site is approximately 1.14 acres, for screening purposes, the 1-acre LST thresholds were used for the construction and operational LST analysis.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The nearest sensitive receptors are the residential land uses located 240 ft to the northeast of the project boundary. Table 4.3.D lists the emissions thresholds that apply during project construction and operation.

Table 4.3.D: SCAQMD LST Thresholds (lbs/day)

Emissions Source Category	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction (1-acre, 240-foot distance)	94	974	20.3	6.6
Operations (1-acre, 240-foot distance)	94.00	974.0	5.10	1.60

Source: SCAQMD LST Guidance Manual.
CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District

Impact Analysis

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

The project site is located within the Basin, which includes all of Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality within the Basin is under the jurisdiction of the SCAQMD. The SCAQMD is responsible for formulating and implementing the AQMP for the Basin. The SCAQMD prepares a new AQMP every 3 years, updating the previous plan and 20-year horizon. The latest plan is the 2016 AQMP, adopted in March 2017.

The main purpose of an AQMP is to describe air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area. A nonattainment area is considered to have worse air quality than the NAAQS and/or the CAAQS, as defined in the CAA. The Basin is in nonattainment for the federal and State standards for 0_3 and $PM_{2.5}$. In addition, the Basin is in nonattainment for the State PM_{10} standard and in attainment/maintenance for the federal PM_{10}, CO, and NO_2 standards.

Consistency with the 2016 AQMP for the Basin would be achieved if a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. Per the SCAQMD *CEQA Air Quality Handbook* (April 1993), there are two main indicators of a project's consistency with the applicable AQMP: (1) whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the 2016 AQMP; and (2) whether the project would exceed the 2016 AQMP's assumptions for the final year for the AQMP. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities. For the proposed project to be consistent with the AQMP, the pollutants emitted from the project must not exceed the SCAQMD daily threshold or cause a significant impact on air quality. Additionally, if feasible mitigation measures are implemented and are shown to reduce the impact level from significant to less than significant, a project may be deemed consistent with the AQMP.

According to the City's Zoning Map and General Plan, the project site is currently zoned for Neighborhood Mixed Use (NMU-24) and designated for Neighborhood Mixed Use (NMIX). Land uses supportive of a medical-related corridor are encouraged along South Main Street. No zone change or General Plan Amendment would be required as part of the project. Therefore, the proposed

project is consistent with the General Plan and would not conflict with the 2016 AQMP. Additionally, the proposed project would not be considered a "significant project" affecting air quality in the region. Furthermore, as discussed under Response 4.3(b) below, emissions generated by the proposed project would be below emissions thresholds established in SCAQMD's Air Quality Significance Thresholds (SCAQMD 2019) and would result in less than significant air quality impacts. Therefore, the proposed project would be consistent with and would not conflict with or obstruct implementation of the AQMP. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

To evaluate air pollutant emissions from the construction and operation of the project, LSA used the California Emissions Estimator Model (CalEEMod, version 2016.3.2), which is the current air quality and land use emissions model recommended by CARB for evaluating emissions from land use projects. Emissions from demolition and construction were based on the CalEEMod default for the construction phase scenario and opening date schedule. Emissions from operation of the proposed commercial project included vehicle emissions, area source emissions, and energy use emissions. The proposed project emissions were then compared with CEQA air quality significance thresholds from the SCAQMD.

The Basin is currently designated as nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. In addition, the Basin is in nonattainment for the PM_{10} standard. The Basin's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

If a project exceeds the identified SCAQMD significance thresholds identified above in Table 4.3.C, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is not necessary. The following analysis assesses the potential project-level air quality impacts associated with construction and operation of the proposed project.

Construction Emissions. Air quality impacts could occur during demolition and construction of the proposed project due to soil disturbance and equipment exhaust. Major sources of emissions during demolition, grading, building construction and site work, building erection, paving, and architectural coating include the following: (1) exhaust emissions from construction vehicles; (2) equipment and fugitive dust generated by vehicles and equipment traveling over exposed surfaces; and (3) soil disturbances from site grading and paving. The following summarizes construction emissions and associated impacts of the proposed project.

Given the depth of excavation required to develop a five-level subterranean parking garage in an area that is currently developed at-grade, the project would require the removal of a substantial amount of excavated material from the site. Approximately 100,000 cubic yards (cy) of soil export is anticipated. The maximum depth of excavation would be approximately 63 ft.

As shown in Table 4.3.E, construction of the proposed project would occur in six continuous phases with an anticipated start date of early 2021 and a planned opening in 2023. The construction equipment list in Table 4.3.F is used in CalEEMod to calculate on-site emissions for each construction phase. The proposed project's construction schedule was estimated using information provided by the client and default values for all construction components (i.e., phases) in CalEEMod (Version 2016.3.2). It is assumed that construction would utilize standard construction equipment and techniques, and no specialized construction equipment would be necessary to construct the proposed project. Table 4.3.F lists the potential construction equipment to be used during project construction.

Table 4.3.E: Tentative Project Construction Schedule

Phase Number	Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
1	Demolition	2/1/2021	2/26/2021	5	20
2	Site Preparation	2/27/2021	3/2/2021	5	2
3	Grading	3/3/2021	5/25/2021	5	60
4	Building Construction	5/26/2021	4/25/2023	5	500
5	Paving	4/26/2023	7/18/2023	5	60
6	Architectural Coating	5/8/2023	7/28/2023	5	60

Source: Estimated by LSA, from the Anticipated Construction Schedule (assuming a 2023 opening year) and using California Emissions Estimator Model (CalEEMod) defaults (October 2020).

Table 4.3.F: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Rubber Tired Dozers	1	8	247	0.4
	Tractors/Loaders/Backhoes	3	8	97	0.37
Site Preparation	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	7	247	0.4
	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Excavators	2	8	158	0.38
	Graders	1	6	187	0.41
	Rubber Tired Dozers	1	6	247	0.4
	Tractors/Loaders/Backhoes	2	7	97	0.37
Building Construction	Cranes	1	6	231	0.29
	Forklifts	1	6	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	1	6	97	0.37
	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	6	9	0.56
	Pavers	1	6	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	1	7	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

Source: Compiled by LSA, using California Emissions Estimator Model (CalEEMod) defaults (October 2020).

Table 4.3.G presents the number of equipment and worker trips for each construction phase from CalEEMod. Demolition of approximately 24,796 square feet (sf) of existing buildings would generate approximately 88 haul truck trips. Preliminary grading and excavation plans anticipate export soil for the project site of approximately 100,000 cy. It is assumed that approximately 12,500 truck trips would occur to export the soil during a 60-day grading period. As part of the assumptions for the proposed project, a default haul truck trip distance of 20 miles was used for both demolition and grading truck trip activities in CalEEMod.

Table 4.3.G: Construction Equipment and Worker Trip Counts

Phase Name	Off-Road Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition	5	13	0	88
Site Preparation	3	8	0	0
Grading	6	15	0	12,500
Building Construction	7	133	59	0
Paving	5	13	0	0
Architectural Coating	1	27	0	0

Source: Compiled by LSA, using California Emissions Estimator Model (CalEEMod) defaults (October 2020).

Fugitive dust emissions would be substantially reduced by compliance with SCAQMD Rules 402 and 403. Implementation of these rules, including measures such as on-site watering at least three times daily, was accounted for in the project emission estimates.

Table 4.3.H presents the peak daily construction emissions based on the CalEEMod emission estimates and shows that construction equipment/vehicle emissions during construction periods would not exceed any of the SCAQMD daily emissions thresholds. Therefore, the air quality impacts would be less than significant. No mitigation is required.

Table 4.3.H: Short-Term Regional Construction Emissions

	Peak Daily Pollutant Emissions (lbs/day)							
Construction Phase	**VOCs**	**NO_x**	**CO**	**SO_x**	**Fugitive PM_{10}**	**Exhaust PM_{10}**	**Fugitive $PM_{2.5}$**	**Exhaust $PM_{2.5}$**
Demolition	0.97	22.37	16.12	0.03	0.70	0.72	0.13	0.72
Site Preparation	0.52	14.97	10.07	0.02	2.35	0.38	1.18	0.38
Grading	2.53	77.35	33.66	0.19	5.64	0.86	2.02	0.85
Building Construction	2.14	22.63	19.69	0.05	1.86	0.67	0.50	0.67
Paving	0.60	11.77	10.22	0.01	0.15	0.41	0.04	0.41
Architectural Coating	9.69	1.36	2.52	0.01	0.30	0.07	0.08	0.07
Peak Daily	**9.69**	**77.35**	**33.66**	**0.19**	**6.50**		**2.87**	
SCAQMD Thresholds	**75.00**	**100.00**	**550.00**	**150.00**	**150.00**		**55.00**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (October 2020).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Operational Emissions. Long-term air pollutant emissions impacts are those impacts associated with any change in permanent use of the project site by on-site stationary and off-site mobile sources that increase emissions. Stationary-source emissions include emissions associated with electricity consumption and natural gas usage. Mobile-source emissions result from vehicle trips associated with a project. In addition, the proposed project would be consistent with regulatory measures such as Title 13, Section 2449 of the CCR, and the California Department of Resources Recycling and Recovery (CalRecycle)/Green Building Program regulations would also be implemented for the proposed project.

Based on the *Trip Generation Manual* (ITE 2017), the proposed project would generate 4,785 total daily trips during project operations. Table 4.3.I shows long-term operational emissions associated with the proposed project.

Table 4.3.I: Peak Daily Operational Emissions

Peak Operational Emissions	Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	2.95	<0.01	0.07	<0.01	<0.01	<0.01
Energy Sources	0.03	0.24	0.20	<0.01	0.02	0.02
Mobile Sources	5.50	19.57	52.65	0.18	16.10	4.40
Total Project Emissions	**8.48**	**19.81**	**52.92**	**0.18**	**16.12**	**4.42**
Existing Emissions	2.19	4.93	14.45	0.05	4.27	1.19
Net New Project Emissions	**6.29**	**14.88**	**38.47**	**0.13**	**11.85**	**3.23**
SCAQMD Thresholds	**55.00**	**55.00**	**550.00**	**150.00**	**150.00**	**55.00**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (October 2020).
Notes: Column totals may not add up due to rounding.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

The results shown in Table 4.3.I indicate the proposed project would not exceed the significance criteria for daily VOCs, nitrogen oxides (NO_X), CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. The table shows that criteria pollutant impact does not exceed the SCAQMD significance criteria. Through compliance with the SCAQMD 403 and 1113 regulations as part of applicable policy designed to reduce emissions, the proposed project would not exceed any SCAQMD threshold or contribute to a substantial increase in regional air emissions. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State AAQS, and impacts would be less than significant. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

LSTs are developed based upon the size or total area of the emissions source from the construction equipment activities, the ambient air quality levels in each SRA in which the emission source is located, and the distance to the sensitive receptor. The nearest residential homes (i.e., single-family

residences) are located adjacent to the site, approximately 240 ft northeast of the project site boundary.

LSTs only apply to CO, NO_2, PM_{10}, and $PM_{2.5}$ emissions during construction and operation at the discretion of the lead agency. Screening-level analysis of LSTs is only recommended for construction activities at project sites that are approximately 5 acres or less. The project site has a construction surface area of 1.14 acres. Therefore, screening-level analysis of LSTs for 1 acre was used for construction and operational activities.

Localized significance is determined by comparing the on-site-only portion of the construction and operational emissions with emissions thresholds derived by the SCAQMD to ensure that pollutant concentrations at nearby sensitive receptors would be below the LST threshold established by the SCAQMD. Table 4.3.J indicates the construction LST analysis of the CalEEMod results and shows that the construction emission rates would not exceed the LSTs for the nearest sensitive receptors in the vicinity of the project site.

Table 4.3.J: Construction Localized Emissions

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
On-Site Emissions	24	18	2.6	1.7
SCAQMD LST	**94**	**974**	**20.3**	**6.6**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (October 2020).
Note: SRA 17— Central Orange County, 1.5 acres, receptors at 240 feet.
CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SRA = Source Receptor Area

Table 4.3.K shows the operational LST analysis results and indicates that operational emissions rates would not exceed the LSTs for sensitive receptors in the vicinity of the project site. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

Table 4.3.K: Operational Localized Emissions

Emissions Sources	Pollutant Emissions (lbs/day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
On-Site Emissions	0.98	2.70	0.81	0.22
SCAQMD LST	**94.00**	**974.00**	**5.10**	**1.60**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (October 2020).
Note: SRA 17— Central Orange County, 1 acre, receptors at 240 feet, on-site traffic 5 percent of total.
CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SRA = Source Receptor Area

The project's on-site emissions would be below the SCAQMD's LSTs for construction and operations. Therefore, sensitive receptors would not be expected to be exposed to substantial pollutant concentrations during construction and operation of the proposed project, and potential impacts would be considered less than significant. No mitigation is required.

Brief of Amicus Curiae by the SCAQMD in Sierra Club v. County of Fresno (Friant Ranch)

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the California Supreme Court held that an Environmental Impact Report's (EIR) air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided. As noted in the Brief of Amicus Curiae by the SCAQMD in the Friant Ranch case (April 6, 2015) (Brief), SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air quality districts in the State, and thus, it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes.[1]

The SCAQMD discusses that it may be infeasible to quantify health risks caused by projects similar to the proposed project, due to many factors. It is necessary to have data regarding the sources and types of air toxic contaminants, the location of emission points, the velocity of emissions, the meteorology and topography of the area, and the location of receptors (school children and residences). The Brief also cites the author of the CARB methodology, which reported that a $PM_{2.5}$ methodology is not suited for small projects and may yield unreliable results. Similarly, SCAQMD staff does not currently know of a way to accurately quantify O_3-related health impacts caused by NO_X or VOC emissions from relatively small projects, due to photochemistry and regional model limitations. The Brief concludes, with respect to the Friant Ranch EIR, that although it may have been technically possible to plug the data into a methodology, the results would not have been reliable or meaningful.

Notwithstanding, this air quality impact analysis does evaluate the proposed project's localized impact to air quality for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ by comparing the proposed project's on-site emissions to the SCAQMD's applicable LST thresholds. As evaluated in this air quality impact analysis, the proposed project would not result in emissions that exceeded the SCAQMD's LSTs. Therefore, the proposed project would not be expected to exceed the most stringent applicable federal or State ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

Heavy-duty equipment on the project site during construction would emit odors, primarily from equipment exhaust. However, the construction activity would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the proposed project, and no mitigation measures are required.

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[1] South Coast Air Quality Management District. Sierra Club, Revive the San Joaquin and League of Women Voters of Fresno, Plaintiffs and Appellants, v. County of Fresno, Defendant and Respondent and, Friant Ranch, L.P. Real Party in Interest and Respondent. 2015. Website: https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf (accessed October 2020).

SCAQMD Rule 402 regarding nuisances states, "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." The proposed uses are not anticipated to emit any objectionable odors. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and this impact would be less than significant. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

4.4 BIOLOGICAL RESOURCES

Would the project:

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the 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 Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Impact Analysis

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

The project site is highly disturbed and is located within a fully urbanized area. It is currently developed with a motel, two medical office buildings, and an associated surface parking lot. The proposed project includes the demolition of an existing motel and medical office buildings on site, and the construction and operation of a four-story medical office building and subterranean parking garage. As such, project implementation would result in similar commercial uses on site.

According to the City's 2010 General Plan Program Environmental Impact Report (PEIR), a majority of the City's urbanized areas, including the project area, have a low potential to support sensitive species. In addition, the project site does not contain any native habitat that would support such

species. As such, the development of the proposed project would not impact any species identified as candidate, sensitive, or special status. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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 Wildlife or the U.S. Fish and Wildlife Service?

The project site is highly disturbed and is located within a fully urbanized area. It is currently developed with a motel, two medical office buildings, and an associated surface parking lot. According to the City's 2010 General Plan PEIR, riparian habitats within the City are primarily confined to Santiago Oaks Park, Peters Canyon Park, and the areas adjacent to Santiago Creek.[1] There are no natural streams or riparian habitat on the project site. The critical habitat in closest proximity to the project site is approximately 4 miles to the northwest. No riparian habitat or sensitive natural communities, as identified in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS), exist on the project site. Therefore, development of the proposed project would not impact any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The project site is highly disturbed and is located within a fully urbanized area. It is currently developed with a motel, two medical office buildings, and an associated surface parking lot. The project does not contain any federally protected wetlands or jurisdictional drainage features as defined by Section 404 of the Clean Water Act. Therefore, development of the proposed project would have no impact on federally protected wetlands, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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[1] City of Orange. 2010b. General Plan Program Environmental Impact Report (PEIR). Website: https://www.cityoforange.org/DocumentCenter/View/584/General-Plan-Environmental-Impact-Report-EIR-PDF (accessed June 13, 2020).

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The project site and surrounding area do not contain any open bodies of water that could support aquatic species. Due to the highly disturbed nature of the site and the surrounding area, it is unlikely that the project site functions as a wildlife linkage or migratory wildlife corridor. However, the existing trees on the project site may provide habitat suitable for nesting migratory birds. All of the existing on-site ornamental trees would be removed during construction. Therefore, project implementation has the potential to impact active bird nests if vegetation and trees are removed during the nesting season. This tree removal could result in a potentially significant impact if nesting birds are present in the trees at the time of removal. 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 Fish and Game Code. Therefore, implementation of the proposed project would be subject to the provisions of the MBTA, which prohibits disturbing or destroying active nests. Project implementation must be accomplished in a manner that avoids impacts to active nests during the breeding season. Therefore, if project construction occurs between January 15 and September 15, a qualified biologist shall conduct a nesting bird survey prior to ground- and/or vegetation-disturbing activities to confirm the absence of nesting birds. As specified in Mitigation Measure (MM) MM-BIO-1, avoidance of impacts can be accomplished through a variety of means, including establishing suitable buffers around any active nests. With implementation of MM-BIO-1, impacts to nesting birds would be reduced to a less than significant level, and no additional mitigation is required.

Mitigation Measure

MM-BIO-1 **Migratory Bird Treaty Act.** Any vegetation removal should take place outside of the active nesting bird season (i.e., January 15–September 15), when feasible, to ensure compliance with the California Fish and Game Code. In the event that vegetation removal takes place during the bird-nesting season, a qualified biologist shall conduct a nesting bird survey within 3 days prior to construction activities to ensure that birds are not engaged in active nesting within 100 feet of the project site. If nesting birds are discovered during preconstruction surveys, the biologist shall identify an appropriate buffer (i.e., up to 500 feet depending on the circumstances and specific bird species) where no construction activities or other disturbances are allowed to occur until after the birds have fledged from the nest. Construction personnel shall be instructed regarding the ecological sensitivity of the fenced area. The results of the survey shall be documented and filed with the Community Development Director within five days after the survey.

Significance Determination: Potentially Significant Impact
Mitigation Measures: As noted in MM-BIO-1.
Significance Determination After Mitigation: Less Than Significant Impact

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

The City's Master Street Tree Plan and Tree Preservation Ordinance are the primary local policies protecting biological resources. The Master Street Tree Plan and the Tree Preservation Ordinance are the primary measures by which impacts to existing trees that provide roosting and nesting habitat for native and migratory birds in the City are minimized. The City's Tree Preservation Ordinance is contained in Chapter 12.32, Tree Preservation, in the City's Municipal Code, and restricts the removal of trees, including those on private property that are deemed to be "endowed with a public interest" or may be of historical value "by virtue of their origin, size, uniqueness, and/or national rarity." Historic trees are compiled on a master list, which is maintained by the Community Services Department and approved by the City Council.

Project implementation would require the removal of 20 on-site ornamental trees along the eastern boundary of the site, and one tree along South Main Street. On-site trees are comprised of one queen palm (*Syagrus romanzoffiana*); nine pines (*pinus* spp.); five coast redwoods (*sequoia semervirens*); one tuckeroo (*cupaniopsis anacardioides*); and four Chinese flame trees (*koelreuteria bipinnata*). Section 12.32.060 of the City's Municipal Code defines 'Historical Trees' as trees, which by virtue of their origin, size, uniqueness and/or national or regional rarity, that are likely to be of historical value; Historic Trees may be, but are not limited to, those on a master list compiled and maintained by the Community Services Department and approved by resolution of the City Council. Though the trees are not considered Historical Trees based on the description above, Section 12.32 of the Municipal Code requires the project Applicant to obtain a tree removal permit before the removal of any on-site trees. Adherence with Section 12.32, as specified in Regulatory Compliance Measure RCM-BIO-1, would ensure that the project would not conflict with a local policy or ordinance protecting biological resources. RCM-BIO-1 is a standard condition based on local regulations that serves to reduce impacts related to trees and is applicable to the proposed project. Therefore, the proposed project would result in a less than significant impact related to local policies or ordinances protecting biological resources, and no mitigation is required.

Regulatory Compliance Measure:

RCM-BIO-1 **Tree Removal Permit.** Prior to the issuance of building permits, the project Applicant shall obtain a Tree Removal Permit, issued by the City of Orange (City) Director of Community Services, in accordance with Section 12.32 of the City's Municipal Code.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-BIO-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

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

The City is a participant in the Central/Coastal Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The NCCP/HCP aims to conserve natural communities whose numbers have declined while accommodating compatible land uses. The project

site is highly disturbed and is located within a fully urbanized area. It is currently developed with a motel, two medical office buildings, and an associated surface parking lot. According to Figure 5.4-2, NCCP Habitat Reserve Area, in the City's 2010 General Plan PEIR, the project area is not located within the boundaries of the Orange County Central/Coastal NCCP/HCP, and the proposed project does not conflict with local ordinances or the adopted NCCP, HCP, or other approved local, regional, or State HCP. Therefore, the proposed project would not result in an impact related to local ordinances and the adopted NCCP/HCP, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

4.5 CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

This section is based on the results of the Cultural Resources Record Search from the South Central Coastal Information Center (SCCIC) for the proposed Main Street Medical Office Building (MOB) Project, dated May 25, 2020, and the Historic Resources Assessment (LSA 2020), both provided in Appendix B. The record search was conducted to do the following: (1) establish the status and extent of previously recorded sites, surveys, and excavations in and adjacent to the project site; and (2) note what site types might be expected to occur within the project site based on the existing data from archaeological sites located within 0.25 mile of the project site.

Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

The Old Towne Orange District, which is located approximately 0.3 mile east of the project site, is listed in the National Register of Historic Places.[1] Implementation of the proposed project would be contained within the site, and therefore, would not impact any area characterized as an historic place.

The Historic Resources Assessment (LSA 2020) (Appendix B) was prepared to evaluate the potential for the proposed project to cause substantial adverse changes to any historical resources that may exist in or around the project area. According to the Historic Resources Assessment, two historic-period buildings were documented in the project area during a field survey: a two-story medical building at 363 South Main Street (APN 390-681-26), which is part of the Sisters of St. Joseph campus, and the one-story Twin Cypress Motel at 393 South Main Street (APN 390-681-06). However, these buildings were not determined to be historic resources. As discussed in the Historical Resources Assessment, no previously recorded historical resources, as defined by the California Environmental Quality Act (CEQA), have been identified on the project site, or within or adjacent to the project area. Additional research indicates that surficial deposits of the project site will include Artificial Fill (as a result of previous construction for the existing buildings). Based on the previous level of disturbance of the site and the report from SCCIC, the proposed project would not cause a substantial adverse change in the significance of a historical resource. No impact would occur, and no mitigation is required.

[1] National Park Service. National Register of Historic Places. Website: https://www.nps.gov/subjects/nationalregister/database-research.htm#table (accessed October 13, 2020).

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

According to Figure 5.5-2, Historical Archaeological Sensitivity, in the Draft EIR prepared for the City's General Plan, the project site is located within the Farmstead Development Historical Sensitivity Area, which is considered an area of high archaeological sensitivity.[1] Based on the SCCIC records search and the City of Orange General Plan Cultural and Historic Preservation Element (revised December 2015), there are no known archaeological resources located on the project site. The project site has been disturbed previously due to the existing buildings, and additional research indicates that surficial deposits of the project site will include Artificial Fill, which is unlikely to produce significant archaeological resources. However, the Artificial Fill is likely underlain by Quaternary alluvium, lake, playa and terrace deposits that date to the Pleistocene and Holocene (ranging from 2.58 million years ago to the present). The existing structures would be demolished, materials removed, and the entire site graded for the construction of the proposed project. During site preparation/grading activities, there is the potential to encounter unknown cultural resources. Because the project site is located in close proximity to the historic natural alignment of Santiago Creek, a freshwater source, and because sediments at the project site date to a timeframe that includes precontact human occupation in the region, it is recommended that an archaeological monitor be present full-time during the first 10 working days when excavation activities will extend below Artificial Fill deposits into native soil, as outlined in Mitigation Measure (MM) MM-CUL-1. To ensure that potential project impacts to unknown archaeological resources would be less than significant, cultural resources monitoring would be required, as outlined in MM-CUL-1.

Mitigation Measure

MM-CUL-1 **Cultural Resources Monitoring and Accidental Discovery.** Prior to the commencement of ground-disturbing activities, and in adherence to the recommendations of the cultural resources records search results, the project Applicant shall retain, with approval of the City of Orange (City) Community Development Director, or designee, a qualified archaeological monitor. A monitoring plan shall be prepared by the archaeologist and implemented upon approval by the City. Prior to the commencement of ground-disturbing activities, the project Applicant shall also retain a Native American monitor to be approved by the City Community Development Director, or designee, after consultation with interested tribal and Native American representatives. Both monitors shall be present full-time on the project site during the first 10 working days when excavation activities will extend below Artificial Fill deposits into native soil.

[1] City of Orange. 2010b. General Plan Program Environmental Impact Report. March. Website: https://www.cityoforange.org/DocumentCenter/View/584/General-Plan-Environmental-Impact-Report-EIR-PDF (accessed October 13, 2020).

If cultural materials are discovered during excavation, a qualified professional archaeologist shall assess the nature and significance of the find and determine if any additional study or treatment of the find is warranted. Additional studies could include, but would not be limited to, collection and documentation of artifacts, documentation of the cultural resources on State of California Department of Parks and Recreation Series 523 forms, or subsurface testing. If further monitoring is warranted, it shall continue until the monitoring archaeologist determines, based on field observations, that there is no likelihood of encountering intact archaeological cultural resources. If deemed appropriate by the archaeologist, subsequent monitoring may be reduced from full-time to part-time, or to spot-checking. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. To the extent feasible, project activities shall avoid these deposits. Upon completion of any monitoring activities, the archaeologist shall prepare a report documenting the methods and results of monitoring activities. The final version of this report shall be submitted to the City of Orange Community Development Department, the South Central Coastal Information Center (SCCIC), and the State Historic Preservation Office, if required.

Significance Determination: Potentially Significant Impact
Mitigation Measures: As noted in MM-CUL-1.
Significance Determination After Mitigation: Less than Significant With Mitigation Incorporated

c) Would the project disturb any humans remains, including those interred outside of formal cemeteries?

No known human remains are present on the project site, and there are no facts or evidence to support the idea that Native Americans or people of European descent are buried on the project site. However, as described previously, buried and undiscovered archaeological remains, including human remains, have the potential to be present below the ground surface in portions of the project site. Disturbing human remains could violate the State's Health and Safety Code, as well as destroy the resource. In the unlikely event that human remains are encountered during project grading, the proper authorities would be notified, and standard procedures for the respectful handling of human remains during the earthmoving activities would be adhered to. Construction contractors are required to adhere to California Code of Regulations (CCR) Section 15064.5(e), PRC Section 5097, and Section 7050.5 of the State's Health and Safety Code. To ensure proper treatment of remains 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, project Applicant, and the County Coroner are required to comply with the provisions of CCR Section 15064.5(e), PRC Section 5097.98, and Section 7050.5 of the State's Health and Safety Code. Compliance with these provisions, as specified in RCM-CUL-1 below, 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.

No mitigation is required. However, RCM-CUL-1 is a standard condition based on State law related to the discovery of human remains. This regulatory compliance measure is applicable to the proposed project and shall be incorporated to ensure that impacts related to unknown buried human remains are less than significant.

Regulatory Compliance Measure:

RCM-CUL-1 **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 of Orange (County) Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and non-destructive 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 Director of the City Community Development Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-CUL-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

4.6 ENERGY

Would the project:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	☒	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Technical Background

Electricity

Electricity is a human-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. Electricity is used for a variety of purposes, such as lighting, heating, cooling, and refrigeration and for operating appliances, computers, electronics, machinery, and public transportation systems (EIA 2019a).

In 2018, California's electricity was generated primarily by natural gas (34.91 percent), coal (3.30 percent), large hydroelectric plants (10.68 percent), nuclear power (9.05 percent), and renewable sources (31.36 percent). Total electric generation in California in 2018 was 285,488 gigawatt-hours (GWh), down 2.2 percent from 2017's total generation of 292,039 GWh. In 2018, California produced approximately 68.2 percent and imported 31.8 percent of the electricity it used (CEC 2019b).

The project site is within the service territory of Southern California Edison (SCE). SCE provides electricity to more than 15 million people in a 50,000-square-mile area of Central, Coastal, and Southern California (SCE 2019). According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2018 was 83,399.90 GWh. Total electricity consumption in Orange County in 2018 was 20,196.97 GWh (CEC 2019a).

Natural Gas

Natural gas is a nonrenewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane [CH_4]) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses such as heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills (EIA 2019b).

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend upon out-of-state imports for nearly 90 percent of its natural gas supply (CEC 2019c).

The Southern California Gas Company (SoCalGas) is the natural gas service provider for the project site. SoCalGas provides natural gas to approximately 21.8 million people in a 24,000 square-mile service area throughout Central and Southern California, from Visalia to the Mexican border (SoCalGas 2019). According to the CEC, total natural gas consumption in the SoCalGas service area in 2018 was 5,156.1 million therms. Total natural gas consumption in Orange County in 2018 was 575.13 million therms (CEC 2019a).

Petroleum/Transportation Energy

Petroleum is also a nonrenewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the Earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a larger number of consumer products, primarily fuel oil and gasoline.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2018, total gasoline consumption in California was 366,820 thousand barrels (15.4 billion gallons) or 1,853.5 trillion British thermal units (BTUs). Of the total gasoline consumption, 350,604 thousand barrels (14.7 billion gallons) or 1,771.6 trillion BTUs were consumed for transportation (EIA 2019c).

Energy Regulations

Corporate Average Fuel Economy

Congress first passed the Corporate Average Fuel Economy (CAFE) law in 1975 to increase the fuel economy of cars and light-duty trucks. CAFE standards are federal regulations that are set to reduce energy consumed by on-road motor vehicles. The United States Department of Transportation (USDOT) National Highway Traffic Safety Administration (NHTSA) regulates the standards, and the EPA measures vehicle fuel efficiency. The standards specify minimum fuel consumption efficiency standards for new automobiles sold in the United States. The law has become more stringent over time. The current standard is 27.5 miles per gallon (mpg) for passenger cars and 20.7 mpg for light-duty trucks.

On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and NHTSA announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States. The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2012 through 2016. This phase required these vehicles to meet a fuel economy standard of 35.5 mpg. The second phase applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 through 2025. This phase required these vehicles to meet an estimated fuel economy standard of 54.5 mpg (NHTSA 2019).

On September 15, 2011, the EPA and the USDOT issued the final rule for the first national standards to improve fuel efficiency of medium- and heavy-duty trucks and buses, model years 2014 to 2018. For combination tractors, the agencies proposed engine and vehicle standards that would achieve up to a 20 percent reduction in fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which would achieve up to a 10 percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles (12 and 17 percent, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles,

the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption (EPA 2019a). On April 30, 2020, the EPA and USDOT issued a Safer Affordable Fuel-Efficient (SAFE) Vehicles Final Rule, which would freeze the fuel economy goals to the 2021 target of 37 mpg for model years 2021 through 2026. (USDOT 2020).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 Updated (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The Act sets increased CAFE Standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (EPA 2019b).

AB 1575, the Warren-Alquist Act

In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code (PRC) Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require Environmental Impact Reports (EIRs) to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists California Environmental Quality Act (CEQA) document preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* states that the goal of conserving energy implies the wise and efficient use of energy and that the means of achieving this goal include the following: (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting

In 2002, the State Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

Renewable Portfolio Standards

The California Renewables Portfolio Standard (RPS) program was established in 2002 by Senate Bill (SB) 1078. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the requirement to 60 percent by 2030 and required all the State's electricity to come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019 (CPUC 2020).

Title 24, California Building Code

Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, embodied in Title 24 of the CCR, known as the California Building Code (CBC). The CEC first adopted the Building Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The CBC is updated every 3 years, and the current 2019 CBC went into effect on January 1, 2020. The next update is anticipated to become effective on January 1, 2023. The efficiency standards apply to both new construction and rehabilitation of both residential and non-residential buildings and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24.

California Green Building Standards Code

In 2010, the California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen). CALGreen took effect on January 1, 2011. CALGreen is updated on a regular basis, with the most recent update consisting of the 2019 California Green Building Standards Code, which became effective January 1, 2020. The next update is anticipated to become effective on January 1, 2023. CALGreen established mandatory measures for residential and non-residential building construction and encourages sustainable construction practices in the following five categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) indoor environmental quality. Although CALGreen was adopted as part of the State's efforts to reduce GHG emissions, the standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standards.

California Energy Efficiency Strategic Plan

On September 18, 2008, the California Public Utilities Commission (CPUC) adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California (CPUC 2008). The plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies," established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- Fifty percent of commercial buildings will be retrofit to ZNE by 2030.
- Fifty percent of new major renovations of State buildings will be ZNE by 2025.

Energy Methodology

Annual natural gas and electricity usage for operation of the proposed project was obtained from the CalEEMod results generated for the Air Quality and GHG Analysis prepared for the proposed project (provided in Appendix A).

Estimates of fuel consumption (diesel fuel and gasoline) from construction trucks and construction worker vehicles was based on trip estimates from CalEEMod in the Air Quality and GHG Analysis and fuel efficiencies from the CARB California Emission Factor Model, version 2017 (EMFAC2017). Fuel consumption (diesel fuel and gasoline) from vehicle trips during operation was estimated for the opening year (2023) of the proposed project based on trip estimates from CalEEMod in the Air Quality and GHG Analysis and fuel efficiencies from EMFAC2017.

Impact Analysis

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

Construction Energy Use. Based on CalEEMod defaults, it is anticipated that construction activities would take approximately 30 months. The proposed project would require demolition, site preparation, grading, building construction, paving, and architectural coating activities during construction.

Construction of the proposed project would require energy for the manufacture and transportation of construction materials, preparation of the site for grading and building activities, and construction of the building. All or most of this energy would be derived from non-renewable resources. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. Construction of the project would not involve the consumption of natural gas. The construction-related equipment would not be powered by natural gas, and no natural gas demand is anticipated during construction.

Transportation energy represents the largest energy use during construction and would occur from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel and/or gasoline). Therefore, the analysis of energy use during construction focuses on fuel consumption. The use of energy resources would fluctuate according to the phase of construction. The majority of construction equipment during grading would be gasoline powered or diesel powered, and the later construction phases would be electricity powered. Construction trucks and vendor trucks hauling materials to and from the project site would be anticipated to use diesel fuel, whereas construction workers traveling to and from the project site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel modes.

Diesel fuel usage from construction off-road equipment was calculated using the CalEEMod assumptions used in the Air Quality and GHG Analysis. CalEEMod utilized the construction equipment shown in Table 4.6.A. Average brake-specific fuel consumption and diesel fuel properties (heating value and density) from EPA AP-42 Compilation of Air Pollutant Emission Factor information were used to obtain a fuel per horsepower-hour factor. These factors and other calculations are shown in Table 4.6.B, which shows that total fuel usage from construction off-road equipment is estimated to be 79,135 gallons, the consumption of which would occur over the 20 months of construction. As also shown in Table 4.6.B, the greatest amount of fuel (46,531 gallons) would be consumed by off-road equipment during the building construction.

Table 4.6.A: Construction Off-Road Equipment

Phase	Off-Road Equipment Type	Amount	Usage Hours/ Day	Total Usage Days	Total Usage Hours/ Equipment
Demolition	Concrete/Industrial Saws	1	8	20	160
	Rubber Tired Dozers	1	8	20	160
	Tractors/Loaders/Backhoes	3	8	20	480
Site Preparation	Graders	1	8	2	16
	Rubber Tired Dozers	1	7	2	14
	Tractors/Loaders/Backhoes	1	8	2	16
Grading	Excavators	2	8	60	960
	Graders	1	6	60	360
	Rubber Tired Dozers	1	6	60	360
	Tractors/Loaders/Backhoes	2	7	60	840
Building Construction	Cranes	1	6	500	3,000
	Forklifts	1	6	500	3,000
	Generator Sets	1	8	500	4,800
	Tractors/Loaders/Backhoes	1	6	500	3,000
	Welders	3	8	500	12,000
Paving	Cement and Mortar Mixers	1	6	60	360
	Pavers	1	6	60	360
	Paving Equipment	1	8	60	480
	Rollers	1	7	60	420
	Tractors/Loaders/Backhoes	1	8	60	480
Architectural Coating	Air Compressors	1	6	60	360

Source: California Emissions Estimator Model. Compiled by LSA (October 2020).

Table 4.6.B: Off-Road Construction Equipment Diesel Fuel Usage

Phase	Off-Road Equipment Type	Horsepower[1]	Load Factor[1]	Total Usage Hours/Equipment	Horsepower-Hours[2]	Fuel Usage (gallons)[3]
Demolition	Excavators	158	0.38	160	9,606	492
	Concrete/Industrial Saw	81	0.73	160	9,461	484
	Rubber-Tired Dozers	247	0.4	480	47,424	2,428
Total Fuel Use: Demolition (gal)						**3,404**
Site Preparation	Graders	187	0.41	16	1,227	63
	Rubber-Tired Dozers	247	0.4	14	1,383	71
	Tractors/Loaders/ Backhoes	97	0.37	16	574	29
Total Fuel Use: Infrastructure (gal)						**163**
Grading	Graders	187	0.41	1,200	92,004	4,711
	Rubber-Tired Dozers	247	0.4	1,200	118,560	6,070
	Tractors/Loaders/ Backhoes	97	0.37	1,600	57,424	2,940
	Scrapers	367	0.48	1,200	211,392	10,823
Total Fuel Use: Grading (gal)						**24,544**
Building Construction	Cranes	231	0.29	3,000	200,970	10,290
	Forklifts	89	0.20	3,000	53,400	2,734
	Generator Sets	84	0.74	4,800	298,368	15,276
	Tractors/Loaders/ Backhoes	97	0.37	3,000	107,670	5,513
	Welders	46	0.45	12,000	248,400	12,718
Total Fuel Use: Building Construction (gal)						**46,531**
Paving	Cement and Mortar Mixers	9	0.56	360	1,814	93
	Pavers	130	0.42	360	19,656	1,006
	Paving Equipment	132	0.36	480	22,810	1,168
	Rollers	80	0.38	420	12,768	654
	Tractors/Loaders/Back hoes	97	0.37	480	17,227	882
Total Fuel Use: Paving (gal)						**3,803**
Architectural Coating	Air Compressors	78	0.48	360	13,478	690
Total Fuel Use: Building Construction and Architectural Coating (gal)						**690**
Total Fuel Usage (gal)						**79,135**

Source: CalEEMod compiled by LSA (October 2020).

[1] Horsepower and load factor are CalEEMod defaults for the equipment type and were obtained from the Air Quality Impact Analysis.

[2] The horsepower-hour is the basis for the fuel calculation. It is calculated using the following formula: Horsepower Hours = Total Hours × Load Factor × Horse Power.

[3] Off-road mobile-source fuel usage is calculated using a fuel usage rate of 0.0512 gal of diesel per horsepower-hour. This is calculated based on diesel.

CalEEMod = California Emissions Estimator Model
gal = gallon/gallons

Total fuel consumption in Orange County totaled 4,818 billion gallons in 2018. Vehicle consumption accounts for the majority of the total fuel consumption in California. In 2018, 620.5 million gallons of diesel fuel and 4,197.5 million gallons of gasoline were consumed from vehicle trips in Orange County based on EMFAC2017. Compared to the annual fuel consumption from vehicle trips in Orange County, the peak annual fuel consumption of 65,362 gallons from off-road construction equipment during construction would be a small fraction of the annual fuel consumption in Orange County.

Fuel use from construction trucks and construction worker vehicles traveling to the project site was based on the estimated number of trips that project construction would generate and the average trip distance using the CalEEMod assumptions. Fuel efficiencies were estimated for the full year of construction using the CARB EMFAC2017 model as shown in Table 4.6.C. It should be noted that calculating the fuel efficiency of vehicles for the peak construction year 2022 is a conservative approach because fuel efficiency is expected to continue to increase and improve during construction as new fuel economy standards are established. Tables 4.6.D and 4.6.E show construction on-road vehicle fuel consumption calculations for construction trucks and construction worker vehicles.

Table 4.6.C: Construction Truck and Construction Worker Vehicle Fuel Efficiency

Vehicle Type	Vehicle Class[1]	EMFAC2017 Outputs[2]		Diesel Fuel Efficiency[3] (mpg)
		Diesel Fuel Consumption (1,000 gal/day)	VMT (mi/day)	
Construction Truck	MHDT	727.46	7,535,147.50	10.36
	HHDT	1,774.20	11,545,819.98	6.51
Construction Worker Vehicle	LDA	46.12	2,185,238.84	47.38
	LDT1	0.43	9,520.38	22.14
	LDT2	15.84	548,393.87	34.62

Source: EMFAC2017 (CARB 2020).

[1] For construction trucks, 50 percent HHDT and 50 percent MHDT vehicles are assumed, consistent with assumptions in CalEEMod for hauling trucks. For construction worker vehicles, 50 percent LDA, 25 percent LDT1, and 25 percent LDT2 vehicles are assumed, consistent with assumptions in CalEEMod for worker vehicles.

[2] EMFAC2017 was run for the Basin for the peak construction year 2022. Data were aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (mi/day) by the fuel consumption (gal/day).

Basin = South Coast Air Basin
CalEEMod = California Emissions Estimator Model
CARB = California Air Resources Board
EMFAC2017 = California Emission Factor Model, version 2017
gal/day = gallons per day
HHDT = heavy-duty trucks
LDA = light duty auto
LDT1 = light-duty trucks up to 3,750 lbs
LDT2 = light-duty trucks from 3,751 to 5,750 lb
MHDT = medium heavy-duty trucks
mi/day = miles per day
mpg = miles per gallon
VMT = vehicle miles traveled

Table 4.6.D: Construction Truck Fuel Use (Diesel Fuel Use)

Phase	Total Trips	Total Days	Trip Length (mi)	Total VMT	Diesel Fuel Efficiency (mpg)	Fuel Usage (gal/yr)
Demolition	88	20	20.00	35,200	6.51	5,407
Grading	12,500	60	20.00	250,000	6.51	38,402
Building Construction	59	500	6.90	203,550	6.51	31,267
					Total Diesel Fuel Usage	**75,076**

Sources: CalEEMod 2016.3.2 and EMFAC2017 (CARB 2020).
CalEEMod = California Emissions Estimator Model
EMFAC2017 = California Emission Factor Model, version 2017
gal/yr = gallons per year
mi = mile/miles
mpg = miles per gallon
VMT = vehicle miles traveled

Table 4.6.E: Construction Worker Vehicle Gasoline Fuel Use

Phase	Total One-Way Trips/ Day	Total Days	Trip Length (mi)	Total VMT	Gasoline Fuel Efficiency (mpg)	Fuel Usage (gal/yr)
Demolition	13	20	14.70	3,822	22.0	174
Site Preparation	8	2	14.70	235	22.0	11
Grading	15	60	14.70	13,230	22.0	601
Building Construction	133	500	14.70	977,550	22.0	44,434
Paving	13	60	14.70	11,466	22.0	521
Architectural Coating	27	60	14.70	32,634	22.0	1,483
					Total Gasoline Fuel Usage	**47,225**

Sources: CalEEMod 2016.3.2 and EMFAC2017 (CARB 2020).
CalEEMod = California Emissions Estimator Model
EMFAC2017 = California Emission Factor Model, version 2017
gal/yr = gallons per year
mi = mile/miles
mpg = miles per gallon
VMT = vehicle miles traveled

As shown in Table 4.6.D, total diesel fuel consumption would be 56,316 gallons from construction truck trips. As shown in Table 4.6.E, total gasoline consumption would be 47,225 gallons from construction worker vehicle trips. During the construction period, an estimated 154,211 gallons of diesel fuel would be consumed from the diesel-powered trucks and off-road equipment. In 2018, 439.8 million gallons of diesel fuel and 3,618.8 million gallons of gasoline were consumed from vehicle trips in Orange County based on EMFAC2017. Therefore, peak annual fuel demand generated by on-road trips during construction would be less than 0.001 percent of the total annual gasoline and diesel fuel consumption in Orange County.

Impacts related to energy use during construction would be temporary and would be relatively small in comparison to Orange County's overall usage and the State's available energy sources. Further, construction activities are not anticipated to result in an inefficient use of energy, as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. For these reasons, project construction would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant, and no mitigation is required.

Operation Energy Use. Energy consumed by operation of the proposed project would be associated with electricity consumption, natural gas use, and fuel used for vehicle trips associated with the project. Energy and natural gas consumption was estimated for the project using the CalEEMod results generated for the Air Quality and GHG Analysis prepared for the proposed project. The proposed buildings would be constructed to CALGreen standards, which were included in CalEEMod inputs. Table 4.6.F shows electricity, natural gas, and gasoline usage estimates associated with the operation of the proposed project.

Table 4.6.F: Estimated Annual Energy Use of the Proposed Project

Proposed Land Use	Electricity (kWh/year)	Natural Gas (kBTU/year)	Gasoline Vehicles (gal/yr)
Medical Office Building	1,729,340	902,413	189,813
Parking lot	991,757	0	N/A
Total Proposed Project Energy Use	**2,721,097**	**902,413**	**189,813**
Existing Land Use	--	--	--
Motel	212,642	805,642	4,345
Medical Office Building	292,139	190,861	64,890
Parking Lot	3,640	0	N/A
Total Existing Project Energy Use	**508,421**	**996,503**	**69,235**
Net Energy Use	**2,212,676**	**-94,090**	**120,578**

Source: CalEEMod. Compiled by LSA (October 2020).
CalEEMod = California Emissions Estimator Model
gal/yr = gallons per year
kWh/yr = kilowatt-hours per year
kBTU/yr = thousand British thermal units per year

As shown in Table 4.6.F, proposed uses on the site would consume a total net energy use of 2,212,676 kilowatt-hours (kWh) of electricity per year. Electricity is provided in the State through a complex grid of power plants and transmission lines. In 2018, California's in-state electric generation totaled 194,842 GWh; the State's total system electric generation, which includes imported electricity, totaled 285,488 GWh (CEC 2019c). Population growth is the primary source of increased energy consumption in the State; due to population projections, annual electricity use is anticipated to increase by approximately 1 percent per year through 2027 (CEC 2018). The project's net electricity usage would total less than 0.01 percent[1] of electricity generated in the State in 2018, which would not represent a substantial demand on available electricity resources.

As shown in Table 4.6.F, the proposed project would result in an estimated decrease in overall natural gas demand of approximately 94.1 thousand British Thermal Units (kBTU) per year. This is due to the higher annual consumption rates of natural gas in water heaters and furnaces at the existing motel rooms as compared to the proposed medical office building. Therefore, natural gas demand associated with the proposed project would not be significant. As shown in Table 4.6.F, the proposed project would result in energy usage associated with motor vehicle gasoline to fuel project-related trips. The proposed project would result in an increase of 4,785 net new daily trips and would have an annual VMT of 5,699,056 (note that VMT is based on default CalEEMod model data with project design features). The existing uses on the project site would result in approximately 767 daily trips and would have an annual VMT of 1,523,174, which would generate a net VMT of 4,175,882. Using the 2015 fuel economy estimate of 22 mpg, the project would result in the net fuel consumption of approximately 120,578 gallons of gasoline per year.[2]

The average fuel economy for light-duty vehicles (autos, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.0 mpg in 2015 (USDOT 2017). Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007, which originally mandated a national fuel economy standard of

[1] Calculation: 0.29 gigawatt hours (proposed project) / 194,842 gigawatt hours (generated in the State in 2018) = < 0.01 percent.

[2] 4,175,882 vehicle miles traveled per year ÷ 22 miles per gallon = 120,578 gallons of gasoline per year.

35 mpg by the year 2020, and would be applicable to cars and light trucks of Model Years 2011 through 2020 (DOE 2007). On April 30, 2020, the EPA and USDOT issued a Safer Affordable Fuel-Efficient (SAFE) Vehicles Final Rule, which would freeze the fuel economy goals to the 2021 target of 37 mpg for model years 2021 through 2026 (USDOT 2020).

As stated previously, implementation of the proposed project would increase the net project-related annual gasoline demand by 120,578 gallons. However, new automobiles purchased by residents and visitors driving to and from the project site would be subject to fuel economy and efficiency standards applied throughout the State. As such, the fuel efficiency of vehicles associated with the project site would increase throughout the life of the proposed project. Therefore, implementation of the proposed project would not result in a substantial increase in transportation-related energy uses.

In summary, construction and operation of the proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Consumption of energy resources as a result of implementation of the proposed project would be comparable to other similar uses in the City of Orange. Impacts would be less than significant, and no mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

As outlined above, the State Legislature passed SB 1389 in 2002, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC recently adopted the 2019 Integrated Energy Policy Report (CEC 2020). The 2019 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2019 Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on Southern California electricity reliability, the natural gas outlook, and climate adaptation and resiliency.

As indicated above, energy usage on the project site during construction would be temporary in nature. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources, and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's 2019 Integrated Energy Policy Report.

The proposed project would be required to comply with the CBC and CALGreen pertaining to energy and water conservation standards in effect at the time of construction. Therefore, the proposed project would be consistent with applicable plans related to renewable energy and energy efficiency. Impacts would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

4.7 GEOLOGY AND SOILS

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

This section is based on the *Geotechnical Investigation Proposed Phase 1 Medical Office Building St. Joseph Hospital NEC S. Main Street and W. Stewart Drive, Orange, California* (Geotechnical Investigation) prepared for the proposed project by Geotechnical Professionals Inc. (GPI) in March 2020. The Geotechnical Investigation and the Paleontological Resources Records Check are provided in Appendix C to this IS/MND.

Impact Analysis

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

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

According to the Geotechnical Investigation, there are no known active faults or Alquist-Priolo Fault Zones within the City of Orange (City). The most significant faults in the project area are the San

Joaquin Hills and Puente Hills Faults, which are located approximately 6 miles southwest and 7 miles northeast of the site, respectively.[1] Other significant faults in the region include the Newport-Inglewood Fault, located approximately 15 miles southwest of the City, and the San Andreas Fault, located approximately 40 miles northeast of the City.[2] Given the project site's distance from these faults, the Geotechnical Investigation determined that the potential for surface fault rupture on the project site is low. As such, surface fault rupture, during or as a consequence of seismic activity, is not anticipated to occur within the project site or surrounding vicinity. Therefore, the proposed project would not expose people or structures to substantial adverse effects involving the rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

ii. Strong seismic ground shaking?

As stated in Response 4.7(a), the project site is not located within a designated Alquist-Priolo Earthquake Fault Zone. According to the Geotechnical Investigation, there are no active faults or Alquist-Priolo Fault Zones within the City of Orange. However, the project site is located in the highly seismic region of Southern California within the influence of several fault systems. According to the Geotechnical Investigation, the project site will likely be subject to strong seismic ground shaking during the life of the project due to seismic activity on nearby faults. The degree of seismic ground shaking will depend on several factors, including the fault location, distance from the City and project site, and the earthquake magnitude. Mitigation Measure MM-GEO-1 requires that the project Applicant comply with the recommendation of the Geotechnical Investigation, and the most current California Building Code (CBC), which stipulates appropriate seismic design provisions that shall be implemented with project design and construction. With the implementation of MM-GEO-1, potential impacts related to strong seismic ground shaking would be reduced to a less than significant level.

Mitigation Measure

MM-GEO-1 **Compliance with the Recommendations in the Geotechnical Investigation.** Prior to the issuance of demolition or grading permits, the City of Orange (City) Public Works Department, shall verify that requirements and recommendations in the Final Geotechnical Investigation have been appropriately incorporated into the project plans. All grading operations and construction shall be conducted in conformance with all of the recommendations included in the geotechnical document prepared by Geotechnical Professionals, Inc. (GPI), titled *Geotechnical Investigation Proposed Phase I Medical Office Building, St. Joseph Hospital, NEC S. Main Street and W.*

[1] Geotechnical Professionals, Inc. (GPI). 2010. Geotechnical Investigation.
[2] City of Orange General Plan. 2010a. Public Safety Element. Website: https://www.cityoforange.org/DocumentCenter/View/573/General-Plan---Public-Safety-Element-PDF (accessed June 16, 2020).

Stewart Drive, Orange, California (Geotechnical Investigation) (March 10, 2020) as well as any Final Geotechnical Reports prepared for the project. All recommendations found in the Geotechnical Investigation report shall be incorporated into project design and shall include, but not be limited to:

- General earthwork and grading, including site preparations, over-excavation and re-compaction, fill placement and compaction, importing of fill soil, shrinkage and subsidence, rip ability, and oversized material;
- Foundations, including minimum embedment and width, allowable bearing, lateral load resistance, increase in bearing and friction, and settlement estimates;
- Temporary backcuts, if required during removal of unsuitable soils, would be reviewed and approved by the Project Geotechnical Consultant;
- Specific structural design and earthwork to remove the influence of expansive soils;
- Backfilling of retaining walls with sandy (granular) soils;
- A geological monitor to observe earthwork and shoring installation;
- Surface fault rupture;
- Seismic design parameters;
- Pavement design; and

Additional site grading, foundation, and utility plans shall be reviewed by the project Geotechnical Consultant prior to construction to check for conformance with all of the recommendations of the Geotechnical Investigation (GPI 2020). Design, grading, and construction shall be performed in accordance with the requirements of the 2019 California Building Code (CBC) applicable at the time of grading, as well as the recommendations of the project Geotechnical Consultant as summarized in the final Geotechnical Report subject to review by the Public Works Department, prior to the start of grading activities. The final Geotechnical Report shall present the results of observation and testing done during grading activities.

Significance Determination: Potentially Significant Impact
Mitigation Measures: As noted in MM-GEO-1.
Significance Determination After Mitigation: Less Than Significant Impact

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

iii. Seismic-related ground failure, including liquefaction?

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

According to the City's General Plan Public Safety Element (2010), the project site is not located within an area with potential for liquefaction. Liquefaction is unlikely to occur because the soils below groundwater level are too dense. Additionally, according the California DOC Seismic Hazards Program, the project site is not located within a recognized liquefaction zone.[1]

The liquefaction susceptibility of the on-site subsurface soils was evaluated as part of the Geotechnical Investigation prepared for the proposed project. According to the Geotechnical Investigation, on-site soils are generally dense and to very dense. As such, the soils on site have a low potential for liquefaction. The Geotechnical Investigation concluded that the proposed project would not expose people or structures to substantial adverse effects related to liquefaction. Therefore, impacts are considered less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

iv. Landslides?

Landslides are most common where slopes are steep, soils are weak, and groundwater is present. Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes in areas with significant ground slopes. The project site is relatively flat, with no slopes on site. According to the City's General Public Safety Element, the project site is not in an identified landslide zone. Additionally, the project site is not located within a California DOC Seismic Hazards Program recognized landslide zone.[2] Therefore, the proposed project would not expose people or structures to substantial adverse effects related to seismically induced landslides. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less than Significant Impact

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

During construction of the proposed project, soil would be exposed and there would be increased potential for soil erosion and siltation compared to existing conditions. During storm events, erosion and siltation could occur at an accelerated rate. The increased erosion potential could result in short-term water quality impacts as discussed in Section 4.10, Hydrology and Water Quality.

As stated in Regulatory Compliance Measure RCM-WQ-1 in Section 4.10, the proposed project would comply with the Construction General Permit, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of construction best management practices

[1] California DOC. 2018. Geologic Hazards Data Viewer. Website: https://maps.conservation.ca.gov/geologic hazards/DataViewer/index.html (accessed June 16, 2020).
[2] Ibid.

(BMPs) to reduce impacts to water quality during construction, including impacts associated with soil erosion and siltation. Furthermore, the exposure of soils during construction would be short-term and subject to requirements established by the National Pollutant Discharge Elimination System (NPDES). With incorporation of construction BMPs as required by RCM-WQ-1, impacts related to erosion during construction would be reduced to a less than significant level.

As discussed in further detail in Section 4.10, the proposed project would increase impervious surface area on the project site by approximately 0.03 acre (a 3 percent increase) to 1.38 acres, which would nominally increase the volume and velocity of stormwater runoff from the project site. The remaining portion of the site would primarily be landscaping, which would minimize on-site erosion and siltation.

As the project site is relatively flat, soil erosion can be controlled via implementation of standard erosion control practices. Additionally, impervious surface areas associated with development of the project site are not prone to erosion or siltation. Erosion and siltation would be minimal in the proposed landscaped areas.

Therefore, impacts related to erosion and loss of topsoil would be less than significant, and no mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 is required to reduce impacts to water quality, including soil erosion and siltation.
Significance Determination After Mitigation: Less Than Significant Impact

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips, occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking. As discussed in Response 4.7(a)(iv), there are no landslide zones close to or within the boundaries of the project site. The project site is relatively flat; therefore, slope failure resulting in landslide is not a concern on the project site. Although no indications of landslide activity or gross slope instability were observed at the project site during the Geotechnical Investigation, grading activities during construction would produce temporary construction slopes in some areas. Unstable cut-and-fill slopes could create significant short-term and long-term hazards on and off site. As specified in MM-GEO-1, all construction activity, including excavations, shoring, and grading activities, would be performed in accordance with the recommendation of the Geotechnical Investigation and with the most recent CBC.

As discussed in Response 4.7(a)(iii), there is low potential for liquefaction on the project site, and liquefaction is not considered a concern on the project site. Lateral spreading involves the lateral movement of earth materials due to ground shaking. Lateral spreading is generally caused by the liquefaction of soils with gentle slopes. Because the project site is relatively flat, the risk of liquefaction and lateral spreading impacts are considered low.

Differential settlement or subsidence could occur if buildings or other improvements are built on low-strength foundation materials (including imported fill) or if improvements straddle the boundary between different types of subsurface materials (e.g., a boundary between native material and fill). Although differential settlement generally occurs slowly enough that its effects are not danger to inhabitants, it can cause building damage over time. Soils susceptible to seismically induced settlement typically induce loose, granular materials. Due to the significant amount of soil export, subsidence is not anticipated to occur on the project site. Additionally, the Geotechnical Investigation concluded that seismically induced subsidence below the excavation level will not likely occur during a major seismic event because the sands that underlie the maximum depth to excavation are medium dense to very dense.

According to the Geotechnical Investigation, on-site soils are susceptible to less than 1 inch of seismic settlement based on the maximum considered earthquake. Differential settlement due to seismic loading is assumed to be less than 0.5 inch based on the maximum considered earthquake. This level of seismic settlement does not present a significant risk for building collapse. Furthermore, the soils beneath the maximum depth of excavation for the subterranean parking garage are medium to very dense. As such, ground subsidence beneath the subterranean parking garage during a seismic event is unlikely to occur. However, the project would be required to implement MM-GEO-1, which requires that the project be designed in accordance with the recommendations of the Geotechnical Investigation and the most recent CBC, which would reduce potential impacts related to settlement or subsidence.

During excavation for the subterranean parking garage, temporary shoring would be required. According to the Geotechnical Investigation, the shoring contractor would evaluate the subsurface conditions prior to the installation of soldier piles and tieback anchors to ensure the adequacy of compacted soils and fills to support the temporary shoring structures and the permanent subterranean parking garage and medical office building. Compliance with the recommendations in the Geotechnical Investigation related to excavation required for the subterranean parking garage, including a recommendation for a geological monitor to observe shoring installation, would reduce potential impacts related to collapse.

In summary, with implementation of MM-GEO-1 and RCM-WQ-1, potentially significant impacts related to unstable soils or geologic units that could result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse would be reduced to a less than significant level.

Significance Determination: Potentially Significant Impact
Mitigation Measures: As noted in MM-GEO-1.
Significance Determination After Mitigation: Less Than Significant Impact

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

Expansive soils contain types of clay materials that occupy considerably more volume when they are wet or hydrated than when they are dry or dehydrated. Volume changes associated with changes in the moisture content of near-surface expansive soils can cause uplift or heave of the ground when they become wet or, less commonly, cause settlement when they dry out. Foundations constructed on these soils are subjected to large uplifting forces caused by the swelling.

Based on laboratory testing of on-site soils and summarized in the Geotechnical Investigation, the soils on the project site consist of granular materials (sandy clay and silty clay). These soils are expected to have very low to medium expansion potential. The Geotechnical Investigation states that specific structural design in accordance with the 2019 CBC and earthwork to construct the slab-on-grade floors on non-expansive, compacted granular soils (which are to be imported if necessary) would be required. Therefore, implementation of MM-GEO-1, which requires project compliance with the recommendations in the Geotechnical Investigation, would reduce the potential impacts from expansive soils to a less than significant level.

Significance Determination: Potentially Significant Impact
Mitigation Measures: As noted in MM-GEO-1.
Significance Determination After Mitigation: Less Than Significant Impact

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

The project would not use septic tanks or alternative methods for disposal of wastewater into subsurface soils. The entire City is currently served by an existing sewer system; as such, there is no need for septic tanks or other alternative wastewater systems. The proposed project would connect to existing public wastewater infrastructure. Therefore, the proposed project would not result in any impacts related to septic tanks or alternative wastewater disposal methods. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Project plans, geologic maps of the area within the limits of project disturbance (project limits), and relevant geological and paleontological literature were reviewed to determine which geologic units are present within the project limits and whether fossils have been recovered within the project limits or from similar geologic units elsewhere in the region. In addition, a search for known fossil localities was conducted through the Natural History Museum of Los Angeles County (LACM) on May 14, 2020, to determine the status and extent of previously recorded paleontological resources within and surrounding the project limits.

Results of the literature review indicate that the project is located at the northwestern end of the Peninsular Ranges Geomorphic Province, a 900-mile-long northwest-southeast-trending structural block that extends from the Transverse Ranges in the north to the tip of Baja California in the south (California Geological Survey 2002; Norris and Webb 1976). Surficial geologic mapping indicates that within the project limits there are Young Alluvial Fan Deposits (Morton and Miller 2006). Although not mapped by Morton and Miller (2006), the geotechnical report prepared for this project indicates that Artificial Fill is present within the project limits to depths of up to 5 feet (ft) (Geotechnical Professionals, Inc. 2020). These geologic units and their relative paleontological sensitivities are described in more detail below. The dates for the geologic time intervals are based on

the *International Chronostratigraphic Chart* prepared by the International Commission on Stratigraphy (ICS) (Cohen et al. 2019).

Artificial Fill

Artificial Fill consists of sediments that have been removed from one location and transported to another location by human activity, rather than by natural means. The transportation distance can vary from a few feet to many miles, and composition is dependent on the source and purpose. Artificial Fill will sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material. While Artificial Fill may contain fossils, these fossils have been removed from their original locations and are thus out of stratigraphic context. Therefore, they are not considered important for scientific study, and Artificial Fill has no paleontological sensitivity.

Young Alluvial Fan Deposits

The Young Alluvial Fan Deposits are Holocene to late Pleistocene in age (less than 126,000 years ago) and consist of unconsolidated silt, sand, and gravel that show slight to moderate dissection by erosional gullies (Morton and Miller 2006). Cobble- and boulder-size clasts are also present and become more abundant closer to the hills and mountains (Morton and Miller 2006). These sediments were eroded from higher elevations, carried by flooding streams and debris flows, and deposited in a fan or lobe shape at the base of the hills.

Although Holocene (less than 11,700 years ago) deposits can contain remains of plants and animals, only those from the middle to early Holocene (4,200 to 11,700 years ago; Walker et al. 2012) are considered scientifically important (SVP 2010), and fossils from this time interval are not very common. These Holocene deposits overlie older, Pleistocene deposits, which have produced scientifically important fossils elsewhere in the region (Jefferson 1991a, 1991b; Miller 1971; Reynolds and Reynolds 1991; Springer et al. 2009). These older, Pleistocene deposits span the end of the Rancholabrean North American Land Mammal Age (NALMA), which dates from 11,000 to 240,000 years ago (Sanders et al. 2009) and was named for the Rancho La Brea fossil site in central Los Angeles. The presence of Bison defines the beginning of the Rancholabrean NALMA (Bell et al. 2004), but fossils from this time also include other large and small mammals, reptiles, fish, invertebrates, and plants (Jefferson 1991a, 1991b; Miller 1971; Reynolds and Reynolds 1991; Springer et al. 2009). There is a potential to find these types of fossils in the older sediments of this geologic unit, which may be encountered below a depth of approximately 10 ft. Therefore, these deposits are assigned a low paleontological sensitivity above a depth of 10 ft and a high sensitivity below that mark.

According to the locality search conducted by the LACM, deposits within the project limits contain younger Quaternary Alluvium with older Quaternary Deposits at various depths (i.e., Young Alluvial Fan Deposits as mapped by Morton and Miller [2006]). The LACM has one fossil locality from these deposits near the project, along Rio Vista Avenue south of Lincoln Avenue. This locality, LACM 1652, produced a specimen of sheep (*Ovis*). The next closest fossil locality is from older Quaternary deposits. This locality, LACM 4943, is located east of Glassell Street along Fletcher Avenue, and it produced a specimen of horse (*Equus*) at a depth of 8–10 ft below the surface. A copy of the fossil locality search results letter is included in Appendix C.

Within the project limits, there are two geologic units: Artificial Fill, which has no paleontological sensitivity, and Young Alluvial Fan Deposits, which have low sensitivity to a depth of 10 ft and high

paleontological sensitivity below that mark. Artificial Fill has no paleontological sensitivity. Excavation for the subterranean parking is anticipated to extend to depths of 63 ft (personal communication, PMB, May 2020). As such, excavation for the project will extend through the surficial Artificial Fill and reach the older sediments of the Young Alluvial Fan Deposits below 10 ft, which have a high paleontological sensitivity. Therefore, there is a potential for the project to impact scientifically significant paleontological resources. To ensure that potential impacts to undiscovered paleontological resources remain less than significant, preparation of a monitoring program, monitoring of construction activities, appropriate treatment of newly discovered resources, and preparation of a final monitoring report would be required, as outlined in the following mitigation measures:

Mitigation Measures

MM-PAL-1 **Paleontological Resources Impact Mitigation Program (PRIMP).** A qualified, professional paleontologist who meets the standards set by the Society of Vertebrate Paleontology (SVP) shall be retained by the project Applicant and approved by the City of Orange (City) Director of Community Development, or designee, to develop a PRIMP for this project. The PRIMP shall be consistent with the guidelines of the SVP and shall include the methods that will be used to protect paleontological resources that may exist within the project limits, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of ground disturbance.

MM-PAL-2 **Paleontological Monitoring.** Ground-disturbing activities in deposits with high paleontological sensitivity (i.e., older sediments of the Young Alluvial Fan Deposits) at depths of 10 feet (ft) or greater shall be monitored by a qualified paleontological monitor following a PRIMP. No monitoring is required for excavations in deposits with no paleontological sensitivity (i.e., Artificial Fill). If paleontological resources are encountered during the course of ground disturbance, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected and the paleontologist or paleontological monitor shall be contacted to assess the find for scientific significance. If determined to be scientifically significant, the fossils shall be collected from the field in accordance with recommendations in the PRIMP.

MM-PAL-3 **Report of Findings.** Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository by museum staff. At the conclusion of the monitoring program, a report of findings shall be prepared by the project paleontologist to document the results of the monitoring program and submitted to the City Director of Community Development, or designee, within 6 months of the completion of paleontological monitoring.

Significance Determination: Potentially Significant Impact
Mitigation Measures: As noted in MM-PAL-1, MM-PAL-2, and MM-PAL-3.
Significance Determination After Mitigation: Less Than Significant Impact

4.8 GREENHOUSE GAS EMISSIONS

Would the project:

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

Technical Background

Global climate change (GCC) is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric[1] temperature of 0.36°F per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming may occur, which may induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of the State could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in the State might include a decline in the Sierra Nevada snowpack, erosion of the State's coastline, and seawater intrusion in the San Joaquin Delta.

Global surface temperatures have risen by 1.33°F ±0.32°F over the last 100 years. The rate of warming over the last 50 years is almost double that over the last 100 years (IPCC 2013). The latest projections, based on state-of-the-art climate models, indicate that temperatures in California are expected to rise 3°F to 10.5°F by the end of the century (CEC 2006). The prevailing scientific opinion on climate change is that "most of the warming observed over the last 60 years is attributable to human activities" (IPCC 2013). Increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of

[1] The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

GHGs in the atmosphere (from either natural or human sources) is often referred to as "the greenhouse effect."[1]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC are the following:[2]

- CO_2
- CH_4
- Nitrous oxide (N_2O)
- Nitrogen trifluoride (NF_3)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which some scientists believe can cause global warming. While GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere compared to these GHGs, which remain in the atmosphere for significant periods of time and contribute to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). For the purposes of this air quality study, the term "GHGs" will refer collectively to the seven gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons[3] (MT) of CO_2 equivalents (CO_2e). For example, N_2O is 298 times more potent at contributing to global warming than CO_2. Table 4.8.A identifies the GWP for each GHG analyzed in this memorandum.

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1 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

2 The greenhouse gases listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this memorandum.

3 A metric ton is equivalent to approximately 1.1 tons.

Table 4.8.A: Global Warming Potential for Selected Greenhouse Gases

Pollutant	Lifetime (Years)	Global Warming Potential (100-year)[1]
CO_2	~100[2]	1
CH_4	12	25
N_2O	121	298

Source: First Update to the Climate Change Scoping Plan (CARB 2014a).

[1] The 100-year global warming potential estimates are from *Climate Change 2007: The Physical Science Basis* (IPCC 2007).

[2] CO_2 has a variable atmospheric lifetime and cannot be readily approximated as a single number.

CARB = California Air Resources Board
CH_4 = methane
CO_2 = carbon dioxide
IPCC = Intergovernmental Panel on Climate Change
N_2O = nitrous oxide

The following discussion summarizes the characteristics of the seven primary GHGs.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO_2, and consequently the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s (Cal/EPA 2010).

The transportation sector remained the largest source of GHG emissions in 2017, representing 41 percent of the State's GHG emission inventory (CARB 2019). The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road sources constitute more than 92 percent of the transportation sector total. Industry and electricity generation were the State's second- and third-largest categories of GHG emissions, respectively.

Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 include fires, geologic processes, and bacteria that produce CH_4 in a variety of settings (most notably, wetlands) (EPA 2010). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO_2, the major removal process of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Nitrous Oxide

N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit N_2O. The quantity of N_2O emitted varies according to the types of fuel, technology, and pollution control devices used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in the State.

Hydrofluorocarbons, Perfluorocarbons, Nitrogen Trifluoride, and Sulfur Hexafluoride

The fluorinated gases are also referred to as "high global warming potential gases" in the 2017 California Scoping Plan. HFCs are primarily used as substitutes for O_3-depleting substances regulated under the Montreal Protocol.[1] PFCs, NF_3, and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in the State; however, the rapid growth in the semiconductor industry, which is active in the State, has led to greater use of PFCs. However, there are no known project-related emissions of these four GHGs; therefore, these substances are not discussed further in this analysis.

GHG Emissions Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, national, State, and local GHG emissions inventories. However, because GHGs persist for a long time in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

Global Emissions

Worldwide emissions of GHGs in 2017 totaled 25.7 billion metric tons of carbon dioxide equivalent per year (MT CO_2e/yr) (UNFCCC 2018). Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change (UNFCCC).

United States Emissions

In 2017, the United States emitted approximately 6.457 billion MT CO_2e, down from 7.370 billion MT in 2007. Total United States emissions increased by 2.8 percent from 1990 to 2016, and emissions decreased from 2016 to 2017 by 0.55 percent. Of the six major sectors nationwide—the electric power industry, transportation, industry, agriculture, commercial, and residential—the electric power industry and transportation sectors combined account for approximately 70 percent of the GHG emissions; the majority of the electric power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Greenhouse gas emissions in 2016 were 11.6 percent below 2005 levels (EPA 2018a).

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[1] The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone (O_3) layer by phasing out the production of several groups of halogenated hydrocarbons that are believed to be responsible for O_3 depletion and are also potent greenhouse gases.

State of California Emissions

According to CARB emission inventory estimates, the State emitted approximately 424.1 million metric tons of CO_2e (MMT CO_2e) emissions in 2017 (CARB 2018). This is a decrease representing an overall decrease of 18 percent since peak levels in 2004 and 7 MMT CO_2e below the 1990 level and the State's 2020 GHG target (CARB 2018).

CARB estimates that transportation was the source of approximately 41 percent of the State's GHG emissions in 2017, followed by electricity generation (both in State and out of State) at 15 percent and industrial sources at 24 percent. The remaining sources of GHG emissions were residential and commercial activities at 12 percent, agriculture at 8 percent, and other unspecified sources at 1 percent (CARB 2018).

CARB is responsible for developing the State GHG Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities in the State and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 1990–2017 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

California Climate Action Milestones

In 1988, AB 4420 directed the CEC to report on "how global warming trends may affect the State's energy supply and demand, economy, environment, agriculture, and water supplies" and offer "recommendations for avoiding, reducing and addressing the impacts." This marked the first statutory direction to a State agency to address climate change.

The California Climate Action Registry was created to encourage voluntary reporting and early reductions of GHG emissions with the adoption of SB 1771 in 2000. The CEC was directed to assist by developing metrics and identifying and qualifying third-party organizations to provide technical assistance and advice to GHG emission reporters. The next year, SB 527 amended SB 1771 to emphasize third-party verification.

SB 1771 also contained several additional requirements for the CEC, including the following: (1) updating the State's GHG inventory from an existing 1998 report and continuing to update it every five years; (2) acquiring, developing, and distributing information on GCC to agencies and businesses; (3) establishing a State interagency taskforce to ensure policy coordination; and (4) establishing a climate change advisory committee to make recommendations on the most equitable and efficient ways to implement GCC requirements. In 2006, AB 1803 transferred preparation of the inventory from the CEC to CARB with AB 1803. CARB updates the inventory annually.

AB 1493, authored by Assembly Member Fran Pavley in 2002, directed CARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. The so-called "Pavley" regulations, or Clean Car regulations, were approved by CARB in 2004. On September 24, 2009, CARB adopted amendments to the Pavley regulations that reduced GHG emissions in new passenger vehicles from 2009 through 2016. AB 1493 also directed the State's Climate Action Registry to adopt protocols for reporting reductions in GHG emissions from mobile sources prior to the operative date of the regulations.

The RPS program, which requires electric utilities and other entities under the jurisdiction of the CPUC to meet 20 percent of its retail sales with renewable power by 2017, was established by SB 1078 in 2002. The RPS was accelerated to 20 percent by 2010 by SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by CARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. The renewable electricity standard is projected to reduce GHG emissions from the electricity sector by at least 12 MMT CO_2e in 2020.

Executive Order (EO) S-3-05 (June 2005) established GHG targets for the State (e.g., returning to year 2000 emission levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050). EO S-3-05 directed the Secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate efforts to meet the targets with the heads of other State agencies. This group became the Climate Action Team.

In 2006, the State Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multiyear program to reduce GHG emissions in California. AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated every 5 years. CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. In 2016, the State Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the State Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. CARB has prepared a second update to the Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

California is implementing the world's first Low Carbon Fuel Standard for transportation fuels, pursuant to both EO S-01-07 (signed January 2007) and AB 32. The standard requires a reduction of at least 10 percent in the CO intensity of the State's transportation fuels. This reduction is expected to reduce GHG emissions by 17.6 MMT CO_2e. Also in 2007, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program. The CEC and CARB administer this program, which provides funding for alternative fuel and vehicle technology research, development, and deployment in order to attain the State's climate change goals, achieve the State's petroleum reduction objectives and clean air and GHG emission reduction standards, develop public and private partnerships, and ensure a secure and reliable fuel supply.

In addition to vehicle emissions regulations and the Low Carbon Fuel Standard, the third effort to reduce GHG emissions from transportation is the reduction in the demand for personal vehicle travel (i.e., VMT). This measure was addressed in September 2008 through the Sustainable Communities and Climate Protection Act of 2008, or SB 375. The enactment of SB 375 initiated an important new regional land use planning process to mitigate GHG emissions by integrating and aligning planning for housing, land use, and transportation for California's 18 MPOs. The bill directed CARB to set regional GHG emission reduction targets for most areas of the State. SB 375 also contained important elements related to federally mandated regional transportation plans and the alignment of State transportation and housing planning processes.

CARB released the Final 2017 Climate Change Scoping Plan Update in November 2017. This Scoping Plan Update establishes a proposed framework of action for California to meet the target of 40 percent reduction in GHGs by 2030 compared to 1990 levels. This goal builds on California's success in establishing effective policies that have helped reduce emissions of GHGs while delivering

substantial economic and environmental benefits. Furthermore, the goal aligns California with the rest of the world in the global effort to fight climate change.

The first Scoping Plan was required by AB 32, the Global Warming Solutions Act, and was adopted in 2008. Under that plan, California set in place a range of effective programs to slash GHGs from cars, trucks, fuels, industry, and electrical generation, and the State is well on its way to achieving the goal of AB 32 to reach 1990 levels of GHGs by 2020. The 2017 Climate Change Scoping Plan Update builds on those programs and takes aim at the 2030 target established by SB 32 (Pavley). That bill, and related laws, is designed specifically to continue California's leadership in the fight against climate change and guide the State toward an equitable clean energy economy and prosperous future. To reach that future, the 2017 Climate Change Scoping Plan Update draws on the successes and the lessons learned from the first chapter of California's efforts to fight climate change under AB 32. The 2017 Climate Change Scoping Plan Update builds on key programs such as the Cap-and-Trade Regulation; the Low Carbon Fuel Standard; and much cleaner cars, trucks, and freight movement, powering the State with cleaner renewable energy and providing strategies to reduce methane emissions from agricultural and other wastes by using methane to meet energy needs.

GHG Thresholds for Construction and Operational Emissions

To provide guidance to local lead agencies on determining significance for GHG emissions in their California Environmental Quality Act (CEQA) documents, the South Coast Air Quality Management District (SCAQMD) convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, the Working Group identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010):

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant. For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, the SCAQMD requires an assessment of GHG emissions. The SCAQMD is using a "bright-line" screening-level threshold of 3,000 MT CO_2e annually for commercial land use types. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact related to GHG emissions.

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

Individual GHGs have varying global warming potentials and atmospheric lifetimes. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emissions of GHGs. CO_2e is a consistent methodology for comparing GHG emissions because it normalizes various GHGs to the same metric. GHG emissions are typically measured in

terms of MT CO_2e. Therefore, for the purpose of this technical analysis, the concept of CO_2e is used to describe how much GCC a given type and amount of GHG may cause, using the functionally equivalent amount or concentration of CO_2 as the reference. The GHG emissions estimates were calculated using CalEEMod Version 2016.3.2.

The City of Orange does not currently have formal GHG emissions reduction plans or recommended emissions thresholds for determining significance associated with GHG emissions from development projects. However, the City Community Development Department has provided a Guidance memo on how to address GHG emissions in CEQA documents for which the City is the Lead Agency. In addition, the City published guidance for GHG emissions analysis in CEQA documents.

In its *Guidance for Greenhouse Gas Emissions Analysis* (City 2020), the City of Orange accepts the "Tier III" quantitative interim significance thresholds recommended by the SCAQMD for commercial, industrial, mixed-use, and industrial development projects as follows:

- Industrial Projects—10,000 metric tons of carbon dioxide equivalents (MT CO_2e) per year

- Commercial, Residential, and Mixed-Use Projects (including industrial parks, warehouses, etc.)—3,000 MT CO_2e per year.

Impact Analysis

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. To quantify GHG emissions, LSA utilized the CalEEMod, Version 2016.3.2 and compared the net change in air quality and GHG emissions between the existing site operations (12-room motel and 16,079 sf medical office buildings) and the proposed project. Based on the *Trip Generation Manual* (ITE 2017), the existing uses would generate 767 daily trips. The net emissions are determined by subtracting the existing emissions from the proposed project emissions. The net emissions are then compared to the SCAQMD thresholds to determine the significance of the impacts on air quality and GHGs. The details of the emissions associated with the proposed project are provided below.

Construction and operation of the proposed project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operations.

Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

- **Construction Activities:** GHGs would be emitted through the operation of construction equipment and from worker and supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O.
- **Gas, Electricity and Water Use:** Natural gas use results in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy intensive. Approximately one-fifth of the electricity and one-

third of the non-power plant natural gas consumed in the State are associated with water delivery, treatment, and use (CARB 2010).

- **Solid Waste Disposal:** Solid waste (e.g., green waste, trash from receptacles, and construction waste) generated by the proposed project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, resulting in the production of additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use:** Transportation associated with the project would result in GHG emissions from the combustion of fossil fuels in daily automobile trips.

Construction GHG Emissions. GHG emissions associated with the proposed project would occur over the short term from construction activities, consisting primarily of emissions from equipment and vehicle exhaust. The calculation presented below includes construction emissions in terms of CO_2 and annual CO_2e GHG emissions from increased energy consumption, water usage, and solid waste disposal.

GHG emissions generated by the proposed project would predominantly consist of CO_2. In comparison to criteria air pollutants such as O_3 and PM_{10}, CO_2 emissions persist in the atmosphere for a substantially longer period of time. While emissions of other GHGs, such as CH_4, are important with respect to GCC, emission levels of other GHGs are less dependent on the land use and circulation patterns associated with the proposed land use development project than are levels of CO_2.

Construction activities produce combustion emissions from various sources such as demolition, site preparation, grading, building construction, architectural coating, paving, on-site construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Table 4.8.B presents the annual construction emissions based on the CalEEMod emission estimates. Results indicate that project implementation would generate a total of 1,737 MT CO_2e during the construction period. Per SCAQMD guidance, due to the long-term nature of the GHGs in the atmosphere, instead of determining the significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the proposed project) and included in the operations analysis. Amortized over 30 years, the total construction emissions would generate approximately 58 MT CO_2e/yr.

Operational GHG Emissions. Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Project-specific energy utilization rates for electricity and natural gas were entered into CalEEMod. In addition, the proposed project would include a number of project design features that would reduce the project's operational GHG emissions. Project design features were identified for each GHG emission source and are listed in Table 4.8.C. The emission reduction potential of these project design features were calculated and presented as operational emissions of the project.

Table 4.8.B: Project Construction Greenhouse Gas Emissions

Construction Emissions	Pollutant Emissions (MT/yr)			
	CO_2	CH_4	N_2O	CO_2e
Demolition 2021	25.61	<0.01	0	25.75
Site Preparation 2021	1.59	<0.01	0	1.60
Grading 2021	550.39	0.07	0	552.22
Building Construction 2021	352.27	0.04	0	353.19
Building Construction 2022	572.03	0.06	0	573.50
Building Construction 2023	176.82	0.02	0	177.27
Paving 2023	38.36	0.01	0	38.91
Architectural Coating 20232	14.54	<0.01	0	14.55
Total Project Construction Emissions	**1,731.88**	**0.20**	**0**	**1,736.99**
Amortized Emissions	**57.73**	**<0.01**	**0**	**57.90**

Source: Compiled by LSA (October 2020).
Note: Numbers in table may not appear to add up correctly due to rounding of numbers.
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Table 4.8.C: Project Design Features in CalEEMod Model

Area
Use Low VOC paints with 50 g/L emission factor – SCAQMD Rule 1113
Energy
Exceed Title 24 Standards by 30 percent – 2019 Green Building Code
Install High Efficiency Lighting
Mobile
Increase Land Use Density over Existing Density
Improve Walkability Design
Improve Destination Accessibility
Improve Pedestrian Network with Sidewalk Accessibility
Implement Trip Reduction Program With Employee Parking Validation System
Provide Ride Sharing Program – Curbside Pick-up/Drop-Off
Water
Utilized Low-flow Water Fixtures
Install Water-Efficient Irrigation System
Waste
Institute Recycling and Composting Services

Source: Selected by LSA based on project design features (October 2020).
Note: Measures included in CalEEMod model are based information from the CAPCOA Quantifying GHG Mitigation Measures. August 2010.
CalEEMod = California Emissions Estimator Model
CAPCOA = California Air Pollution Control Officers Association
g/L = grams per liter
GHG= greenhouse gas
SCAQMD = South Coast Air Quality Management District
VOC = volatile organic compounds

Operational GHG emissions, as shown in Table 4.8.D, were calculated using CalEEMod (Version 2016.3.2). Based on SCAQMD guidance, construction emissions were amortized over 30 years (a typical project lifetime) and added to the total project operational emissions. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with the proposed project. Area-source emissions would be associated with activities including landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed project.

Table 4.8.D: Long-Term Operational Greenhouse Gas Emissions

Emissions	Pollutant Emissions (MT/yr)					
	Bio-CO_2	**NBio-CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Construction Emissions, Amortized over 30 Years	0	57.73	57.73	<0.01	0	57.90
Operational Emissions, Area	0	0.02	0.02	<0.01	0	0.02
Operational Emissions, Energy	0	681.34	681.34	0.04	<0.01	684.72
Operational Emissions, Mobile	0	2,248.42	2,248.42	0.10	0	2,250.97
Operational Emissions, Waste	74.11	0	74.11	4.38	0	183.59
Operational Emissions, Water	4.31	48.97	53.28	0.45	0.01	67.68
Total Project Emissions	**78.41**	**3,036.47**	**3,114.88**	**4.96**	**0.01**	**3,244.89**
					Existing Emissions	**891.82**
					Net New Emissions	**2,353.07**
					SCAQMD Tier 3 Threshold	**3,000.00**
					Significant?	No

Source: Compiled by LSA (October 2020).
Note: Column totals may not add up due to rounding.
Bio-CO_2 = biologically generated CO_2 MT/yr = metric tons per year
CH_4 = methane N_2O = nitrous oxide
CO_2 = carbon dioxide NBio-CO_2 = non-biologically generated CO_2
CO_2e = carbon dioxide equivalent SCAQMD = South Coast Air Quality Management District

As shown in Table 4.8.D, the proposed project would generate 3,244.89 MT CO_2e/yr. By subtracting out the existing GHG emissions of 891.82 MT CO_2e/yr, the net GHG emissions would be 2,353.07 MT CO_2e/yr. As demonstrated in the analysis above, by implementing all applicable 2019 Green Building measures and other project design features in the CalEEMod model, the proposed project would result in GHG emissions that are below the regulatory thresholds. The project's net GHG emissions would be less than the SCAQMD Tier 3 threshold of 3,000 MT CO_2e/yr that applies to commercial/office projects; thus, project-level and cumulative GHG emissions would be considered less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

The City, as a lead agency, may assess the significance of GHG emissions by determining a project's consistency with a local GHG reduction plan that qualifies under Section 15183.5 of the *State CEQA Guidelines*. The City of Orange has not adopted a GHG reduction plan. In addition, the City has not completed the GHG inventory, benchmarking, and goal-setting process required to identify a

reduction target and to take advantage of the streamlining provisions contained in the CEQA Guidelines amendments adopted for SB 97. Since no other local or regional climate action plan is in place, the project is assessed for its consistency with CARB's adopted Scoping Plan and the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). This would be achieved with an assessment of the project's compliance with Scoping Plan and SCAG RTP/SCS measures.

In 2008, CARB approved a Climate Change Scoping Plan as required by AB 32. The Climate Change Scoping Plan proposed a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health." The 2008 Climate Change Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms (e.g., a cap-and-trade system), and an AB 32 implementation fee to fund the program. In November 2017, CARB released an Update to the Climate Change Scoping Plan. In the 2017 Update, nine key focus areas were identified: energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program. The proposed project's compliance with the California Building and Energy Efficiency Code would make the proposed project consistent with AB 32 and the 2008 Climate Change Scoping Plan.

In April 2016, the Regional Council of SCAG adopted the 2016–2040 RTP/SCS. The proposed project would support and be consistent with relevant and applicable GHG emission reduction strategies in SCAG's SCS. These strategies include providing the project in an urban infill location and within a relatively short distance of existing transit stops.

The proposed project is required to comply with Title 24 of the California Code of Regulations established by CEC regarding energy conservation and green-building standards. The proposed project shall also comply with the implementation of the GHG reduction measures for commercial development, per the compliance with Scoping Plan measures. The project Applicant shall incorporate these or other features from the implementation list as project design features in order to comply with the CARB's adopted Scoping Plan.

Green Buildings and Energy Efficiency Measures.

1. Design all project buildings to meet the California Building Code (CBC) Title 24 energy standard, including, but not limited to, any combination of the following:

2. Increase insulation such that heat transfer and thermal bridging are minimized.

3. Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption.

4. Incorporate Energy Star or better rated windows, space heating and cooling equipment, light fixtures, appliances, or other applicable electrical equipment.

5. Install energy-efficient lighting (e.g., light-emitting diodes [LEDs] and lighting control systems). Use daylight as an integral part of the lighting systems in buildings.

6. Install light-colored "cool" roofs (e.g., Energy Star roofing) or other highly reflective, highly emissive roofing materials.

Transportation and Parking Spaces Measures. Consistent with the City's Discretionary Approval process, the following measures will be implemented:

1. Provide bicycle parking facilities.

2. Install electrical infrastructure capable of supporting future electric vehicle supply equipment (EVSE). Project plans indicate the proposed type and locations of EVSE and include wiring schematics and electrical calculations to verify that the electric system has sufficient capacity to simultaneously charge all electric vehicles (EVs) at all designated EV-charging locations at their full rated amperage. Plan designs are based upon Level 2 or greater EVSE at maximum operating capacity. A label stating "EV Capable" will be posted in a conspicuous place at the service panel or subpanel.

3. Require signage (posted inside and outside the facility) to inform truck drivers of CARB regulations, idling limits, authorized truck routes, and designated truck parking locations. Post signs requesting truck drivers to turn off engines when not in use, and restrict idling within facilities to less than 5 minutes.

Water Conservation.

1. Install water-efficient fixtures and appliances such as low-flow fixtures, dual-flush toilets, and other water-efficient appliances in accordance with Title 24 codes.

2. Install water-efficient irrigation systems and devices, such as soil-moisture-based irrigation controls, and use water-efficient irrigation methods in accordance with Title 24 codes.

In addition, the proposed project would be subject to all applicable regulatory requirements, which would also reduce the criteria pollutant and GHG emissions of the proposed project.

The implementation of these measures would help the proposed project to be consistent with the applicable policies in the CARB's adopted Scoping Plan and SCAG RTP/SCS. Therefore, the proposed project is also consistent with State-level plans. Less than significant impacts would result from the proposed project, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

4.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through 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 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

This section is based on a Phase I Environmental Site Assessment (ESA) prepared by Partner Engineering and Science, Inc. in April 2020 for the proposed project. The ESA report is included as Appendix D of this IS/MND.

Impact Analysis

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

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

[1] A "sensitizer" is a chemical that can cause a substantial proportion of people or animals to develop an allergic reaction in normal tissue after repeated exposure to a chemical.

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

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

The proposed project includes the development of a four-story medical office building and a subterranean parking garage. Medical office uses typically do not present a hazard associated with the accidental release of hazardous substances into the environment because medical office employees and patrons are not anticipated to use, store, dispose, or transport large volumes of hazardous materials. Hazardous substances associated with medical office uses are typically limited in both amount and use such that they can be contained without impacting the environment.

As a medical office building development, long-term operational activities typical of the proposed medical office uses involve the use and storage of small quantities of potentially hazardous materials in the form of cleaning solvents, radiologicals, pesticides, sterilants, and disinfectants, and the handling of discarded needles. For example, maintenance activities related to the sanitizing of patient assessment and care areas may involve the limited use of cleaning chemicals and disinfectants. As stated previously, these types of activities do not involve the use of a large or substantial amount of hazardous materials. In addition, such materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with applicable federal, State, and local regulations. Any associated risk would be less than significant through compliance with these standards and regulations. Furthermore, operation of the proposed project would not store, transport, generate, or dispose of large quantities of hazardous substances. Therefore, potential impacts from the routine transport, use, or disposal of hazardous materials resulting from operation of the proposed project would be less than significant, and no mitigation would be required.

Orange County Waste & Recycling maintains a directory of business hazardous materials and hazardous waste collection companies to assist with the properly disposal of hazardous waste materials.[1] It is anticipated that the medical office building tenants would use such programs, or medical waste collection services, to properly dispose of household hazardous waste. Therefore, impacts associated with the disposal of hazardous materials and/or the potential release of hazardous materials that could occur with the implementation of the proposed project are considered less than significant, and no mitigation is required.

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[1] Orange County Waste & Recycling (OCWR). Business Hazardous Waste. Website: https://www.oclandfills.com/hazardous/bus (accessed June 15, 2020).

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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?

A Phase I Environmental Site Assessment (ESA) was prepared for the project site, located at 353, 363, and 393 South Main Street. The purpose of the Phase I ESA was to evaluate the project site for potential Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), and Historical Recognized Environmental Conditions (HRECs) that may be present, off-site conditions that may impact the subject property, and/or conditions indicative of releases or threatened releases of substances on, at, in, or to the project site.

An REC can be defined as the presence or likely presence of any hazardous substances or petroleum products in or at a property due to a release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment.

An HREC can be defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

A CREC can be defined as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

According to the Phase I ESA, no RECs, HRECs, or CRECs were identified on the project site. The Phase I ESA did, however, identify a potential HREC on an adjacent property. The property to the north of the project site at 305 South Main Street previously contained four underground storage tanks (USTs) of gasoline, two USTs of diesel, and one UST of unknown fuel. The USTs were excavated and removed from the property in 1991, under the supervision of the City of Orange Fire Department. Soil was removed and stockpiled on the site for proper future removal, and soil sampling of the stockpiles was conducted. One sample indicated trace concentrations of petroleum constituents related to one of the gasoline USTs, and one sample indicated elevated concentrations of diesel detected below the diesel UST. Given the proximity of the impacted soil to the project site (approximately 50 ft north) and the groundwater flow direction, there is the potential for contaminants to have migrated to the project site. Additional soil sampling was conducted in 1992 near the impacted UST sites, and concluded that non-trace amounts of petroleum, gasoline, diesel, and BTEX were present in the stockpiled soil. The site was issued a closure in 1992 by the City of Orange. Given this finding, and the removal of impacted soil, the site is not expected to represent a significant environmental concern to the project site, and is not considered to constitute an HREC.

According to the Phase I ESA, the project site was undeveloped until the 1930s, at which time it was developed with agricultural land, a ranch house, and a barn-like structure. The project site was later

developed with residential buildings, a dirt lot, a road, an asphalt paved parking lot, a motel, and medical office buildings. The current motel was developed between 1950 and 1963, the first medical office building was developed between 1966 and 1977, and the second medical office building was developed between 1977 and 1989. Prior to the site's development with the medical office buildings, portions of the site were previously used for agricultural purposes, the operation of which likely included the use of pesticides, herbicides, and fertilizers on site. The project site has since been paved over or covered with structures that minimize direct contact to any potential remaining concentrations in the soil. Additionally, during the development of the existing on-site structures, surface soils that could contain residual agricultural chemical concentrations were likely mixed with fill material or were disturbed during grading. As such, the risk of exposure to subsurface residual agricultural chemicals is limited, and does not constitute an environmental concern.

Due to the age of the existing structures, the Phase I ESA also analyzed the potential for asbestos-containing materials (ACMs) and/or lead-based paint (LBP) to be present on the project site. Lead is a toxic metal that was used for many years in household products. Lead may cause a range of health defects, from behavioral problems and learning disabilities to seizures and death. Lead-based paint (LBP) was used extensively in buildings constructed before 1950. In 1978, LBP was banned by the federal government and was phased out of use in the mid- to late 1970s. Several of the on-site buildings were constructed prior to 1978, before bans concerning LBPs came into effect. Therefore, based on the age of the building on the project site, there is a potential for LBPs to be present. Therefore, the Phase I ESA recommends that an LBP survey of the project site be conducted prior to any demolition activities. Should LBPs be discovered prior to demolition of the existing structure, the materials would be properly removed and disposed of in accordance with State and federal law. Testing, monitoring, containment, and disposal of LBPs would adhere to California Occupational Safety and Health Administration (Cal/OSHA) standards and regulations under the California Code of Regulations (CCR), Title 8, Section 1532, California Construction Safety Orders for Lead. In addition, construction and demolition activities would be subject to Title 22 requirements for the disposal of solid waste contaminated with excessive levels of lead to ensure lead-based materials are disposed of properly. Therefore, with adherence to federal and State law including CCR Title 8, Section 1532 and Title 22, possible impacts related to LBPs would be less than significant, and no mitigation is required.

Similarly, the use of asbestos in many building products was banned by the EPA by the late 1970s and ACMs were phased out of use in the mid- to late 1970s. Common ACMs found in buildings include floor tiles and roofing materials. ACMs represent a concern when they are subject to damage that results in the release of fibers. Friable ACMs, which can be crumbled by hand pressure and are, therefore, susceptible to damage, are of particular concern. Non-friable ACMs are a potential concern if they are damaged by maintenance work, demolition, or other activities. Based on the age of the building on the project site, there is a potential for ACMs to be present in buildings constructed prior to 1980. Therefore, the Phase I ESA recommends that an asbestos survey be conducted prior to any construction activities or demolition. Adherence to Mitigation Measure MM-HAZ-1, which requires predemolition surveys of ACMs and LBPs, would reduce potential impacts from ACMs or LBPs to construction workers or building occupants to a less than significant level. Should ACMs be discovered prior to demolition of the existing structures, precautions would be necessary to ensure the materials are properly removed and disposed of in accordance with State and federal law. With implementation of MM-HAZ-1, possible impacts related to ACMs would be less than significant.

Mitigation Measure

MM-HAZ-1 **Predemolition Surveys and Abatement of Asbestos-Containing Materials and Lead Survey.** Prior to the issuance of a demolition permit, the City of Orange Director of Community Development, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs) and lead based paints (LBPs) (including sampling and analysis of all suspected building materials) are performed on buildings constructed prior to 1980. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., ASTM International E 1527-05, and Code of Federal Regulations (CFR) Title 40, Subchapter R, Toxic Substances Control Act [TSCA], Part 716).

Wherever evidence of ACMs and/or LBPs are present in areas proposed for demolition, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). During demolition, air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers and the adjacent community. The project Applicant shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the City of Orange Director of Community Development, or designee, showing that abatement of any ACMs and/or LBPs identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations [CCR] Title 8, Article 2.6).

Significance Determination: Less Than Significant Impact
Mitigation Measures: As noted in MM-HAZ-1.
Significance Determination After Mitigation: Less Than Significant Impact

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

The proposed medical office building would not produce hazardous emissions or handle a significant amount of acutely hazardous materials, substances, or wastes during either construction or operations. The nearest school to the project site is West Orange Elementary School, located at 243 S Bush Street (approximately 500 feet (ft) northeast of the project site). As discussed in Response 4.9(a), the proposed project is not anticipated to release hazardous emissions or handle acutely hazardous materials, substances, or wastes in significant quantities. Construction activities associated with the proposed project would use a limited amount of hazardous and flammable substances/oils during heavy equipment operation for site excavation, grading, and construction. The amount of hazardous chemicals present during construction is limited and would be in compliance with existing government regulations.

During operation, the medical office building tenants would not require the use, storage, disposal, or transport of large volumes of hazardous materials that could cause serious environmental damage in the event of an accident. Although hazardous substances would be present and utilized in limited amounts within the medical office building, such substances are generally present now in the existing development, are typically found in small quantities, and can be cleaned up without affecting the environment. Therefore, impacts related to hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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?

As part of the Phase I ESA, Environmental Data Resources, Inc. (EDR) conducted a search of available environmental records for the project site and properties up to 1.0 mile away from the project site. Five properties within 1.0 mile of the project site were reported to have released, or have the potential to release, hazardous materials into the subsurface soil or groundwater. However, the Phase I ESA concluded that these sites do not pose a potential hazard to the project site.

According to the EDR report, the project site was listed in the HAZNET database due to a 1997 report of 125 pounds of photochemical waste associated with the La Amistad Dental Center at 353 South Main Street. However, this listing is for tracking purposes only, and is related to routine dental procedures at the property. According to the Phase I ESA, the listing does not constitute a significant environmental concern. Furthermore, according to the California Department of Toxic Substances Control (DTSC) EnviroStor database, the project site is not located on a federal Superfund site, State response site, voluntary cleanup site, school cleanup site, corrective action site, or tiered permit site.[1] Therefore, the proposed project would not result in an impact related to a known hazardous materials site pursuant to Government Code Section 65965.5 and would not create a significant hazard to the public or the environment. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

[1] California Department of Toxic Substances Control. 2020. EnviroStor. Website: https://www.envirostor.dtsc.ca.gov/public/ (accessed June 13, 2020).

e) Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The proposed project is not within an airport land use plan and is not within 2 miles of a public airport or public use airport. The proposed project would not result in safety hazards for people living or working in the area different than would occur under existing conditions. No impacts would occur, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The City's Public Safety Element (2010) outlines goals and policies aimed at adequately preparing for future emergency situations, including the components of the City's Emergency Operations Plan and procedures for emergency access and evacuation. The City's Emergency Operations Plan concentrates on the specific responsibilities of each City department, rather than on responses to specific hazards. The Public Safety Element designates Chapman Avenue and Grand Avenue as evacuation corridors. These corridors can be accessed from the project site by traveling north along Main Street, and east along La Veta Avenue, which is approximately 750 ft south of the project site. However, as noted by the City's Emergency Operations plan, evacuation routes for emergency situations are contingent upon the scale and location of the emergency, and would change depending on the direction of evacuation required by the situation.

The proposed project does not include any characteristics (e.g., permanent road closures or long-term blocking of road access) that would physically impair or otherwise conflict with an emergency response plan or emergency evacuation plan. During short-term construction activities, the proposed project is not anticipated to result in any substantial traffic queueing on nearby streets, and all construction equipment would be staged within the project site. Travel through Main Street and La Veta Avenue, which serve as connectors to emergency evacuation corridors, would not be impeded. Therefore, project construction impacts related to emergency response and evacuation plans would be less than significant.

The proposed project does not include any permanent changes to public or private roadways that would physically impair or otherwise conflict with an emergency response plan or emergency evacuation plan. Further, the proposed project would not obstruct or alter any transportation routes that could be used as evacuation routes during emergency events. In order to meet City and Fire Department Standards, the project Applicant would be required to submit a Fire Master Plan (refer to Section 2.4.1, Anticipated Permits and Approvals) for the proposed project prior to the issuance of a grading permit. As such, during the operational phase of the proposed project, on-site access would be required to comply with standards established by the City and the City of Orange Fire Department (Fire Department). The size and location of fire suppression facilities (e.g., hydrants) and fire access routes would be required to conform to City and Fire Department standards.

The proposed project would provide adequate emergency access to the site via an existing driveway off of Main Street and W. Columbia Place. The driveway would connect to an internal access way that would ensure access for emergency vehicles within the interior of the site. Further, access to and from the project site for emergency vehicles would be reviewed and approved by the Fire Department and the City as part of the City's Design Review process to ensure the proposed project is compliant with all applicable codes and ordinances for emergency vehicle access. Therefore, operation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Operational project impacts would be less than significant. Therefore, impacts related to interference with an emergency response plan are considered less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

The project site is located within an urbanized area. The proposed project is bounded to the north by a vacant lot and building, a commercial retail center and a high-rise medical office building to the south across W Stewart Drive, a three-story parking structure for St. Joseph Hospital, a dialysis center, and a medical office building to the east, and a commercial retail center to the west across Main Street.

According to the California Department of Forestry and Fire Protection's (CAL FIRE) Fire and Resource Assessment Program Fire Hazard Severity Viewer, the project site and surrounding area is not located within a Very High Fire Hazard Severity Zone (VHFHSZ), or within a State Responsibility Area (SRA).[1] According to the City's General Plan Public Safety Element, wildland hazard areas are confined to the portions of the City east of Jamboree Road. The project site is not within or adjacent to a City designated wildland fire hazard area, and it does not face wildfire risk due to its position in an urbanized and built-out portion of the City. As a result, the proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Therefore, no impacts are anticipated, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

[1] California Department of Forestry and Fire Protection (CAL FIRE). 2020. Fire and Resource Assessment Program Fire Hazard Severity Viewer. Website: https://egis.fire.ca.gov/FHSZ/ (accessed June 10, 2020).

4.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i. Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐
f) Potentially impact stormwater runoff from construction activities?	☐	☐	☒	☐
g) Potentially impact stormwater runoff from post-construction activities?	☐	☐	☒	☐
h) Result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?	☐	☐	☒	☐
i) Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?	☐	☐	☒	☐
j) Create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?	☐	☐	☒	☐
k) Create significant increases in erosion of the project site or surrounding areas?	☐	☐	☒	☐

This section is based on the *Preliminary Water Quality Management Plan* (WQMP) prepared for the proposed project by Kimley-Horn & Associates, Inc. in October 2020. The WQMP is provided in Appendix E to this IS/MND.

Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The proposed project involves the construction of a four-story medical office building with up to five levels of subterranean parking. Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater runoff into receiving waters (i.e., the municipal storm drain system which discharges into the Santa Ana River, and ultimately into the Pacific Ocean). During construction, the disturbed soil area would be approximately 1.22 acres. Because construction of the proposed project would disturb greater than 1 acre of soil, the project is subject to the requirements of the SWRCB's National Pollutant Discharge Elimination System (NPDES) permit *Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities* (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit). As specified in Regulatory Compliance Measure RCM-WQ-1, a SWPPP would be prepared and construction Best Management Practices (BMPs) implemented during construction activities, as required by the Construction General Permit. The SWPPP would detail the BMPs to be implemented during construction. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize the erosion and retain sediment on-site, and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. Compliance with the requirements of the Construction General Permit, including incorporation of construction BMPs to target and reduce pollutants of concern in stormwater runoff, would reduce pollutant discharge to receiving waters.

According to the Geotechnical Investigation (Geotechnical Professionals Inc., March 2020) (Appendix C) prepared for the project, historical groundwater levels in the vicinity of the project site exist at depths greater than 40 feet (ft) below ground surface (bgs). However, groundwater was encountered at 98 ft bgs during borings conducted for the project. Based on the maximum depth of excavation for the project of 63 ft bgs, it is unlikely that groundwater would be encountered during excavation. Therefore, groundwater dewatering is not anticipated during excavation and construction activities.

Infiltration of stormwater can have the potential to affect groundwater quality in areas of shallow groundwater. As discussed above, the groundwater table was not encountered up to a depth of 98 ft bgs. Pollutants in stormwater are generally removed by soil through absorption as water infiltrates. Therefore, in areas of deep groundwater, there is more absorption potential and, as a result, less potential for pollutants to reach groundwater. Therefore, due to the depth to groundwater, it is not expected that any stormwater that may infiltrate during construction would affect groundwater quality

because there is not a direct path for pollutants to reach the groundwater table. Therefore, project construction would not substantially degrade groundwater quality.

Anticipated pollutants of concern from the proposed project include suspended solids/sediments, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, and trash and debris. The project would comply with the requirements of the Santa Ana Regional Water Quality Control Board's (RWQCB) NPDES Permit *Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff Orange County* (Order No. R8-2009-0030, NPDES No. CAS618030, as amended by Order No. R8-2010-0062) (North Orange County MS4 Permit). The North Orange County MS4 Permit requires that a Water Quality Management Plan (WQMP) be prepared for new development and significant redevelopment projects. WQMPs specify the Site Design, Low Impact Development (LID), Source Control, and/or Treatment Control BMPs that would be implemented to capture, treat, and reduce pollutants of concern in stormwater runoff. A preliminary WQMP (Kimley-Horn & Associates, Inc., October 2020) has been prepared for the project. The preliminary WQMP specifies the Source Control and Biotreatment BMPs that would be implemented to target the pollutants of concern in runoff from the project site in order to reduce impacts to water quality during operation. As specified in Regulatory Compliance Measure RCM-WQ-2, the preliminary WQMP will be refined and finalized during final design based on the final site plan.

As specified in the preliminary WQMP, proposed source control BMPs include routine non-structural BMPs and routine structural BMPs. Specifically, routine non-structural BMPs include: education for property owners, tenants, and occupants; activity restrictions (e.g., no discharges of fertilizer, pesticides, and wastes to streets or storm drains; no hosing down of paved surfaces; no vehicle washing or maintenance); common area landscape management; BMP maintenance; common area litter control; employee training; common area catch basin inspection; and street sweeping private streets and parking lots. Routine structural BMPs include: storm drain stenciling and signage; design and construction of trash and waste storage areas to reduce pollution introduction; and use of efficient irrigation systems and landscape design. Proposed biotreatment BMPs include five stormwater planter boxes with underdrains, which would be designed to treat stormwater runoff on the project site before being discharged to the storm drain system. Specifically, stormwater on the northern portion of the project site would flow from a proposed roof drain to two planter boxes with underdrains located on the northwestern side of the proposed medical office building. Stormwater on the southern portion of the project site would flow from a proposed roof drain to two planter boxes with underdrains located on the southwestern side of the proposed medical office building. Runoff from both the northern and southern sides of the project site would drain to a proposed underground storm drain system, which would convey flows to the existing public storm drain system. Additionally, runoff along the eastern perimeter of the project site would be pumped to a proposed planter box with underdrains, located on the southeast corner of the project site. Runoff along the eastern perimeter of the project site would connect to a proposed storm drain line, which would connect to the existing public storm drain system. Runoff from the northernmost portion of the project site would flow west to a proposed trash filter to treat runoff, and would discharge via a parkway drain to Main Street. When combined, the source control and biotreatment BMPs would target and reduce pollutants of concern in stormwater runoff from the project site.

As discussed previously, infiltration of stormwater could have the potential to affect groundwater quality in areas of shallow groundwater. Due to the depth to groundwater, it is not expected that any

stormwater that may infiltrate during construction would affect groundwater quality because there is not a direct path for pollutants to reach groundwater. In addition, the project would be required to implement operational BMPs to treat stormwater before it could reach groundwater. With implementation of Regulatory Compliance Measures (RCM) RCM-WQ-1 and RCM-WQ-2, which are standard conditions based on local and State regulations, construction and operational impacts related to waste discharge requirements, water quality standards, and degradation of surface or groundwater quality would be less than significant. No mitigation is required.

Regulatory Compliance Measures:

RCM-WQ-1 **Construction General Permit.** Prior to issuance of a grading permit, the project Applicant shall obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System No. CAS000002, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent for coverage under the permit to the State Water Resources Control Board (SWRCB) via the Stormwater Multiple Application and Report Tracking System (SMARTs). The project Applicant shall provide the Waste Discharge Identification Number (WDID) to the Director of the City of Orange (City) Public Works Department, or designee, to demonstrate proof of coverage under the Construction General Permit. Project construction shall not be initiated until a WDID is received from the SWRCB and is provided to the Director of the City's Public Works Department, or designee. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the proposed project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction best management practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in stormwater runoff as a result of construction activities. Upon completion of construction and stabilization of the site, a Notice of Termination shall be submitted via SMARTs.

RCM-WQ-2 **Water Quality Management Plan.** Prior to the issuance of grading or building permits, the project Applicant shall submit a Final Water Quality Management Plan (WQMP) to the City Engineer, or designee, for review and approval in compliance with the requirements of the Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff Orange County (Order No. R8-2009-0030, NPDES No. CAS618030, as amended by Order No. R8-2010-0062) (North Orange County MS4 Permit). The Final WQMP shall be prepared consistent with the requirements of the *Technical Guidance Document for Water Quality Management Plans* (December 2013) and the Water Quality Management Plan template, or subsequent guidance manuals. The Final WQMP shall specify the BMPs to be incorporated into the project design to target pollutants of concern in runoff from the project area. The City shall ensure that the BMPs specified in the Final WQMP are incorporated into the final project design.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 and RCM-WQ-2 is required.
Significance Determination After Mitigation: Less Than Significant Impact

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

As discussed in Response 4.10(a), groundwater was not encountered up to a depth of 98 ft bgs, although historical groundwater levels in the vicinity of the project site exist at 40 ft bgs. Based on the maximum depth of excavation for the project of 63 ft bgs, it is unlikely that groundwater would be encountered during excavation. Therefore, groundwater dewatering is not anticipated during project excavation and construction activities, and construction impacts related to depletion of groundwater supplies or interference with groundwater recharge would be less than significant. No mitigation would be required.

Currently, the project site is developed with an existing motel and medical office buildings, and consists of both pervious and impervious surfaces. According to the preliminary WQMP, development of the project would increase impervious surface area on the project site by approximately 0.03 acre (a 3 percent increase). The increase in impervious surface area as a result of project implementation would decrease on-site infiltration. However, due to the depth to groundwater and the presence of a hard clay layer at a depth of 15 to 25 ft bgs, it is unlikely that groundwater recharge from stormwater infiltration currently occurs on the project site. Furthermore, project operation would not include groundwater extraction. For these reasons, a less than significant impact related to depletion of groundwater supplies or interference with groundwater recharge during project operation would occur, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

During construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. As discussed above in Response 4.10(a) and as specified in RCM-WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. With compliance with the Construction General Permit as indicated in RCM-WQ-1, construction impacts related to on- or off-site erosion or siltation would be less than significant, and no mitigation is required.

The proposed stormwater drainage system will generally conform to the existing on-site drainage pattern. However, development of the project would increase impervious surface area on the project site by approximately 0.03 acre, which would slightly increase on-site stormwater flows. Although the project would increase impervious surface area, impervious surface areas associated with development of the project site are not prone to erosion or siltation, because no loose soil would be included in these areas. The remaining portion of the site, although pervious, would be covered with proposed landscaping, which would stabilize the soil and minimize on-site erosion or siltation.

As a result of the 0.03-acre increase in impervious surface area, the proposed project would increase runoff from the site during storm events, which can increase off-site erosion and siltation. As discussed in Response 4.10(a) above, the project includes five stormwater planter boxes with underdrains, which would be designed to treat stormwater runoff from the project site.

Significant redevelopment projects are subject to specific hydromodification[1] requirements of the North Orange County MS4 Permit and must implement measures for site-design, source control, runoff reduction, stormwater treatment, and baseline hydromodification management. However, according to the Preliminary WQMP, the project site is not located in an area of hydrologic condition of concern (HCOC)[2] and is exempt from hydromodification requirement. Specifically, according to the North Orange County Hydromodification Susceptibility Map for the Santa Ana River, the project site is not located within a potential area of erosion, habitat, and physical structure susceptibility because downstream receiving waters are stabilized channels. Because the downstream receiving waters are not susceptible to hydromodification, the proposed project does not have a potential to result in downstream erosion or siltation. With implementation of RCM-WQ-1, impacts related to the alteration of the existing drainage pattern in a manner that would result in substantial erosion or siltation would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 is required.
Significance Determination After Mitigation: Less than Significant Impact

ii. Increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Construction activities would alter the on-site drainage pattern, potentially compacting on-site soils and increasing the potential for flooding compared to existing conditions. As discussed in Response 4.10(a) above, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed project, as specified in RCM-WQ-1. The SWPPP would include construction BMPs to control and direct on-site surface runoff to ensure that flooding does not occur. Proper management of stormwater during construction would reduce impacts associated with on and off-site flooding.

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[1] Hydromodification is defined as hydrologic changes resulting from increased runoff from increases in impervious surfaces. Hydromodification impacts can included changes in downstream erosion and sedimentation.

[2] Areas designated as hydrologic conditions of concern are watersheds of unarmored or soft-armored drainages that are vulnerable to geomorphology changes due to hydromodification.

Although the project would increase the amount of impervious surface at the project site by approximately 0.03 acre, the proposed project would not alter the existing on-site drainage patterns. However, the increase in impervious surface area would slightly increase stormwater runoff compared to existing conditions. The proposed project would include the construction of on-site storm drain facilities and BMPs, including five stormwater planter boxes with underdrains. The stormwater planter boxes with underdrains would be designed to treat stormwater runoff from the project site. Because of the small increase in impervious surface area, project operations would not substantially alter stormwater flows or velocity of stormwater runoff from the project site compared to existing conditions. Regardless, as specified in RCM-WQ-3, the project Applicant will be required to prepare a hydrology report in order to ensure that proposed storm drain facilities and BMPs are appropriately sized to accommodate storm water runoff and ensure that on-site flooding would not occur. Therefore, with implementation of BMPs and RCM-WQ-1 and RCM-WQ-3, impacts related to on- or off-site flooding from an increase in surface runoff would be less than significant, and no mitigation is required.

Regulatory Compliance Measures:

RCM-WQ-3 **Final Hydrology and Hydraulic Analysis.** The project Applicant shall submit a Final Hydrology Study to the City Director of Public Works, or his/her designee, for review and approval prior to issuance of grading and building permits. The Final Hydrology Study shall be prepared consistent with the requirements of the *Orange County Hydrology Manual* (Orange County Environment Agency 1986) and *Orange County Hydrology Manual Addendum No. 1* (Orange County Environment Agency 1996), or subsequent guidance manuals. The Final Hydrology Study shall demonstrate that the on-site drainage facilities are designed and adequately sized to accommodate stormwater runoff from the design storm so that peak flow of stormwater from the project site would not exceed pre-project conditions. The City Director of Engineering, or designee, shall ensure that the drainage facilities specified in the Final Hydrology Study are incorporated into the final project design.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 and RCM-WQ-3 is required.
Significance Determination After Mitigation: Less Than Significant Impact

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

As discussed in Response 4.10(a), and as specified in RCM-WQ-1 and RCM-WQ-2, the proposed project would include implementation of construction and operational BMPs to treat stormwater runoff. Implementation of BMPs would ensure that the project would not provide substantial additional sources of polluted runoff to the storm drain system.

As discussed previously, the proposed project would increase the impervious surface area by approximately 0.03 acre compared to existing conditions (a 3 percent increase), which would slightly increase stormwater runoff from the project site. Because of the small increase in impervious surface area, project operations would not substantially alter stormwater flows or velocity of stormwater

runoff from the project site compared to existing conditions. However, as specified in RCM-WQ-3, the proposed on-site storm drain facilities would be appropriately sized to handle the small increase in stormwater runoff discharged from the project site so that runoff water would not exceed the capacity of existing or planned stormwater drainage systems. With implementation of RCM-WQ-1, RCM-WQ-2, and RCM-WQ-3, impacts related to the creation or contribution of runoff water that would exceed the capacity of existing or planned storm water drainage systems or the provision of substantial additional sources of polluted runoff would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1, RCM-WQ-2, and RCM-WQ-3 is required.
Significance Determination After Mitigation: Less Than Significant Impact

iv. Impede or redirect flood flows?

The project site is not located within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain. According to the FEMA Flood Insurance Rate Map (FIRM) No. 06059C0161J (December 3, 2009), the project site is located within Zone X, Area of Minimal Flood Hazard. Because the project would not place improvements or structures directly within a 100-year floodplain, the project would not impede or redirect flood flows. Therefore, no impact would occur related to impeding or redirecting of flood flows, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

As discussed in Response 4.10(c)(iv), the project is not located within a 100-year flood hazard area and would therefore not risk release of pollutants during flooding as a result of a storm event. However, according to the Safety Element of the County of Orange General Plan (2010), the project site is located within both the Santiago Reservoir Inundation Area and the Prado Dam Inundation Area. Therefore, the potential for inundation of the project site in the unlikely event of failure or Prado Dam or Santiago Dam cannot be ruled out. As stated in Section 4.9, Hazards and Hazardous Materials, potentially hazardous substances such as chemical agents, solvents, and paints would be used during construction. Potentially hazardous materials from routine project maintenance may also be used during operation of the proposed project. However, the amount of these chemicals present during project construction and operation is limited and would be in compliance with existing government regulations. Therefore, in the unlikely event of inundation from Santiago Reservoir or Prado Dam, the proposed project would not increase the risk of release of pollutants, and a less than significant impact would occur. No mitigation is required.

Tsunamis are ocean waves generated by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rock falls, and exploding volcanic islands. Tsunamis can have wave lengths of up to 120 miles and travel as fast as 500 miles per hour (mph) across hundreds of miles of deep ocean. Upon reaching shallow coastal waters, the waves can reach up to 50 ft in height, causing

great devastation to near-shore structures. The project site is located approximately 11.7 miles from the Pacific Ocean shoreline and is not in a tsunami inundation area.[1] Therefore, the project site is not subject to inundation from tsunamis, and there is no risk of release of pollutants due to inundation from tsunami. No mitigation is required.

Seiching occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities (e.g., reservoirs and lakes). Such waves can cause retention structures to fail and flood downstream properties. Because there are no large lakes, reservoirs, or other water retention facilities in the vicinity of the project site, the project site is not subject to inundation from seiche waves, and there is no risk of release of pollutants due to inundation from seiche. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

The project is within the jurisdiction of the Santa Ana RWQCB. The Santa Ana RWQCB adopted a Water Quality Control Plan (i.e., Basin Plan) (January 1995, with amendments effective on or before June 2019) that designates beneficial uses for all surface and groundwater within their jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. As summarized below, the project would comply with the applicable NPDES permits and would implement construction and operational BMPs to reduce pollutants of concern in stormwater runoff.

As discussed in Response 4.10(a), during construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater runoff into receiving waters. As specified in RCM-WQ-1, the proposed project would be required to comply with the requirements set forth by the Construction General Permit, which requires preparation of a SWPPP and implementation of construction BMPs to control stormwater runoff and discharge of pollutants.

As discussed in Response 4.10(a), the primary pollutants of concern during project operations are suspended solids/sediments, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, and trash and debris. As discussed in RCM-WQ-2, a final WQMP would be prepared for the project in compliance with the North Orange County MS4 Permit. The final WQMP will detail the Site Design, the LID, and the Source Control and/or Treatment Control BMPs that would be implemented to treat stormwater runoff and reduce impacts to water quality during operation. The proposed biotreatment BMPs (stormwater planter boxes and trash filter) would treat stormwater runoff.

[1] California Department of Conservation (DOC). 2019. Orange County Tsunami Inundation Maps. Website: https://www.conservation.ca.gov/cgs/tsunami/maps/orange (accessed June 12, 2020).

The proposed project would comply with the applicable NPDES permits, which requires preparation of a SWPPP, preparation of a final WQMP, and includes implementation of construction and operational BMPs to reduce pollutants of concern in stormwater runoff. As such, the project would not result in water quality impacts that would conflict with Santa Ana RWQCB's Basin Plan.

As discussed in Response 4.10(a), due to the depth to groundwater and the presence of a hard clay layer at a depth of 15 to 25 ft bgs, it is not expected that any stormwater that may infiltrate during construction would affect groundwater quality because there is not a direct path for pollutants to reach the groundwater table. In addition, the project would be required to implement operational BMPs to treat stormwater before it could reach groundwater. Lastly, although the increase in impervious surface area as a result of project implementation could decrease on-site infiltration, according to the Geotechnical Investigation, it is unlikely that stormwater infiltration currently occurs on the project site. However, any potential decrease in infiltration would be minimal in comparison to the size of the Coastal Plain of Orange County Groundwater Basin. Additionally, groundwater extraction would not occur during operation. Therefore, the proposed project does not have the potential to impact groundwater quality, interfere with groundwater recharge, or decrease groundwater supplies. For the reasons outlined above and with implementation of RCM-WQ-1 and RCM-WQ-2, a less than significant impact would occur related to conflict with or obstruction implementation of water quality control plans or sustainable groundwater management plans, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 and RCM-WQ-2 is required.
Significance Determination After Mitigation: Less Than Significant Impact

f) Would the project potentially impact stormwater runoff from construction activities?

As described in Response 4.10(a), pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater runoff into receiving waters. As specified in RCM-WQ-1, compliance with the requirements of the Construction General Permit, including incorporation of construction BMPs (e.g., Erosion Control and Sediment Control BMPs and Good Housekeeping BMPs) to target and reduce pollutants of concern in stormwater runoff, would reduce pollutant discharge to receiving waters. With implementation of RCM-WQ-1, a less than significant impact to stormwater runoff from construction activated would occur, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

g) Would the project potentially impact stormwater runoff from post-construction activities?

As described in Response 4.10(a), anticipated pollutants of concern from the proposed project include suspended solids/sediments, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, and trash and debris. However, the project would comply with the requirements of the North

Orange County MS4 Permit, which requires the preparation of a Water Quality Management Plan (WQMP) for new development and significant redevelopment projects. A preliminary WQMP (Kimley-Horn & Associates, Inc., October 2020) has been prepared for the project. The preliminary WQMP specifies the Source Control and Biotreatment BMPs that would be implemented to target the pollutants of concern in runoff from the project site in order to reduce impacts to water quality during operation. When combined, the source control and biotreatment BMPs would target and reduce pollutants of concern in stormwater runoff from the project site. Furthermore, as specified in RCM-WQ-2, the preliminary WQMP will be refined and finalized during final design based on the final site plan. With implementation of RCM-WQ-2, impacts to stormwater runoff from post-construction activities would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-2 is required.
Significance Determination After Mitigation: Less Than Significant Impact

h) Would the project result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?

The proposed project includes the construction of a four-story medical office building with up to five levels of subterranean parking, and would not include areas of material storage, vehicle or equipment fueling or maintenance, waste handling, hazardous materials handling or storage, delivery areas, loading docks, or other outdoor work areas. As discussed in Response 4.10(a), during construction, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into receiving waters. As specified in RCM-WQ-1 and in compliance with the Construction General Permit, the project would be required to prepare a SWPPP and implement construction BMPs detailed in the SWPPP during construction activities. Construction BMPs would include Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. With implementation of the Good Housekeeping BMPs (e.g., hazardous waste management, concrete waste management, and material storage areas), during construction, the potential for discharge of pollutants from the noted areas would be less than significant. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

i) Would the project result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?

According to the Santa Ana RWQCB Basin Plan (January 1995, with amendments effective on or before June 2019), the beneficial uses of Reach 2 of the Santa Ana River (the receiving water for runoff from the project site) include agricultural supply; groundwater recharge; non-contact recreation; contact recreation; warm freshwater habitat; wildlife habitat; and habitat for rare, threatened, and endangered species, and; spawning, reproduction, and development waters. As discussed in Response 4.10(a), with implementation of BMPs to target pollutants of concern from the project site and with compliance to NPDES regulations, as specified in RCM-WQ-1 and RCM-WQ-2,

the project would not violate any water quality standards or otherwise substantially degrade water quality. Therefore, with implementation of RCM-WQ-1 and RCM-WQ-2, impacts to beneficial uses would be less than significant. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 and RCM-WQ-2 is required.
Significance Determination After Mitigation: Less Than Significant Impact

j) Would the project create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?

As described in Response 4.10(c)(ii) and as specified in RCM-WQ-1, the SWPPP would include construction BMPs to control and direct on-site surface runoff to ensure that stormwater runoff from the construction site does not exceed the capacity of the stormwater drainage systems. Proper management of stormwater during construction would reduce flow velocity or volume of stormwater runoff to receiving waters.

As described in Response 4.10(c)(ii), the project would increase the amount of impervious surface at the project site by approximately 0.03 acre, which would slightly increase stormwater runoff compared to existing conditions. However, the proposed project would include the construction of on-site storm drain facilities and BMPs, including five stormwater planter boxes with underdrains. The stormwater planter boxes with underdrains would be designed to treat the runoff from the project site through biofiltration. Regardless, because of the small increase in impervious surface area, project operations would not substantially change stormwater flows or velocity of stormwater runoff from the project site compared to existing conditions. Furthermore, as specified in RCM-WQ-3, the project Applicant will prepare a Final Hydrology Report in order to ensure that proposed storm drain facilities and BMPs are appropriately sized to accommodate storm water runoff and to ensure that on-site flooding would not occur. Therefore, with implementation of BMPs and RCM-WQ-1 and RCM-WQ-3, impacts to changes in the flow or velocity or volume of stormwater runoff to cause environmental harm would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 and RCM-WQ-3 is required.
Significance Determination After Mitigation: Less Than Significant Impact

k) Would the project create significant increases in erosion of the project site or surrounding areas?

As described in Response 4.10(c)(i) and as specified in RCM-WQ-1, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. With compliance with the Construction General Permit as indicated in RCM-WQ-1, construction activities would not significantly increase erosion on the project site or in surrounding areas.

Although the project would result in an increase of 0.03 acre of impervious surface area on-site, impervious surface areas associated with development of the project site are not prone to erosion or siltation, because no loose soil would be included in these areas. In addition, the project includes operational BMPs, including five stormwater planter boxes with underdrains, which would be designed to treat stormwater runoff from the project site through biofiltration. Furthermore, according to the North Orange County Hydromodification Susceptibility Map for the Santa Ana River, the project site is not located within a potential area of erosion, habitat, and physical structure susceptibility because downstream receiving waters are stabilized channels. Because the downstream receiving waters are not susceptible to hydromodification, the proposed project does not have a potential to result in downstream erosion or siltation. With implementation of RCM-WQ-1, impacts related to the alteration of the existing drainage pattern in a manner that would result in increases in erosion on the project site or surrounding areas would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-WQ-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

4.11 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Impact Analysis

a) Would the project physically divide an established community?

The project site consists of 1.14 acres across three parcels. The project site is bounded to the north by a vacant lot containing two unoccupied commercial structures; to the east by a St. Joseph Hospital parking structure; to the south by Stewart Drive; and Main Street to the west. A commercial retail center and a medical office building associated with the St. Joseph Hospital Campus are located on the south side of Stewart Drive, and a commercial retail center is located on the west side of Main Street. Existing land uses in the project vicinity are commercial and medical. The existing medical uses are predominantly associated with the St. Joseph Hospital Campus.

The proposed project would replace an existing motel, two medical office buildings, and associated surface parking areas with a proposed four-story medical office building and subterranean parking garage. The project is designed to further the implementation of the 2004 Development Agreement for the St. Joseph Hospital Campus Master Plan by redeveloping several underutilized properties along Main Street near existing hospital uses. Although implementation of the proposed project would change the existing parcel configuration within the site, it would not change the existing street layout in the area or introduce any new barriers that would impede or alter access to any adjacent uses. Therefore, the proposed project would not result in the physical division of any established community, and no mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is required
Significance Determination After Mitigation: No Impact

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

The main documents regulating land use on the project site are the City of Orange 2010 General Plan and the City's Zoning Code. The proposed project is consistent with both the City's General Plan and Zoning Code, and would not require a General Plan Amendment or a zone change. Discussion on the project's consistency with the City's General Plan and Zoning Code are included below.

General Plan. The Orange General Plan (March 2010) is the City's most fundamental planning document. The General Plan establishes a vision for the City's future growth and change, and

contains goals and policies designed to provide decision-makers with a solid basis for decisions related to land use and development. It provides a blueprint for development throughout the community and is the vehicle through which community values are balanced. The Orange General Plan is a key tool for influencing the quality of life in the community.

The project site is located within the City's South Main Street Corridor. According to the City's General Plan Land Use Element (revised December 2015), the major medical hub created by the St. Joseph Hospital Campus and Children's Hospital of Orange County (CHOC) has generated a demand for medical office space and complementary uses in the project area that are not easily accommodated by existing policies and parcel sizes. As such, there is a significant focus on redevelopment in the South Main Street Corridor to promote the development of a medical corridor that capitalizes on existing hospital and medical uses.[1] The proposed project is consistent with the site's General Plan land use designation of Neighborhood Mixed Use (NMIX). This land use designation allows for professional offices, commercial retail, and housing uses, as integrated either with a commercial use or as separate, free-standing uses. The proposed project would develop the site with medical office space available for medical professionals, and would allow for commercial retail tenants on the first floor. As discussed in Response 4.1(c), exceptions to select development standards would be approved in accordance with the Operating Memorandum (OP) to update the 2004 Development Agreement. No General Plan Amendment would be required.

Table 4.11.A provides a consistency analysis of the proposed project with the applicable goals and policies of the City's General Plan. As indicated in Table 4.11.A, the proposed project is consistent with the applicable General Plan goals and policies. Impacts related to conflicts with a land use plan are less than significant, and no mitigation is required.

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
LAND USE ELEMENT	
Goal 1.0: Meet the present and future needs of all residential and business sectors with a diverse and balanced mix of land uses.	
Policy 1.4: Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development.	**Consistent.** As established in Response 4.1(c), upon the City's approval of the proposed project, including exceptions to the underlying zoning requirements that would be granted in accordance with the OP to update the 2004 Development Agreement, the proposed project would be consistent with all applicable development standards. The architectural design, materials, scale, and height of the proposed medical office building would be compatible with that of other medical and professional office buildings in the project vicinity. The project area is predominantly characterized by medical institutions and hospital uses. As such, qualities and features of the proposed medical office building would be appropriate given its context. Therefore, the proposed project would be consistent with Policy 1.4.

[1] City of Orange. 2010a. General Plan Land Use Element. Website:https://www.cityoforange.org/DocumentCenter/View/570/General-Plan---Land-Use-PDF (accessed May 28, 2020).

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
Goal 3.0: Create commercial uses that provide a solid economic base and employment opportunities and identify Orange as an attractive and diverse shopping destination.	
Policy 3.4: Discourage commercial and industrial enterprises that have significant adverse soil, air, water, or noise impacts.	**Consistent.** As identified in Sections 4.3 (Air Quality), 4.10 (Hydrology and Water Quality), and 4.13 (Noise), the proposed project would not result in any adverse environmental impacts related to soil, air, water, or noise. Therefore, the proposed project would be consistent with Policy 3.4.
Goal 4.0: Encourage high quality, sustainable, industrial and office uses that provide jobs and revenue; support environmental quality; and promote options for adaptive re-use.	
Policy 4.2: Encourage development of professional office space located near medical institutions and County facilities.	**Consistent.** The proposed project would replace an existing motel and two medical office buildings near the St. Joseph Hospital Campus with up to 137,500 sf of medical office space, which represents an 112,704 sf increase of medical office space compared to existing conditions.[1] Given the project site's proximity to medical institutions within the City, implementation of the proposed project would result in the development of available office space for medical professionals in the immediate vicinity of existing medical institutions. Therefore, the proposed project would be consistent with Policy 4.2.
Goal 6.0: Advance development activity that is mutually beneficial to both the environment and the community.	
Policy 6.1: Ensure that new development is compatible with the style and design of established structures and the surrounding environment.	**Consistent.** The proposed project would introduce a medical office building use to an area that is currently characterized by medical office and hospital uses. The scale, mass, design, and style of the proposed medical office building are characteristic of the surrounding area. The four-story medical office building would be similar in height and appear visually consistent with adjacent medical office and hospital-related structures along the South Main Street Corridor. Additionally, the four-story medical office building would allow for commercial retail uses on the first floor, which would further integrate the proposed project with the existing commercial retail uses in the area. As such, the proposed project would be consistent with Policy 6.1.
Policy 6.3: Establish and maintain greenways, and pedestrian and bicycle connections that complement the residential, commercial and open space areas they connect.	**Consistent.** Though there are no existing greenways on the project site, the proposed project would establish pedestrian and bicycle connections throughout the project site. A plaza located at the corner of Main Street and Stewart Drive would incorporate amenities to create a pedestrian friendly environment, such as decorative pavers for walkway definition, outdoor tables and chairs, umbrellas, plant containers, a vertical obelisk, and signage. The proposed project would also provide bike racks on site to encourage the use of bicycles. Therefore, the proposed project is consistent with Policy 6.3.

[1] Table 1, Existing Structures, states that the project site contains 24,796 sf of medical office and motel space in the existing condition. 137,500 – 24,796 = 112,704.

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
Policy 6.5: Reduce pollutant runoff from new development and urban runoff to the maximum extent practicable.	**Consistent.** As discussed in Responses 4.10(a), 4.10(f), and 4.10(g), and specified in RCM-WQ-1 and RCM-WQ-3, the project would incorporate construction and operational BMPs to target and reduce pollutants of concern in stormwater runoff, and reduce pollutant discharge to receiving waters. Therefore, the proposed project would be consistent with Policy 6.5.
Policy 6.6: Enhance the walkability of both new and current development.	**Consistent.** As previously discussed, the proposed project would enhance the walkability of new and current development. A plaza located at the corner of Main Street and Stewart Drive would incorporate amenities to create a pedestrian friendly environment, such as decorative pavers for walkway definition, outdoor tables and chairs, umbrellas, plant containers, a vertical obelisk, and signage. The pedestrian environment created between the western boundary of the proposed medical office building and Main Street would be visually and materially integrated with the existing sidewalks. As such, walkability of new and current development would be enhanced. Therefore, the proposed project is consistent with Policy 6.6.
Policy 6.8: Maximize landscaping along streetscapes and within development projects to enhance public health and environmental benefits.	**Consistent.** On-site landscaping would include raised concrete planters containing ornamental grasses along Main Street. Street trees would be planted along Main Street and Stewart Drive, and decorative concrete pavers, and square plant containers would be installed along the Stewart Drive frontage. As previously discussed, the plaza proposed as part of the project would include outdoor tables, chairs, and umbrellas to promote the use of outdoor areas and a pedestrian friendly environment. The landscaping and incorporation of these amenities along Main Street and Steward Drive would enhance public health and environmental benefits. Therefore, the proposed project is consistent with Policy 6.8.
CIRCULATION AND MOBILITY ELEMENT	
GOAL 1.0: Provide a safe, efficient, and comprehensive circulation system that serves local needs, meets forecasted demands, and sustains quality of life in neighborhoods.	
Policy 1.1: Plan, build, and maintain an integrated, hierarchical, and multi-modal system of roadways, pedestrian walkways, and bicycle paths throughout the City.	**Consistent.** The proposed project would allow for the integration of vehicular, bicycle, and pedestrian traffic on site. The project would provide a full-access driveway along Main Street and an exit driveway to Palmyra Avenue. As previously established, the proposed project includes improvements and streetscape features that would promote pedestrian comfort and walkability. Additionally, the proposed project would contain bicycle racks and storage to promote the use of non-vehicular modes of transportation to the site. These paths would be fully integrated with the existing circulation network within the City. Therefore, the proposed project would be consistent with Policy 1.1.
GOAL 4.0: Provide efficient and accessible modes of pedestrian, bicycle, and equestrian transportation and improved facilities and amenities.	
Policy 4.2: Install racks and safe storage facilities at parking areas for City facilities, as appropriate, and encourage incorporate of such facilities within privately developed projects.	**Consistent.** The surface and subterranean parking areas proposed as part of the project would provide short-term and long-term storage racks for bikes. Therefore, the project would be consistent with Policy 4.2.

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
GOAL 5.0: Provide adequate parking to meet the needs of activity centers throughout the City.	
Policy 5.2: Plan for and design parking facilities throughout the City that are adequate to meet demand, but also consider land use-parking efficiencies, and the surrounding natural and built environment.	**Consistent.** The proposed project would include a five-level subterranean parking garage that would contain 550 parking stalls. The Main Street Medical Office Building Parking Management Plan (Appendix G) has been prepared to demonstrate that the project would provide adequate on-site parking. By providing for a subterranean parking facility, the proposed project would reduce impacts on visual quality in the area while providing an efficient way to provide parking within the site. As such, the proposed project would be consistent with Policy 5.2.
Policy 5.4: Encourage well-designed structured parking in commercial areas where such features would be economically feasible, safe, and visually integrated with existing development.	**Consistent.** Refer to the above discussion. The development of a five-level subterranean parking garage would enhance the project's visual integration with existing development by limiting visual obstructions in the project area. The subterranean parking structure would not be visible but would instead allow views of the four-story medical office building, which would be constructed in a modern architectural style and provide aesthetic consistency and quality along the South Main Street Corridor. As established in Section 4.7, Geology and Soils, the development of a subterranean garage on the project site is both feasible and safe. Furthermore, the development of a subterranean parking garage would ensure that the economic growth and development of adjacent parcels of land are not precluded, and that more land is available for the City to meet its land use and development goals. Therefore, the proposed project would be consistent with Policy 5.4.
GROWTH MANAGEMENT ELEMENT	
Goal 1.0: Reduce traffic congestion within the City.	
Policy 1.1: Establish LOS D as the level of service standard for traffic circulation within the City for both roadway segments and peak-hour signalized intersection movements.	**Consistent.** As discussed in Section 4.17, Transportation, all study area intersections and roadway segments would continue to operate at acceptable LOS at peak-hours during project operation. As such, the proposed project would not interfere with the maintenance of the City's level of service standard for traffic circulation within the City. Therefore, the proposed project would be consistent with Policy 1.1.
Goal 2.0: Provide for adequate regional and local transportation facilities.	
Policy 2.4: Explore infill development or mixed-use opportunities wherever possible as developable space becomes more limited.	**Consistent.** Implementation of the proposed project would replace an existing motel and two medical office buildings with a four-story medical office building, the first story of which would accommodate proposed commercial uses. As such, implementation of the proposed project would be considered an in-fill mixed-use development. Therefore, the proposed project is consistent with Policy 2.4.
NATURAL RESOURCES ELEMENT	
Goal 2.0: Protect air, water, and energy resources from pollution and overuse.	
Policy 2.1: Cooperate with the South Coast Air Quality Management District (SCAQMD) and other regional agencies to implement and enforce regional air quality management plans.	**Consistent.** As discussed in Section 4.3, Air Quality, the proposed project would not conflict with or obstruct implementation of the AQMP. As such, the proposed project would not interfere with the implementation or enforcement of SCAQMD or regional air quality management plan. Therefore, the proposed project would be consistent with Policy 2.1.

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
Policy 2.2: Support alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods to reduce emissions related to vehicular travel.	**Consistent.** As previously established, the proposed project would support a pedestrian and bicycle friendly environment. A plaza with pedestrian-friendly amenities would be developed near the corner of Main Street and Stewart Drive. Pedestrian walkways would be well-integrated with the existing sidewalks in the project area. The proposed project would also provide bike racks on site to encourage the use of bicycles. Therefore, the proposed project would be consistent with Policy 2.2.
Policy 2.4: Encourage the production, distribution, and use of recycled and reclaimed water for landscaping projects, while maintaining urban runoff water quality objectives.	**Consistent.** The proposed project would be required to implement the principles of the State Model Water Efficient Landscape Ordinance (adopted City Resolution No. 10413) that requires improvements in the efficiency of water use in existing and new urban irrigated landscapes in California. Refer to RCM-UTL-1. The proposed project is subject to this ordinance and will be required to implement water-efficient landscaping design (i.e., drought-tolerant landscaping) within the project site. As discussed in Responses 4.10(a), 4.10(f), and 4.10(g), and specified in RCM-WQ-1 and RCM-WQ-3, the project would incorporate construction and operational BMPs to target and reduce pollutants of concern in stormwater runoff, and reduce pollutant discharge to receiving waters. As such, City goals for maintaining urban water runoff water quality objectives would not be precluded by project implementation. Therefore, the proposed project would be consistent with Policy 2.4.
Policy 2.13: Control surface runoff water discharges into the stormwater conveyance system to comply with the City's National Pollutant Discharge Elimination System (NPDES) Municipal Permit and other regional permits issued by the Santa Ana Regional Water Quality Control Board.	**Consistent.** As discussed in Section 4.10, Hydrology and Water Quality, the proposed project would comply with NPDES regulations, as specified in RCM-WQ-1 and RCM-WQ-2. As such, the proposed project would be consistent with Policy 2.13.
Policy 2.14: Reduce pollutant runoff from new development by requiring use of the most effective Best Management Practices (BMPs) currently available.	**Consistent.** As discussed in Responses 4.10(a), 4.10(f), and 4.10(g), and specified in RCM-WQ-1 and RCM-WQ-3, the project would incorporate construction and operational BMPs. Therefore, the proposed project would be consistent with Policy 2.14.
Policy 2.15: Minimize the amount of impervious surfaces and associated urban runoff pollutants in new development and significant redevelopment throughout the community.	**Consistent.** As discussed in Response 4.10(j), the proposed project would increase on-site impervious surface area by 0.03 acre. However, the proposed project would include on-site storm drain facilities and BMPs, including five stormwater planter boxes with underdrains, which would treat stormwater runoff from the project site. Urban runoff pollutants associated with the propose project would be minimized. Therefore, the proposed project would be consistent with Policy 2.15.
PUBLIC SAFETY ELEMENT	
Goal 1.0: Protect residents and businesses from seismic hazards and other geologic constraints.	
Policy 1.1: Minimize the potential loss of life and damage to structures that may result from an earthquake.	**Consistent.** The proposed project would comply with the requirements of the latest CBC and the recommendations of the project geotechnical consultant. As described in Section 4.7, Geology and Soils, with adherence to MM-GEO-1, which requires project compliance with the recommendations of the Geotechnical Investigation, all potential geotechnical issues are less than significant. As such, the proposed project is consistent with Policy 1.1.

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
Goal 3.0: Protect lives and property of Orange residents and businesses from urban and wildland fire hazards.	
Policy 3.4: Provide adequate fire equipment access and fire suppression resources to all developed and open space areas.	**Consistent.** The proposed project would provide access to the project site for fire personnel from Main Street, W Steward Drive, and W Columbia Avenue. For firefighting purposes, all buildings on the project site will have fire prevention/protection sprinklers. Additionally, fire hydrants would be provided in multiple locations around the project site along Main Street, Stewart Drive, and internally between the existing parking garage and the new building. Furthermore, the project Applicant would be required to obtain approval of a Fire Master Plan and incorporate it into the project's design prior to the issuance of a building permit. This would ensure that the project's design provides adequate fire equipment access and fire suppression resources to the project site. Therefore, the proposed project is consistent with Policy 3.4.
Policy 3.5: Establish and maintain optimal emergency response times for fire safety. Require new development to ensure that City response times and service standards are maintained.	**Consistent.** As discussed in Section 4.15, Public Services, the proposed project would not increase the number of permanent occupants on the site, thereby increasing calls for service to the project site as compared to existing conditions. The four-story medical office building would be within the Fire Departments existing service capacity. Furthermore, the proposed project is subject to a Fire Protection Facility Program Fee (RCM-PS-1). As such, implementation of the proposed project would not impact the Fire Department's ability to maintain optimal emergency response times for fire safety. The project would contribute its fair-share proportion of funding necessary for the Fire Department to continue to maintain existing levels of service. Therefore, the proposed project is consistent with Policy 3.5.
Goal 7.0: Improve community safety and reduce opportunities for criminal activity.	
Policy 7.3: Maximize natural surveillance through physical design features, including, but not limited to, visible entryways from surrounding structures and businesses; well-defined and visible walkways and gates; well-lighted driveways, walkways and exteriors; and landscaping that preserves of enhances visibility.	**Consistent.** As previously discussed, the project's frontage, which contains the proposed plaza area and building entrance, are visible from a commercial retail center adjacent to the project site. Furthermore, on-site lighting would be spaced and lit to meet safety and orientation needs. Raised planters located between the building columns along Main Street would create a pedestrian friendly environment. Therefore, the proposed project is consistent with Policy 7.3.
Policy 7.5: Maximize security of public spaces, recreation facilities, and new development by encouraging complementary uses that support a safe environment.	**Consistent.** There are no "public spaces" on site; however, the plaza and outdoor walkways would be very visible from several on-site locations and would be well lit. On-site lighting would be situated and spaced to meet orientation and safety needs. Additionally, the plaza area would be situated on the portion of the project site that is adjacent to a commercial retail center to the south across Stewart Drive. As such, users of the project's proposed plaza would be in proximity to users and employees of the commercial retail center, which contains outdoor seating and pedestrian areas similar to that of the proposed plaza, which would support a safe environment for project users. Therefore, the proposed project is consistent with Policy 7.5.

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
NOISE ELEMENT	
Goal 1.0: Promote a pattern of land uses compatible with current and future noise levels.	
Policy 1.1: Consider potential excessive noise levels when making land use planning decisions.	**Consistent.** As discussed in Section 4.13, Noise, the proposed project would not generate an increase in ambient noise levels or excessive groundborne vibration or groundborne noise levels. As such, the proposed project would be consistent with Policy 1.1.
Policy 1.4: Ensure that acceptable noise levels are maintained near noise-sensitive uses.	**Consistent.** The project site is located within the vicinity of the St. Joseph Hospital Campus. The associated hospital is considered a noise-sensitive use in the area. As previously established, the proposed project would not generate an increase in ambient noise levels or excessive groundborne vibration or groundborne noise levels. Acceptable noise levels would be maintained near noise-sensitive uses. Therefore, the proposed project would be consistent with Policy 1.4.
INFRASTRUCTURE ELEMENT	
Goal 1.0: Ensure water, sewer, and storm drain systems that meet the needs of residents and businesses.	
Policy 1.6: Require that the new development fund fair-share costs associated with City provision of water, sewer, and storm drain system and are consistent with City and service provider plans to complete needed improvement and funding capacity for such improvements.	**Consistent.** Refer to RCM-UTL-2. The proposed project would be subject to a sewer main connection fee to fund its fair-share proportion of the costs associated with the City provision of water, sewer, and the storm drain system. Furthermore, as discussed in Response 4.19(a), the demand for water and wastewater services generated by proposed development can be provided for within the service providers' existing supply and would not exceed projected supplies. As such, the proposed project would not impede City and service provider plans to complete needed improvements. Therefore, the proposed project is consistent with Policy 1.6.
URBAN DESIGN ELEMENT	
Goal 1.0: Promote streetscapes that enhance the economic vitality and overall vision and quality of commercial corridors, support the circulation network, and support pedestrian-scale streets and patterns of activity.	
Policy 1.1: Enhance the streetscape along the City's major commercial corridors and other major streets through coordinated public and private improvements to convey a positive image of the district, contribute to its economic vitality and perception of the City, and improve visual and physical transitions into adjacent neighborhoods. Streetscape designs should include wide sidewalks to accommodate unified landscaping, trees, lighting, paving, street furniture, and other public improvements appropriate to the scale of the streets.	**Consistent.** As previously discussed, the proposed project would improve the streetscape along Main Street and Stewart Drive by developing a that plaza located at the corner of Main Street and Stewart Drive would include decorative pavers for walkway definition, outdoor tables and chairs, umbrellas, plant containers, a vertical obelisk, and signage. On-site landscaping would include raised concrete planters containing ornamental grasses along Main Street. Street trees would be planted along Main Street and Stewart Drive, and decorative concrete pavers and square plant containers would be installed along the Stewart Drive frontage. These streetscape improvements would enhance the Main Street commercial corridor and perception of the South Main Street Corridor. Therefore, the proposed project is consistent with Policy 1.1.
ECONOMIC DEVELOPMENT ELEMENT	
Goal 3.0: Strengthen the City's economic base and stimulate employment through new commercial and industrial development and expansion.	
Policy 3.2: Encourage public and private sector investments that promote commercial development and expansion opportunities	**Consistent.** Development of the proposed project would be the result of a private sector investment to redevelop several underutilized properties along Main Street with a four-story office building to provide medical offices and commercial uses that complement the adjacent St. Joseph Hospital Campus and Children's Hospital of Orange County. Therefore, the proposed project is consistent with Policy 3.2.

Table 4.11.A: General Plan Consistency Analysis

Relevant General Plan Policies	Consistency Analysis
Goal 5.0: Improve economic viability of business districts through aesthetic enhancement, reconstruction, rehabilitation, and elimination of physical deterioration.	
Policy 5.3: Improve the long-term economic viability of Old Towne, South Main Street, Katella Avenue, Uptown Orange, The Outlets at Orange, and the Town and Country Road area by introducing mixed-use residential, commercial, and office projects that are visually and economically compatible with their surroundings.	**Consistent.** The proposed project would redevelop several underutilized properties along Main Street within the City's South Main Street Corridor. The replacement of older, underutilized uses on the project site with a new medical office building would represent an improvement and would be visually compatible with surrounding uses. The introduction of a four-story medical office building along Main Street within the vicinity of the St. Joseph Hospital Campus would promote the develop of a medical corridor and capitalize on existing medical and hospital uses in the project area. As such, the proposed use would improve the long-term economic viability of South Main Street and introduce a use that is economically compatible with its surroundings. Therefore, the proposed project is consistent with Policy 5.3.

AQMP = Air Quality Management Plan
CBC = California Building Code
City = City of Orange
IS/MND = Initial Study/Mitigated Negative Declaration
LOS = level of service
OP = Operating Memorandum

Southwest Design Standards. The City has adopted design standards for the purpose of improving the aesthetic environment and encouraging reinvestment by property owners in the areas that were formerly located within the Southwest Redevelopment Project Area (City 2018). Separate design standards regulate development within each of the three thematic districts that are subject to the Southwest Design Standards. The project site is located within the South Main/La Veta Thematic District, which includes financial, medical, and business offices as well as retail commercial developments. An urban contemporary theme has been established for the South Main/La Veta Thematic District. Table 4.11.B provides a consistency analysis of the proposed project with the applicable design guidelines of the Southwest Redevelopment Project Area. As indicated in Table 4.11.B, the proposed project would comply with the City's Southwest Design Standards that apply to the South Main/La Veta Thematic District. Impacts related to conflicts with the design guidelines are less than significant, and no mitigation is required.

Table 4.11.B: Southwest Design Guidelines Consistency Analysis

Relevant Design Guidelines	Consistency Analysis
SOUTH MAIN/LA VETA THEMATIC DISTRICT	
1. Architectural Design Standards	
a. Site Design As with the West Chapman District, limited parcel size restricts the flexibility in the site design in this district. Those parcels without proximity to residentially-zoned parcels have more potential for high rise development, and are located primarily at the south end of this district. For parcels of two acres or more in size, or where large scale buildings (three stories or more) are involved, the standards set forth in the State College District for site design shall be followed.	**Consistent.** The project site is 1.14 acres in size. However, the project proposes the construction and operation of a four-story building. As such, the site design standards set forth in the State College Thematic District are applicable. See below for consistency analysis with site design guidelines in the State College Thematic District.
b. Building Design Existing buildings in the South Main/La Veta Thematic District vary widely in height, mass, and scale from the high-rise buildings at the south end to the freestanding single-story buildings at the south end to the freestanding single-story buildings at the north end. Although considerable new development is anticipated, and the number of large scale office/ financial/medical buildings is expected to increase, the district is likely to retain a lively mixture of building sizes due to the variations in parcel size and zoning restrictions on building height near residential uses. The design zone is an important tool for this district to help meld the potential variations into a unified district. However, not all portions of the District currently include suitable buildings for use in the design zone. Until additional buildings are designed under these Standards, architects/designers shall consult with Redevelopment staff to determine which buildings in the design zone are applicable. If none are suitable, examples of buildings from adjacent design zones or the district will be used. The Redevelopment staff has a listing of suitable buildings. The following standards shall regulate new construction and remodeling in the South Main Street/La Veta Avenue District: • The mass and scale of new or remodeled buildings in this district shall be consistent with relevant buildings in the Design Zone. Because there is a variation from high-rise to low-rise and from south to north in the district, the use of the Design Zone will help to reinforce this variation, and encourage a gradual blending of the two, where feasible. • Buildings of large mass should be designed to avoid a box-like appearance by horizontal or vertical articulation of the form itself, or by use of varied materials, textures, or colors. • The rhythm and scale of building components, including window and door openings, shall be consistent with applicable buildings in the Design Zone. Since all of the buildings in this district will feature contemporary designs, the rhythm and scale of building components will be fairly similar throughout the district. Since this district is intended to be the contemporary urban setting of the study area, these components should provide a more intimate scale then those used in the "corporate" State College District; however,	**Consistent.** The proposed project would be similar in mass and scale with relevant buildings in the design zone, including the adjacent St. Joseph Hospital Campus. The proposed project's medical office building would be approximately four stories in height, and would be constructed in a modern architectural style featuring various materials, textures, and colors. All four stories of the medical office building would feature a glass façade, with a geometric design comprised of metal panels. The primary façades facing Main Street and Stewart Drive would be composed primarily of glass with low exterior reflectance (less than 20 percent) and moderate light transmittance. The first-floor elevation would sit back from the stories above to highlight the proposed retail tenants. These façades would also incorporate the use of metal panels to break up the length of the elevation along Main Street, providing building articulation, and to celebrate the entrance to the St. Joseph Hospital Campus. The north and west sides of the medical office building would use an exterior insulation finishing system (EIFS) with reveals and punched openings. The materials and colors would complement the architectural design already established on the existing St. Joseph Hospital Campus. Therefore, the proposed project would be consistent with building design guidelines in the South Main/ La Veta Thematic District.

Table 4.11.B: Southwest Design Guidelines Consistency Analysis

Relevant Design Guidelines	Consistency Analysis
asymmetrical placement and varied scale, consistent with contemporary designs are permitted. Mid-range components, as found in the West Chapman Avenue District near Main Street, will be generally appropriate for South Main Street near Chapman Avenue. (See figure 32.) • The texture of new or remodeled facades shall be compatible with suitable buildings in the Design Zone. In general the textures used for this district should reflect contemporary styling, but with sufficient detailing to provide an intimate scale, particularly at entryways, or on smaller freestanding buildings. (See Section c, Building Materials Palette.) • Buildings within the Design Zone shall be reviewed in terms of colors used, and shall be compatible with those colors.	
c. Building Materials Palette Because the buildings in this district will vary in mass and scale, the building materials used will also vary. The materials selected shall be consistent with those used in the Design Zone and consistent with the scale of the proposed building. While other materials may be acceptable, the following materials primarily should be used: <u>Building Walls</u> • Reflective glass or tinted glass in limited amounts as follows: 1. Reflective glass is not permitted on one story buildings or the first floor of buildings with more than one story; 2. Reflective or tinted glass cannot be used to define the mass of the building, but is acceptable as an accent; and 3. Reflective glass shall not be the "mirror look" highly reflective type. The reflective co-efficient of any reflective glass used shall be less than 30. Where tinted glass is allowed, the transmittance co-efficient shall be greater than 30. • Concrete, plaster or stucco. • Smooth finished wood may be used as accents or as wall surfacing, rough sawn wood may be used as a trim material or accent. • Brick, terra cotta, cut or carved stone especially for freestanding buildings, or as an accent to promote intimate scale at entries. Materials to be avoided include: <u>Building Walls</u> • Reflective or tinted glass as a full-wall surface. (See restrictions above.) • Rough sawn or "natural" wood is not permitted for a full-wall surface.	**Consistent.** As stated previously, all four stories of the medical office building would feature a glass façade, with a geometric design comprised of metal panels. The primary façades facing Main Street and Stewart Drive would be composed primarily of glass with low exterior reflectance (less than 20 percent) and moderate light transmittance. The materials and colors would complement the architectural design already established on the existing St. Joseph Hospital Campus. It should also be noted that no fences, gates, or walls are proposed as part of the project, and the roof would not be visible from the street. Design guidelines pertaining to these features are not applicable to the proposed project. Therefore, the proposed project would be consistent with building materials palette guidelines in the South Main/ La Veta Thematic District.

Table 4.11.B: Southwest Design Guidelines Consistency Analysis

Relevant Design Guidelines	Consistency Analysis
2. Landscape Design Standards	
a. Primary Street Frontage Zone • The Primary Street Frontage Zone in this district includes Main Street, south of Almond Avenue to the overpass for the Garden Grove Freeway (SR-22), and La Veta Avenue from Crest Road to Batavia Street. • Street Frontage zone – A minimum 16' setback is required from the street curb to the building wall or parking area. (See Figure 34.) • Parkway and Sidewalks – A 10'-wide sidewalk shall be separated from the curb by a 4' wide parkway. (See Figure 34.) The sidewalk shall be of non-colored concrete with a medium broom finish. Brick banding across the sidewalk and around the tree wells shall be provided, as illustrated in Figure 35. The brick shall be common brick to blend with the brick utilized in the Old Towne streetscape design. The parkway shall be planted with a continuous hedgerow of Ligustrum japonicum (Wax-Leaf Privet). The hedgerow shall be maintained at a 36" height. Shrubs shall be installed at a minimum five-gallon size at 3' on center. Where visual clearance is required at driveways and/or intersections, the parkway shall be planted with turf or an approved ground cover in the designated clearance zone. • Street Trees – Street trees shall be Ficus benjamina (Weeping Chinese Banyan) planted in panels of two trees at 40' on center, allowing for coordination with individual site plans as necessary. (See Figure 34.) Trees within the parkway shall be planted as an integral part of the parkway; trees planted in the sidewalk shall be planted in 4' tree wells aligned with the sidewalk, as shown in Figure 35. Tree wells shall be covered with a grate. All street trees shall be a minimum of 36" box-size, and shall be installed with deep root barriers and a drip irrigation system. • Irrigation – Low-volume irrigation design and equipment shall be provided for all planted areas within the street frontage zone. Drip irrigation design shall be used for all street trees in the tree wells. All irrigation shall be automatically controlled, and no overthrow of irrigation water onto sidewalks or other common area will be allowed. All irrigation backflow- prevention devices, and any other related structures, shall be located outside the street frontage zone, and visually screened from the street.	**Consistent.** The proposed project is located on Main Street (south of Almond Avenue and north of the overpass for SR-22), which is considered a primary street frontage zone. The front setback of the proposed project would exceed 20 ft in order to include a publicly accessible outdoor plaza with seating. All of the existing landscaping and trees on the project site, including one street tree along Main Street, would be removed and replaced with a new plant palette. On-site landscaping would include raised concrete planters containing ornamental grasses along Main Street. Street trees would be planted along Main Street and Stewart Drive, and decorative concrete pavers and square plant containers would be installed along the Stewart Drive frontage. All on-site landscaping would be installed in compliance with Section 17.19.160, Landscaping, of the City's Municipal Code. A plaza located at the corner of Main Street and Stewart Drive would activate the entrance to the St. Joseph Hospital Campus. The plaza would be defined with decorative concrete pavers, outdoor tables and chairs, umbrellas, plant containers, a vertical obelisk, and signage. Raised planters located between the building columns along Main Street would soften the building elevation and create a pedestrian friendly environment. Similar planters are also proposed to screen the at-grade short-term parking lot. The project would include the installation of water-efficient irrigation systems and devices, such as soil-moisture-based irrigation controls, and use water-efficient irrigation methods in accordance with Title 24 codes. Therefore, the proposed project would be consistent with the intent of landscape design standards related to primary street frontage zones in the South Main/La Veta Thematic District.

Table 4.11.B: Southwest Design Guidelines Consistency Analysis

Relevant Design Guidelines	Consistency Analysis
b. Secondary Street Frontage Zone • Street Trees – Street trees are required on all streets within the district. Trees should match the existing predominant street tree species, if one exists, or to be selected from the Plant Schedule in Appendix C. Street tree plantings should maintain a maximum of 40' on center, and be a minimum of 24" box material. Sidewalk alignment and parkway plantings shall also blend with existing improvements.	**Consistent.** The proposed project is located on Stewart Drive, which is considered a secondary street frontage zone. All of the existing landscaping and trees on the project site would be removed and replaced with a new plant palette. Street trees proposed along Stewart Drive would be a minimum of 24-inch boxes. Therefore, the proposed project would be consistent with the intent of landscape design standards related to secondary street frontage zones in the South Main/ La Veta Thematic District.
d. Private Improvements • Screening of parking areas from the major streets shall be achieved by the street frontage zone landscape requirements. Parking lots with frontage onto secondary streets shall provide for a 10' landscaped area, with a maximum 42" height on plant materials or other features (exclusive of trees). In order to ensure a consistency between the streetscape and the "backdrop" created by large parking areas adjacent to Main Street and/or La Veta Avenue, tree selections shall be limited to those listed on the Plant Schedule. (See Appendix C.) • Access Driveways – The number of access points on Main Street and La Veta Avenue shall be minimized. Common access driveways shall be encouraged. The access driveway zone is illustrated in Figure 39. Planting islands are required on either side of the driveway to screen parking. The location of ground signs along Main Street and La Veta Avenue is encouraged within this driveway area. Other features encouraged and/or allowed for access driveways include special paving and planted medians within the driveway. • Irrigation – Low-volume irrigation design and equipment shall be provided for all planted areas within individual development sites. All landscaped areas are required to have fully-automatic systems.	**Consistent.** The surface parking area along Main Street would be screened from view by landscaping, including several 24-inch box trees. The project would provide a full-access driveway along Main Street and an exit driveway to Palmyra Avenue. The project would include the installation of water-efficient irrigation systems and devices, such as soil-moisture-based irrigation controls, and use water-efficient irrigation methods in accordance with Title 24 codes. Therefore, the proposed project would be consistent with the intent of landscape design standards related to private improvements in the South Main/La Veta Thematic District.
STATE COLLEGE THEMATIC DISTRICT	
3. Architectural Design Standards	
a. Site design Many of the large-scale developments in the State College District will include multiple buildings, designed as a single development project. Because of their size, multi-building large-scale developments tend to be viewed as distinct units. Therefore, the need for compatibility with neighboring buildings and application of the design zone is less important here than in other districts; however, because large land parcels allow for flexibility in siting, the need for good site design is increased. The Redevelopment staff can provide examples of suitable building and site design if needed.	**Consistent.** The project site is 1.14 acres in size and is located in the South Main/La Veta Thematic District. However, the project proposes the construction and operation of a four-story building. As such, the site design standards set forth in the State College Thematic District are applicable, as discussed below. The proposed building would not create a cavernous effect of closely-spaced tall buildings because setbacks from surrounding buildings would be adequately spaced. Due to the relatively small size of the site, walking distances between the building and parking areas would be convenient for visitors to the site. A plaza located at the corner of Main Street and Stewart Drive would activate the entrance to the St. Joseph Hospital Campus. The plaza would be defined with decorative concrete pavers, outdoor tables and chairs, umbrellas, plant containers, a vertical obelisk, and signage. Raised

Table 4.11.B: Southwest Design Guidelines Consistency Analysis

Relevant Design Guidelines	Consistency Analysis
The following factors should be considered in the site design of projects within the State College District: • Locate and design buildings to avoid the cavernous effect of closely-spaced tall buildings. This may be accomplished by providing adequate spacing between buildings (a distance of at least one-fourth the combined height of the two buildings is recommended), or by stepping back above the second story. Such stepping back should occur on all significant sides, such as those facing major entries or plazas. • Locate buildings to provide convenient walking distances between buildings, and between buildings and parking areas or structures. • Link high-rise buildings with outdoor plazas or similar amenities for employees and visitors to create a sense of place, and provide coordination and continuity between buildings in a single development. The intent of these standards is to encourage the creation of usable outdoor spaces that are attractive to people. • Locate buildings and accessways to insure that outdoor plazas and courtyards are easily accessible, and that they provide desirable sun and shade for users (See Figure 9.) • Design buildings and the distances between buildings to minimize "wind tunnel" or vortex" effects at ground level, particularly at entrances or in plazas. • Provide landscape buffers between large-scale buildings and adjacent arterials, wherever possible, to avoid a sense of overcrowding the street. (See landscape standards for detailed standards.) • Locate buildings and on-site circulation systems to minimize pedestrian/vehicle conflicts where possible. (See Figure 10.) • Where pedestrian linkages between project sites already exist, or can be created, developers are encouraged to retain or establish these. Many of the buildings, both existing in and proposed for the State College District, are generally large in mass and monumental in scale. Where buildings of one or two stories exist, these are often collected into larger groups, or are spread over a large ground-floor area, or "footprints". For example, several of the motels in the area are large in mass, even though they are only two stories in height, because they extend several hundred feet in length. Other buildings, such as the office buildings at the south end of Anita Drive, are large both in mass and scale. The following factors should be considered in the design of new buildings, or remodeling existing buildings in the State College District: • Buildings of large mass and monumental scale are encouraged in the State College District. However, entry areas should provide design elements and/or landscaping of human or intimate scale. (See	planters located between the building columns along Main Street would soften the building elevation and create a pedestrian friendly environment. Proposed street trees would act as buffers between the building and arterial streets. Raised planters located between the building columns along Main Street would soften the building elevation and create a pedestrian friendly environment. These proposed features would help create a sense of place on the project site by providing attractive, usable outdoor spaces. The proposed project would include entrances on the north and south sides of the medical office building. Pedestrians would be able to access the southern entrance from the sidewalk along Stewart Drive. A walkway along the north side of the medical office building would provide access to the northern building entrance. Crosswalks would provide safe pedestrian access between the building entrance and the short-term parking spaces off Columbia Place as well as the existing St. Joseph Hospital Campus parking garage to the east of the project site. As stated previously, the proposed project's medical office building would be four stories in height, and would be constructed in a modern architectural style featuring various materials, textures, and colors. All four stories of the medical office building would feature a glass façade, with a geometric design comprised of metal panels. These façades would also incorporate the use of metal panels to break up the length of the elevation along Main Street, providing building articulation, and to celebrate the entrance to the St. Joseph Hospital Campus. The building's design features and use of varied materials avoid a box-like appearance. The materials and colors would complement the architectural design already established on the existing St. Joseph Hospital Campus. For the reasons stated above, the proposed project would be consistent with site design guidelines in the State College Thematic District.

Table 4.11.B: Southwest Design Guidelines Consistency Analysis

Relevant Design Guidelines	Consistency Analysis
Figure 11.) • Buildings of large mass should be designed to avoid a box-like appearance by horizontal or vertical articulation of the form itself or by use of varied materials, textures, or colors. (See Figure 12.)	

City = City of Orange
IS/MND = Initial Study/Mitigated Negative Declaration

Zoning Ordinance. Title 17 (Zoning Ordinance) of the City's Municipal Code is the primary implementation tool for the General Plan Land Use Element and the goals and policies contained therein. For this reason, the Zoning Map must be consistent with the General Plan Land Use Map. The Land Use Policy Map indicates the general location and extent of future land use in the City. The Zoning Ordinance, which includes the Zoning Map, contains more detailed information about permitted land uses, building intensities, and required development standards.

Based on the City's Zoning Map, the project site is zoned Neighborhood Mixed Use (NMU-24). The NMU-24 zoning district is intended to provide local- and neighborhood-supporting mixed-use activity centers and corridors. Uses supportive of a medical-related corridor are encouraged along South Main Street. As such, the proposed project would be consistent with the NMU-24 zoning designation. Therefore, the proposed project would be consistent with the City's Zoning Code, and no mitigation is required.

Development Agreement. As described in the Project Description, two of the three parcels included in the project site (the existing medical office buildings) are subject to a Development Agreement approved in 2004 that addresses development capacity within the St. Joseph Hospital Campus. An administrative amendment to the 2004 Development Agreement between St. Joseph Hospital and the City is anticipated. A provision in the 2004 Development Agreement allows the City to establish an Operating Memorandum (OP) for administrative modifications by the City Manager. It is anticipated that an OP would be created to amend the 2004 Development Agreement for the proposed project. The project is designed to further the implementation of the 2004 Development Agreement for the St. Joseph Hospital Campus Master Plan by redeveloping several underutilized properties along Main Street near existing hospital uses. Therefore, with the approval of the OP, the proposed project would be consistent with the 2004 Development Agreement.

Summary. The proposed project is consistent with the City's General Plan and Zoning Ordinance, and the OP to update the 2004 Development Agreement. Therefore, the proposed project would result in less than significant impacts related to conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

4.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Impact Analysis

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

According to the Generalized Mineral Land Classification of Orange County Map – Aggregate Resources Only (California Department of Conservation, Division of Mines and Geology, now the California Geological Survey [CGS], R.V. Miller, 1994) the project site exists within Plate 4, which is part of a group of locations classified under 'Designated Areas Urbanized'. Given that this Plate 4 area is also within a Not Classified zone, this suggests the likelihood of minerals being extracted at the project site is unlikely. Furthermore, the map also clearly defines areas within the City of Orange that have adequate information indicating the high likelihood for significant mineral deposits (Mineral Resource Zone MRZ-2). According to United States Geological Survey (USGS) on-line data system for mineral resources[1], there are area five D-level records of past or present mines located within a 3-mile radius of the project location. Based on these sources indicating that the project is shown to not be immediately located in any of these clearly defined mineral resource areas would further suggest that the project area would not experience the loss of availability to any known mineral resource that is valuable to the region and the State residents, no impact would occur related to mineral resources would occur, and no mitigation is required

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

As stated in Response 4.11(a), according to the Geologic Map of Orange County for Mines and Mineral Deposits, the project area is clearly shown to not be a part of any mineral resource zones, which would suggest a high unlikelihood of minerals being extracted at the project site. Therefore, no impact would occur, and no mitigation is required.

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[1] United States Geological Survey (USGS). 2018. Mineral Resources Spatial Data. Website: https://mrdata. usgs.gov/ mineral-resources/mrds-us.html (accessed June 12, 2020).

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

4.13 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☒	☐

Technical Background:

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

Characteristics of Sound

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

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

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting

factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours), and a 10 dBA weighting factor applied to noises occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term noise impact assessment. Other noise rating scales of importance when assessing the annoyance factor include the maximum instantaneous noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max}, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels (3 dB or greater) are considered potentially significant.

Characteristics of Vibration

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors where the motion may be discernible. However, without the effects associated with the shaking of a building, there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Building damage is not a factor for normal operation and construction activities with the occasional exception of blasting and pile driving during construction.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Impacts with ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) of the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft (Federal Transit Administration [FTA] *Transit Noise and Vibration Impact Assessment Manual* (September 2018) (FTA Manual). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. For most projects, it is assumed that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction activities have the potential to result in ground-borne vibration that could be perceptible and annoying. Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path usually will be greater than ground-borne noise.

Ground-borne vibration has the potential to disturb people as well as damage buildings. Although it is very rare for ground-borne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to

damage nearby buildings (FTA 2006). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). RMS is best for characterizing human response to building vibration, and PPV is used to characterize the potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_V = 20 \log10 [V/Vref]$$

where L_V is the velocity in decibels (VdB), "V" is the RMS velocity amplitude, and "Vref" is the reference velocity amplitude, or 1 x 10-6 inches per second (inch/sec) used in the United States.

Applicable Noise Standards

The applicable noise standards governing the project site include the criteria in the City's Noise Element of the General Plan (revised December 2015) and Section 8.24 of the City of Orange Municipal Code .

City of Orange General Plan Noise Element

The Noise Element provides the City's goals and policies related to noise, including the land use compatibility guidelines for community exterior noise environments. The Noise Element also sets noise maximum allowable noise exposure standards for transportation sources in Table 4.13.A and maximum allowable noise exposure standards for stationary sources in Table 4.13.B below.

In addition, according to the Noise Element, for analysis of noise impacts and determining appropriate mitigation under CEQA, in addition to the maximum allowable noise level standards outlined in Tables 4.13.A and 4.13.B, an increase in ambient noise levels is assumed to be a significant noise impact if a project causes ambient noise levels to exceed the following:

- Where the existing ambient noise level is less than 65 dBA, a project-related permanent increase in ambient noise levels of 5 dBA CNEL or greater.
- Where the existing ambient noise level is greater than 65 dBA, a project-related permanent increase in ambient noise levels of 3 dBA CNEL or greater.

According to Figure N-1 in the City's General Plan, based on 2004 noise contours, the Project site is subject to noise levels of approximately 65 dBA CNEL.

City of Orange Municipal Code

The City addresses noise in Chapter 8.24, Noise Control, of the Municipal Code, which states that construction noise is exempt from the standards identified in Table 4.13.B if construction activities occur during the hours of 7:00 a.m. to 8:00 p.m., Monday through Saturday, and during the hours of 9:00 a.m. to 8:00 p.m. on Sundays and federal holidays.

Table 4.13.A: Maximum Allowable Noise Exposure—Transportation Sources

Land Use		CNEL (dBA)	
Designations	**Uses**	**Interior[a,c]**	**Exterior[b]**
Estate Low Density Residential Low Density Residential Low Medium Density Residential	Single-family, duplex, and multiple-family	45	65
	Mobile home park	N/A	65
Medium Density Residential Neighborhood Mixed-Use Neighborhood Office Professional Old Towne Mixed-Use General Commercial Yorba Commercial Overlay Urban Mixed-Use Urban Office Professional	Single-family	45	65
	Mobile home park	N/A	65
	Multiple-family, mixed-use	45	65[d,e]
	Transient lodging—motels, hotels	45	N/A
	Sports arenas, outdoor spectator sports	N/A	N/A
	Auditoriums, concert halls, amphitheaters	45	N/A
	Office buildings, business, commercial and professional	50	N/A
Light Industrial Industrial	Manufacturing, utilities, agriculture	N/A	N/A
Public Facilities and Institutions	Schools, nursing homes, day-care facilities, hospitals, convalescent facilities, dormitories	45	65
	Government Facilities—offices, fire stations, community buildings	45	N/A
	Places of worship, churches	45	N/A
	Libraries	45	N/A
	Utilities	N/A	N/A
Recreation Commercial	Playgrounds, neighborhood parks	N/A	70
Open Space Open Space—Park Open Space—Ridgeline Resource Area	Golf courses, riding stables, water recreation, cemeteries	N/A	N/A

Source: City of Orange (2015).
Notes:
[a] Interior habitable environment excludes bathrooms, closets, and corridors.
[b] Exterior noise level standard to be applied at outdoor activity areas; such as private yards, patios, or balconies of a multifamily residence. Where the location of an outdoor activity area is unknown or not applicable, the noise standard shall be applied inside the property line of the receiving land use.
[c] Interior noise standards shall be satisfied with windows in the closed position. Mechanical ventilation shall be provided per Uniform Building Code requirements.
[d] Within the Urban Mixed-Use, Neighborhood Mixed-Use, Old Towne Mixed-Use, and Medium Density Residential land use designations, exterior space standards apply only to common outdoor recreational areas.
[e] Within Urban Mixed-Use and Medium Density Residential land use designations, exterior noise levels on private patios or balconies within 250 feet of freeways (I-5, SR-57, SR-55, SR-22, or SR-241) and Smart Streets and Principal Arterials identified in the Circulation and Mobility Element that exceed 70 decibels should provide additional common open space.
dBA = A-weighted decibels
I = Interstate
N/A = not applicable
SR = State Route

Table 4.13.B: Maximum Allowable Noise Exposure—Stationary Noise Sources

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Level (L_{eq}), dBA	55	45
Maximum Level (L_{max}), dBA	70	65

Source: City of Orange (2015).
Notes:
[a] These standards apply to new or existing noise-sensitive land uses affected by new or existing non-transportation noise sources, as determined at the outdoor activity area of the receiving land use. However, these noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
[b] Each of the noise levels specified above should be lowered by 5 dB for simple-tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
[c] No standards have been included for interior noise levels. Standard construction practices that comply with the exterior noise levels identified in this table generally result in acceptable interior noise levels.
[d] The City of Orange may impose noise level standards that are more or less restrictive than those specified above based on determination of existing low or high ambient noise levels. If the existing ambient noise level exceeds the standards listed in this table, then the noise level standards shall be increased at 3 dB increments to encompass the ambient environment. Noise level standards incorporating adjustments for existing ambient noise levels shall not exceed a maximum of 70 dBA L_{eq}.
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

Federal Transit Administration

Given that the Municipal Code exempts construction activities and that no standard criteria for assessing construction noise impacts is provided, for the purpose of determining the amount of noise increase experienced at noise-sensitive uses surrounding the project, the guidelines within the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) are used in this analysis for construction noise impact identification. The guidelines for construction noise identify a noise level criterion of 90 dBA L_{eq} for residential uses. This provides reasonable criterion for assessing construction noise impacts based on the potential for adverse community reaction when the noise criterion is exceeded.

Applicable Vibration Standards

Due to the lack of vibration standards developed for projects similar to the proposed project, vibration standards included in the FTA Manual are used in this analysis to determine ground-borne vibration impacts, as shown in Table 4.13.C.

Table 4.13.C: Construction Vibration Damage Criteria

Building Category	PPV (inch/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
FTA = Federal Transit Administration PPV = peak particle velocity
inch/sec = inches per second

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table 4.13.C lists the potential vibration damage criteria associated with construction activities, as suggested in the FTA Manual. FTA guidelines show that a vibration level of up to 0.5 inch per second [inch/sec] in PPV is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 0.2 inch/sec in PPV.

Thresholds of Significance

A project would normally have a significant effect on the environment related to noise if it would substantially increase the ambient noise levels for adjoining areas or conflict with the adopted environmental plans and the goals of the community in which the project is located. The following were used to determine whether the project would result in a significant noise impact:

For off-site transportation-related impacts:

- Where the existing ambient noise level is less than 65 dBA and a project-related permanent increase in ambient noise levels of 5 dBA CNEL or greater occurs.

- Where the existing ambient noise level is greater than 65 dBA and a project-related permanent increase in ambient noise levels of 3 dBA CNEL or greater occurs.

For non-transportation-related stationary source impacts, including operations:

- If current noise levels experienced at the surrounding sensitive uses are less than the hourly daytime noise level standards, then an exceedance of the standards listed in Table 4.13.B would constitute a potentially significant impact.

- If current noise levels experienced at the surrounding sensitive uses are greater than the hourly daytime noise level standard listed in Table 4.13.B, then a perceptible increase of 3 dBA or more would constitute a potentially significant impact.

For construction-related noise and vibration impacts:

- Lack of compliance with the City Municipal Code and exceedance of the FTA standards listed above in Table 4.13.C.

Existing Noise Environment

The project site is located at the northeast corner of Main Street and Stewart Drive. Currently, the site consists of two medical office buildings and one motel, all of which will be demolished as part of the project. The surrounding uses include the following:

- **North:** Vacant commercial property with an existing empty building immediately adjacent. An existing office use located northeast 80 ft from the project property line. Further north, across Palmyra Avenue is an existing multi-family development, which is located 240 ft from the project property line.

- **South:** West Stewart Drive and existing office and commercial uses are located 70 ft from the project property line.

- **East:** The St. Joseph Hospital Parking Garage is located 20 ft from the project property line and an existing dental office is located 55 ft from the project property line.

- **West:** Main Street and existing commercial uses are located 100 ft from the project property line.

The noise levels at the project site and surrounding areas are dominated by traffic on Main Street, while periodic noise is experienced from Stewart Drive, parking lot activities at the existing St. Joseph Hospital Parking Garage, and operations at the commercial uses to the south and west.

Existing Noise Level Measurements

In order to assess the existing noise conditions in the area, noise measurements were gathered at the project site, the locations of which are shown in Figure 4.13-1. Three long-term 24-hour measurements (LT-1, LT-2, and LT-3) were taken from May 20 to May 21, 2020. The results of the noise measurements are shown in Table 4.13.D below. It should be noted that the results presented in Table 4.13.D are likely slightly lower than typical conditions due to the statewide shelter-in-place orders that were in effect during the measurements, likely resulting in lower traffic volumes on the surrounding roadways. The results of the noise modeling will be adjusted within the analysis to account for the difference in noise levels currently versus typical conditions.

Table 4.13.D: Existing Noise Level Measurements

Location	Description	Range of Daytime Noise Levels (dBA L_{eq})	Range of Evening Noise Levels (dBA L_{eq})	Range of Nighttime Noise Levels (dBA L_{eq})	Average Daily Noise Level (dBA CNEL)
LT-1	West side of the project site on top of the existing building at 363 South Main Street	61.5 – 65.9	60.6 – 62.7	53.6 – 63.0	66.5
LT-2	East side of the project site on top of the existing building at 363 South Main Street	55.7 – 63.7	54.4 – 58.3	50.5 – 58.4	62.5
LT-3	Northwest corner of 1307 West Stewart Drive	59.0 – 64.2	55.1 – 58.3	50.5 – 61.4	63.9

Source: LSA (May 20- 21, 2020).
dBA = A-weighted decibel
L_{eq} = average noise level
CNEL= Community Noise Equivalent Level

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LSA

LEGEND

Project Location

LT-1 Long-term Noise Monitor Location

FIGURE 4.13-1

N

0 75 150

FEET

SOURCE: Google Earth, 2020

I:\PMB2001\G\Noise_Monitor_Locs.ai (6/15/2020)

Main Street Medical Office Building

Noise Monitoring Locations

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Existing Traffic Noise Contours

The guidelines included in the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (1977; FHWA RD-77-108) were used to evaluate traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Existing traffic noise contours along modeled roadway segments are shown in Table 4.13.E, which were taken from the *CEQA Transportation Impact and Access Analysis – Main Street Medical Office Building* (CEQA Transportation Impact and Access Analysis) (LSA, June 2020) (Appendix G). These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the locations where the noise contours are drawn. Noise levels at the project site are estimated to be 68.1 dBA CNEL at a distance of 50 ft. This resulting noise level estimate indicates that measured noise levels, where adjusted to 50 ft, are 1 dBA, or slightly below, typical conditions.

Table 4.13.E: Existing Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Roadway
Main Street north of Almond Avenue	31,000	72	136	282	68.1
Main Street between Almond Avenue and Palmyra Avenue	31,000	72	136	282	68.1
Main Street between Palmyra Avenue and Culver Avenue/Stewart Drive	31,000	72	136	282	68.1
Main Street between Culver Avenue/ Stewart Drive and La Veta Avenue	31,000	72	136	282	68.1
Main Street south of La Veta Avenue	31,000	72	136	282	68.1
La Veta Avenue west of Main Street	21,000	< 50	86	176	65.5
La Veta Avenue east of Main Street	26,000	< 50	97	202	66.5

Source: CEQA Transportation Impact and Access Analysis (LSA, June 2020).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = foot/feet

Impact Analysis

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

Noise impacts from the proposed project would be associated with construction and operational stationary noise. The project would consist of the construction and operation of a new medical office building on a lot currently occupied by two medical office buildings and one motel.

Short-Term Off-Site Construction Noise Impacts. Short-term noise impacts would be associated with demolition of the existing structures, excavation, grading, and construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise

levels in the vicinity of the project site, but would no longer occur once construction of the proposed project is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single-event noise exposure potential during heavy truck pass-bys causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 84 dBA), the effect on longer-term (hourly or daily) ambient noise levels would be small when compared to existing daily traffic volume of 31,000 vehicles on Main Street. Because construction-related vehicle trips would not approach the daily traffic volumes of the adjacent roadways, traffic noise would not increase by 3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, short-term, construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of potential short-term noise impact is related to noise generated during demolition, site preparation, grading, building construction, and paving. Construction is completed in discrete steps, each of which has its own mix of equipment and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and therefore the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

The site preparation and grading phase, which includes excavation and grading of the site, tends to generate the highest noise levels because earthmoving equipment are the noisiest construction equipment. Additionally, this phase would be the longest of the phases expected to occur near the project site boundary. The three loudest pieces of equipment during this phase are estimated to include an excavator, grader, and dozer. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

In addition to the reference maximum noise level, the usage factor provided in Table 4.13.F is utilized to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10\log(U.F.) - 20\log\left(\frac{D}{50}\right)$$

where: $L_{eq}(equip)$ = L_{eq} at a receiver resulting from the operation of a single piece of equipment over a specified time period

E.L. = noise emission level of the particular piece of equipment at a reference distance of 50 ft

U.F. = usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time

D = distance from the receiver to the piece of equipment

Each piece of construction equipment operates as an individual point source. Utilizing the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq\ (composite) = 10 * \log_{10}\left(\sum_{1}^{n} 10^{\frac{Ln}{10}}\right)$$

Consistent with FTA guidance, utilizing the equations from the methodology above and the reference information in Table 4.13.F, the composite noise level of the two loudest pieces of equipment during construction, typically the concrete saw and tractor/truck, as required by the FTA criteria, would be 85.5 dBA L_{eq} at a distance of 50 ft from the construction area.

Table 4.13.F: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Air Compressor	40	80
Backhoe	40	80
Cement Mixer	50	80
Concrete/Industrial Saw	20	90
Crane	16	85
Excavator	40	85
Forklift	40	85
Generator	50	82
Grader	40	85
Loader	40	80
Pile Driver	20	101
Paver	50	85
Roller	20	85
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84
Welder	40	73

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

Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

$$Leq\ (at\ distance\ X) = Leq\ (at\ 50\ feet) - 20 * \log_{10}\left(\frac{X}{50}\right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA, while halving the distance would increase noise levels by 6 dBA.

It is expected that the average noise levels during the construction of the project at the nearest noise-sensitive use, the existing dentist office to the east, would be 74.5 dBA L_{eq} based on an average distance of 180 ft from the center of construction activities. While construction-related short-term noise levels have the potential to be higher than existing ambient noise levels in the project area under existing conditions, the noise impacts would no longer occur once project construction is completed and construction-related noise impacts would remain below the 90 dBA L_{eq} 1-hour construction noise level criteria established by the FTA for residential uses. This would be considered a conservative standard to apply to the project, as the nearest use is a medical office.

Compliance with the City's Noise Ordinance would ensure that construction noise does not disturb the residential and sensitive office uses during hours when ambient noise levels are likely to be lower (i.e., at night). Although construction noise would be higher than the ambient noise in the project vicinity, construction noise would cease to occur once project construction is completed. In addition to compliance with appropriate construction times, noise reduction Regulatory Compliance Measure (RCM) RCM-NOI-1 would implement measures during construction to reduce noise impacts to the greatest extent feasible. Therefore, construction activity noise impacts would be less than significant.

Long-Term Off-Site Noise Impacts. The proposed project has the potential to result in noise impacts to off-site surrounding uses from increases in traffic and operations related to parking lot activities and heating, ventilation, and air conditioning (HVAC) equipment. The following sections provide further details for these potential impacts and support the determination of less than significant requiring no mitigation.

Traffic Noise Impacts. The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resulting noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The volumes were derived from the CEQA Transportation Impact and Access Analysis (LSA 2020) (Appendix G). The standard vehicle mix for Southern California roadways was used for roadways within the project vicinity. Table 4.13.G lists the Existing (2020) and Existing Plus Project traffic noise levels. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix F.

Table 4.13.G shows that the proposed project would result in a project-related traffic noise increase of up to 0.3 dBA along roadways in the project vicinity. This noise level increase is below 1 dBA and would not be perceptible to the human ear in an outdoor environment. Therefore, off-site traffic noise impacts would be less than significant.

Table 4.13.G: Existing Traffic Noise Levels Without and With Project

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Main Street north of Almond Avenue	31,000	72	136	282	68.1	32,608	74	140	291	68.3	0.2
Main Street between Almond Avenue and Palmyra Avenue	31,000	72	136	282	68.1	32,608	74	140	291	68.3	0.2
Main Street between Palmyra Avenue and Culver Avenue/Stewart Drive	31,000	72	136	282	68.1	33,613	75	142	297	68.4	0.3
Main Street between Culver Avenue/ Stewart Drive and La Veta Avenue	31,000	72	136	282	68.1	33,411	75	142	296	68.4	0.3
Main Street south of La Veta Avenue	31,000	72	136	282	68.1	32,808	74	140	293	68.3	0.2
La Veta Avenue west of Main Street	21,000	< 50	86	176	65.5	21,000	< 50	86	176	65.5	0.0
La Veta Avenue east of Main Street	26,000	< 50	97	202	66.5	26,603	< 50	99	205	66.6	0.1

Source: Compiled by LSA (2020).
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
ft = foot/feet

Stationary Noise Impacts. The operation of the proposed project would include rooftop air handlers associated with the HVAC system and a power transformer. While the project also proposes a generator, it would be used during emergency conditions and would be exempt from the City's Municipal Code standards.

HVAC Equipment. The proposed project would have four rooftop air handlers as part of the buildings HVAC system. The units would vary in distance from 100 ft to 150 ft from the existing dentist office façade and 450 ft to 500 ft from the existing multi-family residential uses to the north. To be conservative, it was assumed that all units would be in operation simultaneously at the closest distance to the receptors at 100 ft and 450 ft.

Based on reference noise level measurements from manufacturer Trane, mechanical ventilation equipment is likely to range from 75 to 82 dBA L_{eq} at a distance of 3 ft. Four units operating together would generate a noise level of 88 dBA L_{eq} at a distance of 3 ft.

Utilizing the equation below, air handler operations would result in a composite level of 57.6 dBA L_{eq} at the nearest building façade at the dentist office to the east and 44.5 dBA L_{eq} at the nearest residential use to the north.

$$Leq\ (at\ distance\ X\ feet) = (Number\ of\ Units * 10^{\frac{Leq(at\ 3\ feet)}{10}}) - 20 * \log_{10}\left(\frac{X}{3}\right)$$

Additionally, the proposed 6 ft high screening walls would provide an additional reduction from the HVAC units. It is estimated that these walls would reduce noise levels by approximately 5 dBA, resulting in level of 52.6 dBA L_{eq} at the dental office and 39.5 dBA L_{eq} at the multi-family use to the north. With the noise reduction associated with distance and additional reduction from screening walls, HVAC noise levels will be well below the 55 dBA L_{eq} daytime standard for office and residential uses and below the 45 dBA L_{eq} nighttime standard for residential uses. No mitigation is required.

Transformer Operations. Based on a review of various 277/480V 3-phased transformers, typical noise levels are expected to approach 64 dBA at a distance of 23 ft. The transformer would be located 100 ft from the existing offices to the northeast and 265 ft from the multi-family uses to the north. At the proposed distances, transformer operations would result in a noise level of 51.2 dBA L_{eq} at the nearest office building to the north and 42.8 dBA L_{eq} at the nearest residential use to the north. Transformer noise levels will be well below the 55 dBA L_{eq} daytime standard for office and residential uses and below the 45 dBA L_{eq} nighttime standard for residential uses. No mitigation is required.

Long-Term On-Site Noise Impacts. While the City does not have specific exterior noise level standards for office uses, the proposed project has the potential to be exposed to noise levels that may exceed the City's interior noise level standards from surrounding roadways and commercial uses. The following sections provide further details for these potential impacts and support the determination of a less than significant impact requiring no mitigation.

Exterior Traffic Noise Levels. The proposed on-site medical office uses would be exposed to traffic noise impacts primarily from Main Street. Although CEQA does not require an analysis of the effects of the environment on the project, the following analysis is provided to

disclose noise levels experienced by future tenants and patients. The analysis is also provided to determine consistency with the City's General Plan Noise Element standards.

Based on information provided in Appendix C of the Orange General Plan Program Environmental Impact Report (EDAW, Inc. 2010), the Future 2030 traffic noise contours show a noise level of 70 dBA CNEL at a distance of 85 ft from the Main Street centerline. When adjusted for distance, the exterior noise level at the western façade, 60 ft from the roadway centerline, would be 71.5 dBA CNEL.

Interior Traffic Noise Impacts. As presented above, based on the future on-site traffic noise impacts, the exterior noise levels at the project site are expected to approach 71.5 dBA CNEL at the building façades, thus, a reduction of 22 dBA is necessary to achieve the 50 dBA CNEL interior noise standard.

Based on information provided by the manufacturer of the project's proposed curtain wall system, Arcadia, the proposed wall system would have a Sound Transmission Class (STC) rating of 46 and an Outdoor/Indoor Transmission Class (OITC) rating of 42. Utilizing the transmission loss data provided by the manufacturer and modeling exterior traffic noise in the noise model INSUL, a software program for predicting interior noise environments from wall construction and window selections, it is expected than the proposed curtain wall system would reduce noise levels by 33 dBA. With the proposed curtain wall, interior noise levels would be approximately 39 dBA CNEL (i.e., 72 dBA–33 dBA = 39 dBA), which is below the 50 dBA CNEL interior noise standard for office uses. If the assumed specifications for the proposed wall assembly are followed, on-site interior noise levels would be less than significant. No mitigation is required.

Regulatory Compliance Noise Reduction Measures. In addition to the compliance with the hours specified in the Municipal Code, the following regulatory compliance measure would reduce construction noise to the extent feasible and reasonable:

RCM-NOI-1 **Construction Noise and Vibration.** Prior to issuance of grading permits, the City of Orange (City) Director of Community Development, or designee, shall verify that grading and construction plans include the following requirements:

- The project construction contractor shall ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.
- The project construction contractor shall equip construction equipment, fixed or mobile, with properly operating and maintained noise mufflers consistent with manufacturer's standards.
- The project construction contractor shall locate construction staging areas away from off-site sensitive uses during the later phases of project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site whenever feasible.

- The project construction contractor shall use on-site electrical sources to power equipment rather than diesel generators whenever feasible.
- The project construction contractor shall reduce non-essential idling of construction equipment to no more than five minutes per hour.

Project Design Feature. In order to ensure that interior noise levels remain below the City's standard of 45 dBA CNEL, the following project design feature would be required:

- The project plans shall confirm that all glass façades and curtain walls have a minimum Sound Transmission Class (STC) rating of 46 or an Outdoor/Indoor Transmission Class (OITC) of 42.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is required, but adherence to RCM-NOI-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction operations can generate varying degrees of ground-borne vibration depending on the construction procedures and the construction equipment used. The operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receptor buildings. The results from ground-borne vibration can range from no perceptible effects at the lowest ground-borne vibration levels to low rumbling sounds and perceptible ground-borne vibration at moderate levels, to slight damage at the highest levels. Ground-borne vibration from construction activities rarely reaches the levels that damage structures. As described above, the FTA has published standard vibration velocities for construction equipment operations. Table 4.13.H, below, lists the vibration source amplitudes for construction equipment.

Table 4.13.H: Vibration Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (inch/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer[2]	**0.089**	**87**
Caisson Drilling	0.089	87
Loaded Trucks	**0.076**	**86**
Jackhammer	**0.035**	**79**
Small Bulldozer	**0.003**	**58**

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
[2] Equipment shown in **bold** is expected to be used on site.
µin/sec = micro-inches per second
ft = foot/feet
FTA = Federal Transit Administration
inch/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

Table 4.13.H shows the PPV and VdB values at 25 ft from the construction vibration source. Bulldozers and other heavy-tracked construction equipment (except for pile drivers and vibratory rollers) generate approximately 0.089 inch/sec PPV of ground-borne vibration when measured at 25 ft. The greatest levels of vibration are anticipated to occur during the site preparation phase, which is expected to use a bulldozer and a loaded truck. Project construction would not require the use of pile drivers.

All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project site boundary (assuming the construction equipment would be used at or near the project site boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

The closest buildings to the proposed construction activities are the existing office buildings to the east, approximately 55 ft from the edge of construction. A PPV damage threshold of 0.2 inch/sec is identified previously in Table 4.13.C for these types of structures. Based on the reference data provided in the Table 4.13.H, vibration impacts created by heavy construction activities associated with the project would approach 0.03 PPV inch/sec at a distance of 55 ft. This level would not exceed the 0.2 PPV inch/sec damage threshold, and would be at a level for which there is virtually no risk resulting in architectural damage. Therefore, construction vibration impacts would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The proposed project is not located within an airport land use plan or within 2 miles of a public airport or public use airport. The nearest public use airport is John Wayne Airport in unincorporated Orange County, located between the cities of Costa Mesa, Irvine, and Newport Beach, approximately 6.8 miles south of the project site (JWA 2019). As a result, the proposed project would not expose people residing or working in the project area to excessive noise levels from aircraft. Therefore, no noise related to the project site's proximity to a public airport or any airport land use plan would occur, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

4.14 POPULATION AND HOUSING

Would the project:

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

Impact Analysis

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

The proposed project includes the demolition of an existing motel and medical office buildings on site, and the construction and operation of a four-story medical office building. Implementation of the proposed project would not introduce residential uses or any permanent occupants to the project site. During project operation, the four-story medical office building would employ up to 275 employees.

According to the City's Housing Element, UCI Medical Center, St. Joseph Hospital, and Children's Hospital of Orange County (CHOC) were the City's largest employers in 2009, accounting for 10,209 employees. With the exception of UCI Medical Center, these employers are predominantly concentrated in the project area along or near the South Main Street Corridor. Therefore, because the region's existing labor force already includes a large number of people employed in the health care industry, it is reasonable to assume that the medical office building's employees would most likely be comprised of individuals who already live in the general area. As such, it is unlikely that these employment opportunities would cause employees to relocate their residences to be close to the project site, thereby inducing growth within the City. Although there would be an increase in employees and patrons on-site compared to existing conditions, the proposed project would not include permanent residents and would not result in a direct population increase. Population growth in the area as a result of on-site employment opportunities would be negligible.

Additionally, though the project would include infrastructure improvements (such as connections to off-site utility infrastructure), the project does not propose to expand surrounding utility infrastructure in the project vicinity, nor does the project include roadway expansions or improvements that would indirectly induce population growth.

For the reasons stated above, the proposed project would not result in substantial unplanned population growth, nor would the project indirectly induce population growth through utility or circulation improvements. Therefore, potential impacts related to the inducement of unplanned population growth, either directly or indirectly, would be less than significant. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

The proposed project includes the demolition of the existing motel and two medical office buildings on site, and includes the construction and operation of a four-story medical office building. No permanent housing is currently present on the project site. As such, implementation of the proposed project would not remove any housing that would displace people or require the construction of replacement housing elsewhere. Impacts would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

4.15 PUBLIC SERVICES

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

Impact Analysis

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

The City of Orange Fire Department (Fire Department) provides fire protection, emergency medical, urban search and rescue, water rescue, and hazardous materials response services in the City. The Fire Department operates eight stations located within the City. The Fire Department responded to 15,608 calls for service in 2018.[1] The closest fire station to the project site is Station No. 5, located at 1345 W Maple Avenue, approximately 0.5 mile north of the project site. Station No. 5 would likely be the first to respond to a call for service at the project site and would, therefore, be designated the "first-in" station.

The Fire Department is staffed by 115 sworn personnel and 11 non-sworn personnel.[2] Given the City's 2019 population of 140,410 (Department of Finance 2019), the Fire Department provides approximately 0.8 fire personnel per 1,000 residents.[3]

Emergency access to the project site would be provided by an existing full-access driveway off of Main Street. As discussed in Section 4.17, Transportation, the proposed project would not result in a substantial increase in traffic congestion or significant impacts to the local circulation system that would delay emergency response vehicles. Therefore, the proposed project would not impair emergency response vehicles or increase response times.

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1 Orange City Fire Department. 2018. 2018 Annual Report.
2 City of Orange. 2019. FY 2020 Budget.
3 140,410 / 1,000 = 140.41. 115 / 140.41 = 0.819 or 0.8.

Although the proposed project would result in an increase of employees and patrons on site as compared to existing conditions, the project would not introduce new permanent residents due to the nature of the project as a medical office use. In addition, employees of the project are anticipated to be members of the existing population residing near the project site, and it is not anticipated that employees would move closer to the project site, thereby generating an increase for public services in the project area. Although there would be an increase in employees and patrons on-site compared to existing conditions, the proposed project would not include permanent residents and would not result in a direct population increase. As such, the project is not anticipated to result in a significant increase in the demand for fire protection services nor would the project affect emergency response times. As such, construction and operation of the proposed project would not trigger the need for new or altered fire facilities. Consequently, the Fire Department would be able to maintain current levels of service provided to the project site following project implementation.

In order to meet City and Fire Department Standards, the project Applicant would be required to submit a Fire Master Plan (refer to Section 2.4.1, Anticipated Permits and Approvals) for the proposed project prior to the issuance of a grading permit. Project compliance with requirements set forth by the Fire Department would provide fire protection for people and structures, as well as emergency medical services on site.

In addition, the project would be subject to a Fire Protection Facility Program Fee, as established in Section 15.38.020 of the City's Municipal Code (refer to RCM-PS-1). RCM-PS-1 is a standard condition based on local regulations that serves to reduce impacts related to provision of fire services. Project compliance with the approved Fire Master Plan and with RCM-PS-1 would ensure that project-related impacts to fire facilities would be less than significant. No mitigation is required.

Regulatory Compliance Measure:

RCM-PS-1: Payment of Fire Protection Facility Program Fee. Prior to the issuance of building permits, the City of Orange (City) Director of Community Development, or designee, shall confirm that the project Applicant has paid all required Fire Protection Facility Program Fees in accordance with Section 15.38.020, Fire Protection Facility Program Fee, of the City of Orange Municipal Code.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-PS-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

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

The City of Orange Police Department (Police Department) would provide police protection services to the project site. The Police Department contains the Supportive Services Division, Investigative Services Division, Field Services Division, Bike Team, Canine Unit, Homeless Engagement Assistance and Resource Team, SWAT Team, and Traffic Bureau.

The Police Department is staffed by 165 sworn full time personnel and 78 non-sworn personnel.[1] Given the City's 2019 population of 140,410 (Department of Finance 2019), the Police Department provides approximately 1 officer per 1,000 residents.[2] Although the proposed project would result in an increase of employees and patrons on site as compared to existing conditions, the project would not introduce new permanent residents due the nature of the project as a medical office use. In addition, employees of the project are anticipated to be members of the existing population residing near the project site, and it is not anticipated that employees would move closer to the project site, thereby generating an increase for public services in the project area. Although there would be an increase in employees and patrons on-site compared to existing conditions, the proposed project would not include permanent residents and would not result in a direct population increase. Therefore, the project is not anticipated to result in a significant increase in the demand for police services nor would the project affect emergency response times. As such, construction and operation of the proposed project would not trigger the need for new or altered police facilities. Consequently, the Police Department would be able to maintain current levels of service provided to the project site following project implementation.

The project would be subject to a Police Facility Development Fee, as established in Chapter 3.12.020, Police Facility Development Fee, of the City's Municipal Code (refer to RCM-PS-2). RCM-PS-2 is a standard condition based on local regulations that serves to reduce impacts related to the provision of police services. Project compliance with RCM-PS-2 would ensure that impacts to police protection services would be less than significant, and no mitigation is required.

Regulatory Compliance Measure:

RCM-PS-2 **Payment of Police Facility Development Fee.** Prior to the issuance of building permits, the City of Orange (City) Director of Community Development, or designee, shall confirm that the project Applicant has paid all required Police Protection Facility Program Fees in accordance with Section 3.12.020, Police Facility Development Fee, of the City of Orange Municipal Code.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required. but adherence to RCM-PS-2 is required.
Significance Determination After Mitigation: Less Than Significant Impact

c) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, or the need for new or physically altered government facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

The City of Orange provides school services through the Orange Unified School District. The project site is served by West Orange Elementary School, Portola Middle School, and Orange High School.[3]

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1 City of Orange. 2010. FY 20 Budget.
2 140,410 / 1,000 = 140.41. 165 / 140.41 = 1.175 or approximately 1 officer.
3 Orange Unified School District. SchoolSite Locator. Website: http://apps.schoolsitelocator.com/?districtcode=57964 (accessed June 13, 2020).

Although the proposed project would result in an increase of employees and patrons on site as compared to existing conditions, the project would not introduce new permanent residents due the nature of the project as a medical office use. In addition, employees of the project are anticipated to be members of the existing population residing near the project site, and it is not anticipated that employees would move closer to the project site, resulting in an increase in the student population at the schools serving the project area. Therefore, the project is not anticipated to result in a significant increase in the demand for schools, nor would the project affect performance objectives for local schools. As such, construction and operation of the proposed project would not trigger the need for new or altered school facilities.

Pursuant to California Education Code 17620(a)(1), the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirements against any construction within the boundaries of the district for the purpose of funding the construction or reconstruction of school facilities. The project Applicant would be required to pay such fees to reduce any project-related impacts on school services as provided in Section 65995 of the California Government Code. Pursuant to the provisions of Government Code Section 65996, a project's impact on school facilities is fully mitigated through payment of the requisite school facility development fees current at the time a building permit is issued.

Orange Unified School District requires the payment of a Developer Fee for all new development projects in the City to enable the districts to maintain adequate school facilities for the City's growing population.[1] RCM-PS-3, as outlined below, is a standard condition based on local and state regulations or laws that requires payment of fees to reduce any impacts of new development on school services. Compliance with RCM-PS-3 would ensure that potential impacts to school services and facilities associated with implementation of the proposed project would be less than significant, and no mitigation is required.

Regulatory Compliance Measure:

RCM-PS-3 **Payment of School Developer Fee.** Prior to issuance of building permits, the project Applicant shall submit proof to the City of Orange Director of Community Development, or designee, that payment of applicable school facility development fees to the Orange Unified School District has been made in compliance with Section 65995 of the California Government Code.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-PS-3 is required.
Significance Determination After Mitigation: Less Than Significant Impact

[1] Orange Unified School District. 2014. Developer Fees. Website: https://resources.finalsite.net/images/v1525103553/orangeusdorg/pxydvnue3popyxkt0c4u/DeveloperFeesBrochure4-16-18MS-OUSD.pdf (accessed June 13, 2020).

d) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, or the need for new or physically altered government facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?

According to the General Plan Natural Resources Element, the City provides approximately 256 acres of parks, City open space areas, and joint-use recreation facilities. There are no parks or recreational facilities adjacent to the project site.

The closest parks to the project site include Hart Park, approximately 0.9 mile southeast of the project site, and El Camino Real Park, approximately 0.7 mile northwest of the project site, and Killefer Park, approximately 1.25 miles northeast of the project site.

Given the City's 2019 population of 140,410 (California Department of Finance 2019), the City currently provides 1.8 acres of parkland per 1,000 residents.[1] This represents a shortfall from the National Recreation and Park Association's recommended 3 acres per 1,000 residents and City goal of 5 acres per 1,000 persons. However, the City also contains approximately 1,187 acres of County regional parks. When considering the regional park space available to City residents, the ratio improves to 10.3 acres per 1,000 persons.[2]

Although there would be an increase in employees and patrons on-site compared to existing conditions, the proposed project would not include permanent residents and would not result in a direct population increase. In addition, employees of the project are anticipated to be members of the existing population residing near the project site, and it is not anticipated that employees would move closer to the project site, thereby generating an increase for parks in the project area. Additionally, employees and patrons of the site are anticipated to make brief trips to the medical office building, and are likely to have their recreation needs met in their current area of residence. The plaza that would be developed as part of the project would provide outdoor seating for employees and patrons of the medical office building, and would provide adequate outdoor space for pedestrians and bicycles traveling along Main Street. As such, the project is not anticipated to result in a significant increase in the demand for parks, and construction and operation of the proposed project would not trigger the need for new or altered park facilities.

Section 3.40.030, Park Facilities Fees, of the City's Municipal Code requires the payment of park facilities fees as to finance the cost of park facilities and improvements in the City. RCM-PS-4, as outlined below, is a standard condition based on local regulations that requires payment of fees to reduce any impacts of new development on park facilities. Payment of these fees, as required by RCM-PS-4, would serve to reduce project-related impacts to parks to a less than significant level. Therefore, impacts to parks and recreational facilities would be less than significant, and no mitigation is required.

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1 140,410 / 1,000 = 140.41. 256 / 140.41 = 1.82 or 1.8.
2 1,187 + 256 = 1,443. 140.41 / 1,443 = 10.277 or 10.3.

Regulatory Compliance Measure:

RCM-PS-4 **Payment of Park Impact Fee.** Prior to the issuance of building permits, the City of Orange Director of Community Development, or designee, shall confirm that the project Applicant has paid all required park facility fees as established in Section 3.40.040, Payment of Park Facilities Fees, of the Orange Municipal Code.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-PS-4 is required.
Significance Determination After Mitigation: Less Than Significant Impact

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

The City of Orange Public Library system provides library services within the City, and is comprised of one main library and three branch libraries. The main library, the Orange Public Library & History Center, is the closest library to the project site, located approximately 1 mile northeast at 407 E. Chapman Avenue. The Orange Public Library & History Center features a community room, study rooms and a homework center, literacy center a reading room, bookstore, a history center, and 100 public-use computers.[1]

Although there would be an increase in employees and patrons on-site compared to existing conditions, the proposed project would not include permanent residents and would not result in a direct population increase. As such, the proposed project is not likely to cause a significant increase in demand for library facilities, and impacts to library facilities would be less than significant. No mitigation is required.

The City requires payment of a library facilities impact fee to finance the cost of library facility improvements. RCM-PS-5, as outlined below, is a standard condition based on local regulations that requires payment of fees to reduce any impacts of new development on library facilities. Payment of these impact fees, as required by Municipal Code Section 3.50.040, Payment of Library Facilities Fees (refer to RCM-PS-5), would serve to reduce project-related impacts to libraries to a less than significant level. Therefore, impacts to library facilities would be less than significant, and no mitigation is required.

Regulatory Compliance Measure:

RCM-PS-5 **Payment of Library Facilities Fee.** Prior to the issuance of building permits, the City of Orange Director of Community Development, or designee, shall confirm that the project Applicant has paid all required Library Impact Fees as established in Section 3.50.040 of the Orange Municipal Code.

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[1] City of Orange. 2010b. General Plan Program Environmental Impact Report (PEIR). Website: https://www.cityoforange.org/DocumentCenter/View/584/General-Plan-Environmental-Impact-Report-EIR-PDF (accessed June 26, 2020).

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-PS-5 is required.
Significance Determination After Mitigation: Less Than Significant Impact

4.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Impact Analysis

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

and

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?

According to the General Plan Natural Resources Element (revised December 2015), the City provides approximately 256 acres of parks, City open space areas, and joint-use recreation facilities. There are no parks or recreational facilities adjacent to the project site.

The closest parks to the project site include Hart Park, approximately 0.9 mile southeast of the project site, and El Camino Real Park, approximately 0.7 mile northwest of the project site, and Killefer Park, approximately 1.25 miles northeast of the project site.

The proposed project includes the demolition of an existing motel and two medical office buildings on site, and includes the construction and operation of a new four-story medical office building and subterranean parking garage. As part of the medical office building's frontage, the proposed project would also include a publicly accessible plaza located at the corner of Main Street and Stewart Drive that would incorporate decorative pavers for walkway definition, outdoor tables, chairs, umbrellas, plants and signage to promote a pedestrian friendly environment and the public use of outdoor areas. The four-story medical office building is anticipated to employ 275 employees. Although there would be an increase in employees and patrons on-site compared to existing conditions, the proposed project would not include permanent residents and would not result in a direct population increase. Further, it is not anticipated that the increase in employees on-site and patrons of the medical offices would substantially increase the use of existing parks and recreational facilities in the area. Additionally, the proposed project does not include the construction or expansion of recreational facilities. Implementation of the proposed project will not contribute to substantial physical deterioration of existing parks or recreational facilities or cause deterioration to accelerate, thereby generating a need for additional neighborhood and regional parks or recreational facilities. However, as discussed in Response 4.15(e), the project would be subject to a Park Facilities Fee to help offset the cost of park

facilities and improvements in the City. RCM-PS-4 is a standard condition based on local regulations that requires payment of fees to reduce any impacts of new development on park facilities. Payment of these fees, as required by RCM-PS-4, would serve to reduce project-related impacts to parks to a less than significant level. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-PS-4 is required.
Significance Determination After Mitigation: Less Than Significant Impact

4.17 TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

The following section is based on the CEQA Transportation Impact and Access Analysis prepared by LSA (June 2020) and provided in Appendix G.

Impact Analysis

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

Project-related transportation and access impacts were analyzed in the CEQA Transportation Impact and Access Analysis (LSA 2020). The CEQA Transportation Impact and Access Analysis assessed project-related traffic impacts at the following six intersections:

- Main Street/Almond Avenue
- Main Street/Palmyra Avenue
- Main Street/Columbia Place (unsignalized)
- Main Street/Culver Avenue-Stewart Drive
- Main Steer/La Veta Avenue
- One-way project driveway/Palmyra Avenue (unsignalized)

The CEQA Transportation Impact and Access Analysis evaluated the following scenarios:

- Existing (2020) Conditions
- Existing (2020) Plus Project Conditions

Intersection operating conditions in the study area were evaluated using the intersection capacity utilization (ICU) methodology and the Highway Capacity Manual (HCM) methodology. The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU, or delay, is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation. The HCM methodology calculates the delay experienced by vehicles passing through the intersection. For two-way stop controlled intersections, this analysis reports the delay for the most delayed approach. The relationship between

LOS and delay for signalized and unsignalized intersections is summarized in Table 4.17.A, Intersection LOS Criteria.

Table 4.17.A: Intersection LOS Criteria

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

Source: CEQA Transportation Impact and Access Analysis (LSA, 2020)
ICU = intersection capacity utilization
LOS = level of service
v/c = volume-to-capacity

According to the City's Traffic Impact Analysis Guidelines, LOS at an intersection is considered unsatisfactory when the ICU exceeds 0.90 (LOS D). According to these guidelines, a project traffic impact occurs when it creates a deficiency to an unsignalized intersection where the LOS deteriorates from an acceptable LOS to and unacceptable LOS, or if the effect of the development traffic is greater than or equal to 10 percent of the existing delay at an already unacceptable LOS and the intersection meets a signal warrant.

Similar to the ICU methodology for signalized intersections, roadway segment v/c ratios were determined using the City's daily roadway capacities. Facility types and daily roadway capacities were obtained from the City's General Plan Circulation and Mobility Element (revised December 2015). Table 4.17.B, Daily Capacities for Roadways, illustrates daily capacities for roadways within the study area.

Table 4.17.B: Daily Capacities for Roadways

Facility Type	Number of Lanes	Daily Capacity
Major Arterial	6 Divided	56,300
Primary Arterial	4 Divided	37,500
Secondary Arterial	4 Undivided	24,000
Collector	2 Undivided	12,000

Sources: City of Orange General Plan Circulation and Mobility Element (City of Orange 2015); CEQA Transportation Impact and Access Analysis (LSA 2020)

The project includes the demolition of existing motel and medical office buildings on site, and includes the construction and operation of a four-story medical office building. As discussed in Section 4.14, Population and Housing, the project would not directly increase the City's population. Vehicular trips associated with the project would be generated primarily from the employees and patrons of the medical office building. As shown on Table 4.17.C, Project Trip Generation Summary, the proposed project would generate approximately 4,785 daily trips, 382 a.m. peak-hour trips, and 476 p.m. peak-hour trips. Taking into account the existing on-site motel and medical office building uses, the net trip generation would be 4,018 ADT, 319 a.m. peak hour trips, and 399 p.m. peak hour trips.

Table 4.17.C: Project Trip Generation Summary

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Medical Office		TSF	34.80	2.17	0.61	2.78	0.97	2.49	3.46
Motel		Rooms	3.35	0.14	0.24	0.38	0.21	0.17	0.38
Existing Trip Generation									
Medical Office	20.882	TSF	727	45	13	58	20	52	72
Motel	12	Rooms	40	2	3	5	3	2	5
Total			**767**	**47**	**16**	**63**	**23**	**54**	**77**
Project Trip Generation									
Medical Office	137.500	TSF	4,785	298	84	382	133	342	476
Net Trip Generation			**4,018**	**251**	**68**	**319**	**110**	**288**	**399**

[1] Trip rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 10th Edition (2017).
Land Use Code (720) - Medical-Dental Office Building
Directional Distribution (In/Out) of Total Rate: Daily (50/50), AM Peak Hour (78/22), PM Peak Hour (28/72)
Land Use Code (320) - Motel
Directional Distribution (In/Out) of Total Rate: Daily (50/50), AM Peak Hour (37/63), PM Peak Hour (54/46)
ADT = average daily traffic
TSF = thousand square feet

Existing Plus Project Conditions. Table 4.17.D summarizes the peak-hour LOS results for Existing Plus project traffic conditions at the study area intersections. As shown on this table, all study area intersections currently operate at acceptable LOS. Table 4.17.D indicates that, at the intersection of Main Street/Columbia Place in the p.m. peak hour, the worst-performing approach (the westbound approach) would experience average delay of 43.6 seconds with the addition of project traffic. However, simulations of traffic flow along Main Street to reflect the effects of the closely spaced traffic signals show satisfactory performance of all approaches to Main Street/Columbia Place. With implementation of the project, all study area intersections would continue to operate at acceptable LOS. Therefore, the proposed project would not result in any significant impacts based on the LOS standards and significance criteria under existing plus project conditions. Table 4.17.E summarizes the delay and the LOS of each roadway segment in the study area. As shown on Table 4.17.E, all study area roadway segments would continue to operate at an acceptable LOS with the project.

Table 4.17.D: Existing Plus Project Intersection LOS Summary

Study Area No.	Intersection	Baseline				Plus Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
1	Main Street/Almond Avenue	0.50	A	0.49	A	0.52	A	0.51	B
2	Main Street/Palmyra Avenue	0.52	A	0.49	A	0.57	A	0.57	A
3	Main Street/Columbia Place (unsignalized)	20.2 sec	C	22.1 sec	C	20.8 sec	C	43.6 sec[1]	E
4	Main Street/Culver Avenue-Stewart Drive	0.45	A	0.50	A	0.47	A	0.53	A
5	Main Street/La Veta Avenue	0.55	A	0.59	A	0.59	A	0.63	B
6	One-Way Project Driveway/ Palmyra Avenue (unsignalized)	9.3 sec	A	9.4 sec	A	9.5 sec	A	10.3 sec	B

[1] SimTraffic simulation shows a 25 percent reduction in queueing and, therefore, delay.
ICU = Intersection Capacity Utilization
LOS = level of service
sec = seconds

Table 4.17.E: Existing Plus Project Segment LOS Summary

Study Area No.	Roadway Segment	Classification	Capacity	Existing			Project	Existing Plus Project			Δ V/C	Creates Deficiency?[1]
				ADT	V/C	LOS	ADT	ADT	V/C	LOS		
1	Main Street north of Almond Avenue	Major Arterial (4 lanes, divided)	56,300	31,000	0.55	A	1,608	32,608	0.58	A	0.03	No
2	Main Street between Almond Avenue and Palmyra Avenue	Major Arterial (4 lanes, divided)	56,300	31,000	0.55	A	1,608	32,608	0.58	A	0.03	No
3	Main Street between Palmyra Avenue and Culver Avenue/Stewart Drive	Major Arterial (4 lanes, divided)	56,300	31,000	0.55	A	2,613	33,613	0.60	A	0.05	No
4	Main Street between Culver Avenue/Stewart Drive and La Veta Avenue	Major Arterial (4 lanes, divided)	56,300	31,000	0.55	A	2,411	33,411	0.59	A	0.04	No
5	Main Street south of La Veta Avenue	Major Arterial (4 lanes, divided)	56,300	31,000	0.55	A	1,808	32,808	0.58	A	0.03	No
6	La Veta Avenue west of Main Street	Major Arterial (4 lanes, divided)	56,300	21,000	0.37	A	0	21,000	0.37	A	0.00	No
7	La Veta Avenue east of Main Street	Major Arterial (4 lanes, divided)	56,300	26,000	0.46	A	603	26,603	0.47	A	0.01	No

= exceeds satisfactory LOS D

[1] ≥ 0.01 V/C project increase at segment operating at unsatisfactory LOS E or F = project deficiency

ADT = average daily traffic volume

LOS = level of service

V/C = volume-to-capacity ratio

Alternative Transportation Facilities

Regional access to the project site is provided by Main Street, which is a Major Arterial (four lanes, divided). Vehicular access to the project site would be provided via an existing unsignalized intersection at Main Street and Columbia Place, and a left-out exit only driveway intersection Palmyra Avenue. Vehicular traffic to and from the project site would utilize the existing network of regional and local roadways that currently serve the project area.

The project site is located in a high quality transit area associated with Main Street, which is directly adjacent to the project site. Main Street is a high quality transit corridor that serves an existing employment center. The Orange County Transportation Authority (OCTA) operates two bus lines within the vicinity of the project site: Routes 53 and 453, which both travel north-south along Main Street. Route 453 provides a direct connection between the St. Joseph Hospital Campus and the Orange Transportation Center, which includes the Orange Metrolink Station, and is located 0.7 mile northeast of the project site. Commuter train service from this station is provided to Los Angeles Union Station via the Orange County line, Ventura via the Pacific Surfliner line, and San Bernardino via the Inland Empire-Orange County line.[1]

Because the project site would not feature any fencing or gates, pedestrian access to the project site from the sidewalk along Main Street would be unrestricted. Sidewalks into the project site would be provided along the full-access driveway at the intersection of Main Street and Columbia Place, and sidewalks would continue along Columbia Place within the project limits. As previously discussed, the proposed project would include improvements to the public streetscape adjacent to the project site along Main Street and near the medical office building's main entrance.

According to the City's Circulation and Mobility Element, existing designated bicycle lanes nearest to the project site include the Santiago Creek Bike Trail, a Class I bicycle path located approximately 0.6 mile south of the site, and Class II bicycle lanes along Cambridge Street, located approximately 1.2 miles east of the site. According to the OCTA's *Commuter Bikeways Specific Plan* (OCTA 2009), proposed bicycle facilities nearest to the project site include Class II bicycle lanes on Main Street between Taft Avenue and Palm Avenue and on La Veta Avenue west of Bedford Road. Due to the distance of these existing and proposed facilities from the project site, it is not anticipated that project implementation would impact bicycle facilities in the City.

Section 17.34.080 of the City's Municipal Code establishes bicycle parking requirements. Two bicycle racks, which are to provide locking capabilities for at least five bicycles each, are required for developments with over fifty parking spaces. The project would provide 14 short-term bicycle racks and 15 long-term bicycle enclosures. As discussed in the Parking Study (Appendix G), the proposed project would provide 550 parking spaces, which is fewer spaces than the amount required by the City's Municipal Code, but in excess of the anticipated parking demand for the proposed project. Additionally, upon project approval, including exceptions to the underlying zoning requirements that would be granted in accordance with the Operating Memorandum (OP) to update the 2004 Development Agreement, the number of parking spaces provided by the project would be adequate for project operation and consistent with the development standards for the project site. Refer to Response 4.10(a) for further details. Therefore, the proposed project would not conflict with

[1] Metrolink. 2018. Commuter Rail System. Website: https://metrolinktrains.com/globalassets/about/system-map.pdf (accessed June 22, 2020).

adopted plans, programs, ordinances, or policies regarding public transit, bicycle, or pedestrian facilities.

As established in Response 4.10(a), the proposed project would be consistent with applicable General Plan Circulation and Mobility Element policies, as well as regulations outlined in the City's Municipal Code. According to the CEQA Transportation Impact and Access Analysis, the project would have less than significant impacts on both intersections and roadway segments in the project study area. Therefore, the proposed project would result in a less than significant impact related to conflicts with an applicable plan, program, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. No mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

According to *State CEQA Guidelines* Section 15064.3(a), project related transportation impacts are generally best measured by evaluating the project's vehicle miles traveled (VMT). VMT refers to the amount and distance of automobile travel attributable to a project.

In order to determine whether a project has a significant transportation impact under CEQA, the traffic analysis must determine whether the project would conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3 subdivision (b). Section 15064.3(b) of the California Code of Regulations states the following:

> "Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to the project."

Specifically related to land use projects, this section indicates that, "Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact." California Public Resources Code Section 21155(b) defines a high quality transit corridor as "a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours."

OCTA operates fixed route bus service within the City. OCTA Routes 53 and 453 serve Main Street adjacent to the project site. According to OCTA, service intervals along Main Street are no longer than 15 minutes during peak commute hours. Route 453 travels between the Orange Transportation Center (Metrolink and Amtrak station) and the St. Joseph Hospital Campus. It operates along the same route as Route 53 but does not serve every bus stop. The nearest northbound and southbound bus stops, both of which serve Routes 53 and 453, are located just south of Culver Avenue/Stewart Drive. Both bus stops are no more than 800 ft from the project site. Because the project site is located within 0.5 mile of an existing high quality transit corridor, the project is presumed to cause a less than significant transportation impact. As such, no further VMT calculation is required.

The City adopted VMT thresholds on July 14, 2020. According to these thresholds, and because the project site is located within 0.5 mile of an existing high quality transit corridor, the project site is located in a Transit Priority Area. According to the City's guidelines, projects located within Transit Priority Areas would be screened to not require project-level analysis, and would be presumed to have a less than significant impact unless a project has a floor area ratio (FAR) of less than 0.75; includes more parking for use by residents, customers, or employees of the project than required by the City; is inconsistent with the applicable Sustainable Communities Strategy; or replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The FAR for the proposed project exceeds 0.75. A parking management plan has been prepared to ensure that the project would provide neither less nor more than the identified vehicle parking required for customers and employees. Connect SoCal, the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy, incorporated the General Plan land use assumptions of the City; further, no zone change or General Plan Amendment would be required as part of the project. Therefore, the project is consistent with the applicable Sustainable Communities Strategy. The project site currently has no affordable housing units. Because no City criteria for the presumption of a less than significant impact that would be inappropriate for projects in a Transit Priority Area are present for the project, the project is presumed to have a less than significant transportation impact. Therefore, the proposed project would not be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b), and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

Vehicular access to the project site would be provided via an existing unsignalized intersection at Main Street and Columbia Place, and a left-out exit only driveway at the intersection of Columbia Place and Palmyra Avenue. As previously discussed in Response 4.17(a), all study area intersections and roadway segments would operate at acceptable LOS during both peak hours with the proposed project. The design of the proposed project, including the access driveways and internal drive aisles, would be subject to review by the City and the Orange Fire Department. Specifically, the proposed project would prepare a Fire Master Plan that would verify the project design's ability to provide adequate fire engine access and turning radius throughout the development. The CEQA Transportation Impact and Access Analysis (LSA 2020) evaluated the potential for queueing within Main Street, and concluded that the southbound left-turn pocket on Main Street into the project site provides sufficient queueing space for two vehicles. If queues exceed the existing space, drivers may decide to jump the queue be proceeding the 300 ft to the intersection of Main Street/Culver Avenue-Stewart Drive to make a U-turn. As such, project traffic can be accommodated within the existing roadway configuration. Furthermore, the proposed project would not introduce any incompatible uses into the project vicinity. Therefore, the proposed project would not substantially increase hazards due to a geometric design feature (e.g., a sharp curve or dangerous intersection) or incompatible uses (e.g., farm equipment), and no mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

d) Would the project result in inadequate emergency access?

Emergency access to the project site would be provided via an existing full-access driveway off of Main Street and Columbia Place, and a left-out exit only driveway at the intersection of Columbia Place and Palmyra Avenue. As discussed in Response 4.9(f), the City's Public Safety Element designates Chapman Avenue and Grand Avenue as evacuation corridors. These corridors can be accessed from the project site by traveling north along Main Street, and by traveling east along La Veta Avenue, which is approximately 750 ft south of the project site. As such, it is anticipated that project occupants would utilize Main Street and La Veta Avenue in the event of an emergency. The proposed project would not result in any substantial traffic impacts or queueing on nearby streets during short-term construction activities, and all construction equipment would be staged within the project site. The proposed project does not include any permanent changes to the existing circulation system surrounding the project site and would not interfere with existing emergency evacuation routes. As such, emergency access during construction and operation would not be impeded.

As discussed in Response 4.9(f), the proposed project would provide adequate emergency access to the site via an existing driveway off of Main Street and W. Columbia Place. The driveway would connect to an internal access way that would ensure access for emergency vehicles within the interior of the site. Further, access to and from the project site for emergency vehicles would be reviewed and approved by Fire Department and the City as part of the City's Design Review process to ensure the proposed project is compliant with all applicable codes and ordinances for emergency vehicle access. Therefore, with Fire Department review of the project plans, the proposed project's impacts related to emergency access would be less than significant, and no mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

4.18 TRIBAL CULTURAL RESOURCES

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

Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or

A Historic Resources Assessment (LSA 2020) (Appendix B) was prepared to evaluate the potential for the proposed project to cause substantial adverse changes to any historical resources that may exist in or around the project area. As discussed in the Historical Resources Assessment, no previously recorded historical resources, including any resources listed or eligible for listing in the California Register of Historical Resources (California Register) or any local register, have been identified on the project site. As previously discussed, the South Central Coastal Information Center (SCCIC) record search returned results that no cultural resources have been recorded within the project site or the 0.25-mile search area as a result of previous cultural resources studies. In addition, a Sacred Lands File (SLF) search for the site was requested of the Native American Heritage Commission (NAHC) on May 14, 2020, and no resources were noted in the database based on NAHC correspondence dated May 18, 2020.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Chapter 532, Statutes of 2014 (i.e., Assembly Bill [AB] 52), requires that Lead Agencies evaluate a project's potential to impact "tribal cultural resources." Such resources include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the California Register or included in a local register of historical resources (PRC Section 21074). AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource falling outside of the definition stated above nonetheless qualifies as a "tribal cultural resource."

Also, per AB 52 (specifically, PRC 21080.3.1), a CEQA Lead Agency must consult with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project and have previously requested that the Lead Agency provide the tribe with notice of such projects.

The NAHC was contacted on May 14, 2020 and an SLF search was requested for the project, as well as a list of potential Native American contacts for consultation. The NAHC responded on April 18, 2020, to say the SLF search was negative for the project area. The NAHC provided a Tribal Consultation List that included the Tribal Representatives to be contacted.

In accordance with the City's policy, AB 52 consultation letters are sent to the tribes that have specifically requested notification in writing. Consequently, letters were sent to the following individuals on June 10, 2020:

1. Gabrielino/Tongva Nation, Samuel Dunlap, Cultural Resources Director

2. Gabrieleno Band of Mission Indians – Kizh Nation, Andrew Salas, Chairperson

3. San Gabriel Band of Mission Indians, Anthony Morales, Chief

4. Torres Martinez Desert Cahuilla Indians, Michael Mirelez, Cultural Coordinator

The letters (provided in Appendix H of this IS/MND) provided each tribe with the opportunity to request consultation with the City regarding the project. In compliance with AB 52, tribes typically have 30 days from the date of receipt of notification to request, in writing, consultation on the project. However, the consultation period was extended until July 22, 2020, to comply with the Governor's Executive Order N-54-20. Information provided through tribal consultation will inform the assessment as to whether the tribes believe any tribal cultural resources are present on the project site.

The City did not receive any communication from the four tribes that requested notification regarding the proposed project, pursuant to AB 52. Therefore, the AB 52 tribal consultation process has concluded. As discussed in Section 4.5, Cultural Resources, the project site has been previously evaluated for cultural resources and contains no previously recorded prehistoric or historic resources. Nonetheless, Mitigation Measure MM-CUL-1, which provides for cultural resources monitoring by a qualified archaeological monitor and a Native American monitor during excavation, would be implemented to reduce potential impacts to unknown cultural resources.

Significance Determination: Potentially Significant Impact
Mitigation Measures: As noted in MM-CUL-1.
Significance Determination After Mitigation: Less than Significant Impact.

4.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact Analysis

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

Water. The City's Water Division of the City Public Works Department provides domestic water service in the City of Orange. The City's primary source of water supply is groundwater from the Lower Santa Ana River Groundwater basin. The City's groundwater supply is supplemented by imported water and surface water purchased from Metropolitan through the Municipal Water District of Orange County (MWDOC). Specifically, according to the 2015 Urban Water Management Plan (UWMP), the City's water supply is approximately 71 percent groundwater, 23 percent purchased or imported water, and 6 percent surface water. It is projected that by the year 2040, the water supply mix will be approximately 70 percent groundwater, 26 percent purchased or imported water, and 4 percent surface water. [1]

Water demand associated with the proposed project would be typical of medical office buildings and commercial uses. The project site contains existing water services in support of the existing buildings, but services would need to be extended to the point of connections for the new medical office building. According to the 2015 UWMP, the City's projected water supply is able to meet

[1] City of Orange. 2016. *2015 Urban Water Management Plan*. June.

projected water demands in the years 2020, 2025, 2030, 2035, and 2040 during normal years, single dry years, and multiple dry years. In 2015, the actual water supply was 28,643 acre-feet (af). At the time of the preparation of the 2015 UWMP, the projected 2020 water supply was 28,000 acre-feet per year (afy). In 2040, the total projected water supply is 29,500 af annually, with supply increasing incrementally every 5-year period between 2020 and 2040. Although projected water supplies increase incrementally, projected water demand also increases incrementally. In 2015, the actual water demand was 28,643 af. The total projected water demand in 2020 is approximately 28,000 af annually. In 2040, the total projected water demand is 29,500 af annually, with demand totals increasing in every 5-year increment between 2020 and 2040. As such, water supply would meet water demand until 2040. Therefore, the City's existing water supplies are projected to meet full service demands through the year 2040.

The proposed project includes the demolition of an existing motel and medical office buildings, and the construction and operation of a new four-story building for medical office space. The medical office building is anticipated to use approximately 16.6 million gallons of water per year, or 45,550 gallons per day (gpd) of water.[1] The project-related water use of 45,550 gpd represents approximately 0.2 percent of the 2020 water supply in the City's service area.[2] As the proposed project is redeveloping a site that currently contains water-demanding uses, it is anticipated that the water demand for the proposed project can be supplied within the City's existing service capacity, and any potential increase in water demand as compared to existing conditions would be negligible. As such, it is assumed that the City's Water Division has adequate supply to meet the water needs of the proposed project. Therefore, implementation of the proposed project would not require or result in the relocation or construction of new or expanded water treatment facilities, and no mitigation would be required.

The proposed project would be required to comply with the principles of the State Model Water Efficient Landscape Ordinance (adopted City Resolution No. 10413) that requires improvements in the efficiency of water use in existing and new urban irrigated landscapes in California. The proposed project is subject to this ordinance and will be required to implement water-efficient landscaping design (i.e., drought-tolerant landscaping) within the project site. Refer to RCM-UTL-1. RCM-UTL-1 is a standard condition based on local and State regulations or laws that serve to reduce impacts related to water usage. Adherence to RCM-UTL-1 would further ensure that project-related water demand would not cause the City's Water Division's supply to be exceeded during project operation.

Regulatory Compliance Measure:

RCM-UTL-1 **Water Efficient Landscape Ordinance.** Prior to the issuance of a building permit, the City of Orange Director of Community Development, or designee, shall confirm that the Final Landscaping Plan for the proposed Project is consistent with all applicable provisions outlined in the City's Landscape Water Efficiency Ordinance, as codified in City Resolution No. 10413.

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1 LSA. CalEEMod Modeling Results. 2020.

2 45,550 gpd = approximately 51 afy. 51 afy / 28,000 afy = 0.00182 or approximately 0.2 percent.

Wastewater. The City's Public Works Department operates and maintains local wastewater collection facilities, which convey wastewater to the Orange County Sanitation District's (OCSD) sewer system. The City's sewer system includes 312 miles of sewer and two small sewage lift stations. Wastewater in the City is conveyed to and treated at OCSD's Reclamation Plant No. 1 in Fountain Valley or at Treatment Plant No. 2, in Huntington Beach. Reclamation Plant No. 1 has a design capacity of 108 millions of gallons per day (mgd) with average daily flow of 92 mgd. Treatment Plant No. 2 has an average daily flow of 129 mgd with a design capacity of 168 mgd.[1,2]

As stated previously, the proposed project includes the demolition of an existing motel and medical office buildings, and the construction and operation of a new four-story building for medical office space. The medical office building is anticipated to generate approximately 40,950 gpd of wastewater.[3] The project-generated wastewater demand of 40,950 gpd represents approximately 0.03 percent of the maximum daily design capacity of Treatment Plant No. 1[4] and 0.02 percent of the maximum daily design capacity of Treatment Plant No. 2.[5] As the proposed project is redeveloping a site that currently contains wastewater-generating uses, it is anticipated that the wastewater demand for the proposed project can be accommodated within OCSD's existing service capacities, and that any potential increase in demand as compared to existing conditions would be negligible. As such, development of the proposed project would not require, nor would it result in, the construction or relocation of new or expanded wastewater treatment or collection facilities other than those facilities required for connections to be constructed on-site. Project-related wastewater demand is not anticipated to result in an exceedance in the design capacity of Reclamation Plant No. 1 or Treatment Plant No. 2. Therefore, project impacts related to the construction of wastewater treatment or collection facilities would be less than significant, and no mitigation would be required.

Stormwater Drainage Facilities. Project improvements would include the addition of an underground storm drain system which would be installed to convey site runoff from the five proposed biotreatment BMPs (planter boxes with underdrains and trash filter). The proposed underground storm drain system would connect to the existing public storm drain system. Implementation of the proposed project would increase the impervious surface area on the project site by approximately 0.03 acre, which would result in a slight increase in stormwater runoff from the project site. As specified in RCM-WQ-3, a Final Hydrology Study or Hydraulics Analysis would be approved by the City and would demonstrate that on-site drainage facilities are designed and adequately sized to convey and reduce runoff such that on-site and off-site drainage capacity would not be exceeded in a design storm. RCM-WQ-3 is a standard condition based on local and state regulations or laws that serve to reduce impacts related to hydrology. With implementation of RCM-WQ-3, the proposed project would not exceed the capacity of downstream drainage facilities or cause the expansion of existing facilities. Additionally, the proposed project would not require or result in the construction of new stormwater drainage facilities or the expansion of existing facilities beyond the improvements included as part of the proposed project. Therefore, impacts to stormwater drainage facilities would be less than significant with the incorporation of RCM-WQ-3. No mitigation is required.

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1 City of Orange. 2015. General Plan Infrastructure Element. December.
2 City of Orange. 2010b. Orange General Plan Program Environmental Impact Report (PEIR). March.
3 In the absence of a wastewater generation rate, wastewater can be assumed to be 90 percent of water use. 45,550 gpd * 0.9 = 40,950 gpd.
4 40,950 gpd = 0.0341 mgd. 0.0341 / 108 = 0.000315 or approximately 0.03 percent.
5 0.0341 / 168 = 0.000203 or approximately 0.02 percent.

In addition, Section 13.56.090, Charges for Sewer Mains or Extensions, of the City's Municipal Code, requires the payment of a sewer main connection fee for all non-residential development prior to the issuance of a building permit. Refer to RCM-UTL-2. RCM-UTL-2 is a standard condition based on local regulations that serve to reduce impacts related to wastewater and sewage facilities. Payment of the sewer main connection fee would ensure that necessary improvements to the existing sewer system as a result of growth in the City would be funded, and that the existing service capacity would be maintained. With adherence to RCM-UTL-2, impacts would be less than significant. No mitigation is required.

Regulatory Compliance Measure:

RCM-UTL-2 **Payment of Sewer Main Connection Fee.** Prior to the issuance of building permits, the City of Orange Director of Community Development, or designee, shall confirm that the project Applicant has paid all required sewer main connection fees as established in Section 13.56.090, Charges for Sewer Mains or Extensions, of the Orange Municipal Code.

Electric Power. Refer to Section 4.6, Energy, for further discussion related to the project's impacts with respect to existing and projected supplies of electricity. As discussed further in Section 4.6, the project would not require or result in the relocation or construction of new or expanded electric power facilities, the construction of which could cause significant environmental effects. No mitigation would be required.

Natural Gas. Natural gas is provided in the City by the Southern California Gas Company (SoCal Gas). Natural gas lines would be extended throughout the project site and would connect to existing gas lines in the public right-of-way. The developer would be responsible for construction connections to these existing distribution facilities. Refer to Section 4.6, Energy, for further discussion related to the project's impacts with respect to existing and projected supplies of natural gas. As discussed further in Section 4.6, the project would not require or result in the relocation or construction of new or expanded gas facilities, the construction of which could cause significant environmental effects. No mitigation would be required.

Telecommunications. Cable, internet, and telephone services are provided to the City's residents by major third-party purveyors. Cellular services provided by all major cellular networks are available in the City. Construction activities associated with the proposed project would not increase the demand for telecommunications facilities. In addition, the proposed project would not involve the construction or relocation of new or expanded telecommunications facilities. Further, the proposed medical office building is replacing the existing medical office buildings and motel uses on-site that are currently served by telecommunications services. Therefore, implementation of the proposed project would not result in impacts related to the construction or relocation of existing telecommunications facilities, and no mitigation would be required.

Summary: As the project would be replacing existing uses on-site, the supply and distribution network of utilities and service systems would generally remain unchanged. The water, wastewater, stormwater drainage, natural gas, electricity, and telecommunications needs generated by the proposed project would not exceed the existing supply and distribution network, or the available service capacities of the respective service providers. Levels of service to off-site users would not be

adversely affected. Effects related to utility improvements and connections proposed as part of the project would be less than significant with compliance to RCMs as noted. No mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-UTL-1, RCM-UTL-2, and RCM-WQ-3 is required.
Significance Determination After Mitigation: Less Than Significant Impact

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

As previously stated in Response 4.19(a), above, the project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. As such, the estimated annual water use that would be required for operation of the proposed project would not cause the Water Division's available supply to be exceeded in the single dry year or multiple dry year scenarios. Therefore, water demand from the proposed project would be within the Water Division's current and projected water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Impacts related to water supplies would be less than significant, and no mitigation is required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Refer to Response 4.19(a). As the proposed project is replacing existing uses on-site, overall wastewater demand would remain similar to existing conditions. As such, development of the proposed project would not require, nor would it result in, the construction or relocation of new or expanded wastewater treatment or collection facilities other than those facilities required for connections to be constructed on site. Additionally, the proposed project would be subject to a sewer main connection fee to fund its fair-share of the costs associated with future expansions of the existing sewer system (RCM-UTL-1). Furthermore, wastewater flows from the proposed project can be accommodated within the existing design capacity of the wastewater treatment plants serving the City, and the project would not result in any of the wastewater treatment plants discussed above exceeding wastewater treatment requirements. Therefore, impacts related to wastewater generation are less than significant, and no mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No mitigation is required, but adherence to RCM-UTL-1 is required.
Significance Determination After Mitigation: Less Than Significant Impact

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The City has an exclusive solid waste franchise agreement with CR&R, Inc., which provides solid waste collection services to the City. Additionally, the project site is located within the Orange County Waste and Recycling (OCWR) service area. OCWR owns and operates three landfills in Orange County that accept municipal solid waste. These include the Frank R. Bowerman Landfill in the City of Irvine, which accepts commercial waste only; the Olinda Alpha Landfill in the City of Brea, which accepts both public and commercial waste; and the Prima Deshecha Landfill in the City of San Juan Capistrano, which also accepts both public and commercial waste. All three landfills are Class III and only accept non-hazardous municipal solid waste. Solid waste collection and transport in the City is handled by contracted private firms that haul collected materials to regional landfills and materials recycling facilities.

Olinda Alpha Landfill at 1942 North Valencia Avenue in the City of Brea is the closest OCWR landfill to the project site and would be expected to provide waste disposal for the proposed project. This landfill is permitted to accept up to 8,000 tpd of solid waste and currently accepts a daily average of approximately 7,000 tpd of solid waste. The landfill has enough projected capacity to operate until 2030.

Non-hazardous waste from project construction activities would be recycled to the extent feasible, and where necessary, would be disposed at Olinda Alpha Landfill. Construction waste is anticipated to be minimal compared to waste generated throughout the lifetime of the project during operation.

As described in Section 4.14, Population and Housing, the proposed project is replacing two existing medical office buildings and a motel, and is anticipated to employ approximately 275 employees once completed. Though the number of people on site daily would increase as a result of project implementation, solid waste generated by the proposed project is not anticipated to increase substantially. Regardless, any increase in solid waste generated on-site would be minimal, and would not result in an exceedance of the daily available capacity (8,000 tpd) at the Olinda Alpha Landfill.[1] The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure. Moreover, the project would not otherwise impair the attainment of solid waste reduction goals. Refer to Response 4.19(a) for additional details. Therefore, the project would result in a less than significant impact to solid waste and landfill facilities, and no mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

[1] OCWR. 2019. Olinda Alpha Landfill Factsheet. Website: https://www.oclandfills.com/civicax/filebank/blobdload.aspx?BlobID=30447 (accessed June 25, 2020).

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The California Integrated Waste Management Act of 1989 (AB 939) changed the focus of solid waste management from landfill to diversion strategies (e.g., source reduction, recycling, and composting). The purpose of the diversion strategies is to reduce dependence on landfills for solid waste disposal. AB 939 established mandatory diversion goals of 25 percent by 1995 and 50 percent by 2000. AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the State that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by the year 2020 and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the State's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies to assist the State in reaching the 75 percent goal by 2020. AB 1826 (2014) requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. AB 1826 also requires that local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses. Organic waste refers to food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. SB 1383 (2016) establishes methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of the State economy. SB 1383 establishes the following targets to reduce the 2014 statewide level of organic waste that is disposed of: a 50 percent reduction by 2020, and a 75 percent reduction by 2025. CalRecycle has the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target – no less than 20 percent of currently disposed edible food should be recovered for human consumption by 2025. According to CalRecycle, food waste accounts for approximately 18 percent of total landfill disposal.[1]

According to the General Plan Infrastructure Element (2015), City efforts to increase waste diversion include maximizing recycling and source reduction to ensure continued compliance with State regulations. The City plans to eliminate landfill waste by improving waste collection services, operating a curbside recycling program, and increasing community knowledge of available waste diversion practices. These efforts will collectively improve the City's total waste diversion rate. In addition, the proposed project would be required to comply with all federal, State, and local regulations related to solid waste. Furthermore, the proposed project would comply with all standards related to solid waste diversion, reduction, and recycling during project construction and operation. Therefore, the proposed project is anticipated to result in less than significant impacts related to potential conflicts with federal, State, and local management and reduction statutes and regulations pertaining to solid waste, and no mitigation would be required.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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[1] California Department of Resources Recycling and Recovery (CalRecycle). Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions. Website: https://www.calrecycle.ca.gov/climate/slcp#:~:text=In%20September%202016%2C%20Governor%20Brown,various%20sectors%20of%20California's%20economy (accessed October 14, 2020).

4.20 WILDFIRE

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

Impact Analysis

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

According to the California Department of Forestry and Fire Protection's (CAL FIRE) Fire and Resource Assessment Program Fire Hazard Severity Viewer, the project site and surrounding area is not located within a Very High Fire Hazard Severity Zone (VHFHSZ), or within a State Responsibility Area (SRA).[1]

The proposed project would not substantially impair an adopted emergency response plan or evacuation plan. As discussed in Section 4.17, Transportation, the proposed project is not anticipated to result in any substantial traffic impacts or queueing on nearby streets during short-term construction activities, and all construction equipment would be staged within the project site. In addition, the proposed project would be required to comply with all applicable codes and ordinances for emergency vehicle access, which would ensure adequate access to, from, and on site for emergency vehicles. Adherence to these codes and ordinances would ensure that construction and operation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Furthermore, because the project site is not located in or near a SRA or lands classified as VHFHSZ, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan in the event of wildfire. No mitigation is required.

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[1] California Department of Forestry and Fire Protection (CALFIRE). 2020. Fire and Resource Assessment Program Fire Hazard Severity Viewer. Website: https://egis.fire.ca.gov/FHSZ/ (accessed June 10, 2020).

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The project site is relatively flat, and the surrounding area does not contain significant natural or manufactured slopes. The majority of the project site and the surrounding area are currently developed, and therefore, lack the combustible materials and vegetation necessary for the uncontrolled spread of a wildfire.

The project includes the demolition of existing motel and medical office buildings on site, and includes the construction and operation of a four-story medical office building. As such, the project itself would not exacerbate wildfire risks as compared to existing conditions because it is representative of existing development in the area and is considered an in-fill development. Further, the project site is not located in or near an SRA or lands classified as VHFHSZ. Therefore, due to the lack of slopes on site and other factors, the proposed project would not exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

The project does not require the installation or maintenance of associated infrastructure (including roads, fuel breaks, emergency water sources, power lines, or other utilities) that would exacerbate fire risk or that would result in impacts to the environment. The project would include the installation of off-site fire hydrants around the project site along Main Street, Stewart Drive, as well as internally between the existing parking garage and the new building. Furthermore, although utility improvements, including domestic water, sanitary sewer, and storm drain lines, proposed as part of the project would be extended throughout the project site, these utility improvements would be underground and would not exacerbate fire risk. Additionally, the project does not include any changes to public or private roadways that would exacerbate fire risk or that would result in impacts to the environment. Furthermore, the project site is not located in or near a SRA or lands classified as VHFHSZ. Project design and implementation of utility improvements would be reviewed and approved by the City's Public Works Department and the Orange City Fire Department as part of the project approval process to ensure the proposed project is compliant with all applicable design standards and regulations. Therefore, no project-related impacts are anticipated. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

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

Flooding. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project site is not located within a 100-year floodplain. As described in Section 4.10, Hydrology and Water Quality, during construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered, and there would be an increased potential for flooding compared to existing conditions. As specified in Regulatory Compliance Measure RCM-WQ-1, construction Best Management Practices (BMPs), such as Erosion Control and Sediment Control BMPs, would target and reduce pollutants of concern in stormwater runoff during construction. In addition, compliance with the proposed operational BMPs would ensure on-site storm drain facilities would be adequately sized to accommodate stormwater runoff from the project site so that on-site flooding would not occur, as specified in RCM-WQ-2. With incorporation of RCM-WQ-1 and RCM-WQ-2, the proposed project would not exposure people or structures to significant risks, such as flooding, as a result of runoff, post-fire slope instability, or drainage changes. Furthermore, the project site is not located in or near a SRA or lands classified as VHFHSZ. Therefore, the project would not result in impacts to project occupants related to post-wildfire flooding risks. No mitigation is required.

Landslides. Landslides and other forms of mass wasting, including mudflows, debris flows, and soil slips, occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking but can also occur as a result of erosion and downslope runoff caused by rain following a fire. As previously discussed in Section 4.7, Geology and Soils, Response 4.7(a)(iv), landslides and other forms of slope instability do not represent a significant hazard to the project because the site is located in a relatively flat area, and there is no evidence of landslides in the project vicinity. Additionally, according to the City's Local Hazard Mitigation Plan, the project site does not lie within an area susceptible to landslide. Furthermore, the project site is not located in or near a SRA or lands classified as VHFHSZ. The proposed project would not expose people or structures to significant risks, such as landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the project would not result in impacts to project occupants related to post-wildfire landslide risks. No mitigation is required.

Significance Determination: No Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: No Impact

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

Impact Analysis

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Based on the discussion in Section 4.4, Biological Resources, the proposed project is anticipated to result in less than significant impacts related to habitat, wildlife species, and/or plant and animal communities. With implementation of Mitigation Measure MM-BIO-1, requiring that any vegetation removal occur outside of the active nesting bird season, impacts to nesting birds would be reduced to less than significant. The proposed project would not eliminate a plan or animal community nor would it substantially reduce the number or restrict the range of a rare or endangered plant or animal.

As discussed in Section 4.5, Cultural Resources, Response 4.5(a), the project site does not contain any buildings or structures that meet any of the California Register of Historical Resources (California Register) criteria or quality as "historical resources" as defined by CEQA. Further, the project site is not designated as a historical/archaeological landmark by the City or the County. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource.

As discussed in Section 4.18, Tribal Cultural Resources, the City requested a search of the Sacred Lands File by the Native American Heritage Commission (NAHC) for the project site. According to NAHC correspondence, no resources were noted in the database. The City did not receive any

communication from the four tribes that requested notification regarding the proposed project, pursuant to AB 52.

Mitigation Measure MM-CUL-1 requires cultural resources monitoring during excavation activities and establishes procedures in the event of the discovery of an unknown cultural resource. With implementation of MM-CUL-1, impacts to cultural resources would be less than significant. In addition, MM-PAL-1, MM-PAL-2, and MM-PAL-3 have been incorporated to address the discovery of paleontological resources should be unearthed during construction. With the application of MM-PAL-1, MM-PAL-2, and MM-PAL-3, potential impacts to previously undiscovered paleontological resources would be less than significant.

For the reasons stated above, the project does not have the potential to substantially degrade the quality of the environment, substantially reduce to habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Impacts would be less than significant with implementation of the mitigation measures identified above.

Mitigation Measures: Refer to MM-BIO-1 (in Section 4.4, Biological Resources), MM-CUL-1 (in Section 4.5, Cultural Resources), and MM-PAL-1 through MM-PAL-3 (in Section 4.7, Geology and Soils).

Significance Determination: Potentially Significant Impact
Mitigation Measures: Refer to MM-BIO-1, MM-CUL-1, and MM-PAL-1, MM-PAL-2, and MM-PAL-3.
Significance Determination After Mitigation: Less Than Significant Impact

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The proposed project involves the demolition of a motel and two medical office buildings, and the construction of a four-story medical office building and subterranean parking garage with up to five levels of subsurface parking. The project site is located in an urban area that is predominantly built-out with various commercial and medical office/hospital uses associated with the St. Joseph Hospital Campus. The proposed project would rely on and can be accommodated by the existing road system, public services, and utilities. Based on the Project Description and the preceding responses, impacts related to the proposed project are less than significant or can be reduced to less than significant levels with the incorporation of mitigation measures. Because all potentially significant impacts can be mitigated to a less than significant level, such impacts would not be cumulatively significant. The proposed project's contribution to any significant cumulative impacts would therefore be less than cumulatively considerable.

Significance Determination: Less Than Significant Impact
Mitigation Measures: No Mitigation is Required
Significance Determination After Mitigation: Less Than Significant Impact

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

Previous sections of this IS/MND reviewed the proposed project's potential impacts, and standard conditions and mitigation measures related to Aesthetics (RCM-AES-1), Biological Resources (MM-BIO-1 and RCM-BIO-1), Cultural Resources (MM-CUL-1 and RCM-CUL-1), Geology and Soils (MM PAL-1 through MM-PAL-3), Hazards and Hazardous Materials (MM-HAZ-1), Hydrology and Water Quality (RCM-WQ-1 through RCM-WQ-5), Noise (RCM-NOI-1), and Public Services (RCM-PS-1 through RCM-PS-5). As concluded in these previous discussions, the proposed project would result in less than significant environmental impacts with adherence to the Regulatory Compliance Measures and implementation of the recommended Mitigation Measures. Therefore, the proposed project would not result in environmental impacts that would cause substantial adverse effects on human beings.

Mitigation Measures: Refer to MM-BIO-1 (in Section 4.4, Biological Resources), MM-CUL-1 (in Section 4.5, Cultural Resources), MM-GEO-1 (in Section 4.7, Geology and Soils), MM-PAL-1, MM-PAL-2, and MM-PAL-3 (in Section 4.7, Geology and Soils), and MM-HAZ-1 (in Section 4.9, Hazards and Hazardous Materials).

SECTION 5.0 MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Monitoring Requirements

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill [AB] 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a Responsible Agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the Lead Agency or a Responsible Agency, prepare and submit a proposed reporting or monitoring program.
- The Lead Agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based. A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.
- Prior to the close of the public review period for a draft Environmental Impact Report (EIR) or MND, a Responsible Agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the Lead Agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the Responsible Agency or agency having jurisdiction over natural resources affected by the project, or refer the Lead Agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a Lead Agency by a Responsible Agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures that mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or non-compliance by a Responsible Agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit that authority of the Responsible Agency or agency having jurisdiction over natural resources affected by a project, or the authority of the Lead Agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

Mitigation Monitoring Procedures

The mitigation monitoring and reporting program has been prepared in compliance with PRC Section 21081.6. The program describes the requirements and procedures to be followed by the City of Orange to ensure that all mitigation measures adopted as part of the proposed project would be carried out as described in this IS/MND. Table 5.A lists each of the mitigation measures specified in this IS/MND and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 5.A: Mitigation and Monitoring Reporting Program

Regulatory Compliance Measures / Mitigation Measures		Responsible Party	Timing for RCM or Mitigation Measure
4.1: Aesthetics			
RCM-AES-1	**On-Site Lighting.** As part of the Design Review Process, the project Applicant shall demonstrate that the proposed project would install all on-site lighting in accordance with the provisions of Section 17.12.030, Lighting, of the City's Municipal Code, to the satisfaction of the City of Orange (City) Director of Community Development, or designee. All on-site project lighting shall, to the extent feasible, that the intensity and direction of all on-site outdoor lighting and glare minimize spillage and glare onto surrounding premises.	City of Orange Director of Community Development, or designee	During the Design Review Process
4.2: Agriculture and Forest Resources			
The proposed project would not result in significant adverse impacts related to agriculture and forest resources. No mitigation is required.			
4.3: Air Quality			
The proposed project would not result in significant adverse impacts related to air quality. No mitigation is required.			
4.4: Biological Resources			
MM-BIO-1	**Migratory Bird Treaty Act.** Any vegetation removal should take place outside of the active nesting bird season (i.e., January 15–September 15), when feasible, to ensure compliance with the California Fish and Game Code. In the event that vegetation removal takes place during the bird-nesting season, a qualified biologist shall conduct a nesting bird survey within 3 days prior to construction activities to ensure that birds are not engaged in active nesting within 100 feet of the project site. If nesting birds are discovered during preconstruction surveys, the biologist shall identify an appropriate buffer (i.e., up to 500 feet depending on the circumstances and specific bird species) where no construction activities or other disturbances are allowed to occur until after the birds have fledged from the nest. Construction personnel shall be instructed regarding the ecological sensitivity of the fenced area. The results of the survey shall be documented and filed with the Community Development Director within five days after the survey.	City of Orange Director of Community Development, or designee	Prior to vegetation removal
RCM-BIO-1	**Tree Removal Permit.** Prior to the issuance of building permits, the project Applicant shall obtain a Tree Removal Permit, issued by the City of Orange (City) Director of Community Services, in accordance with Section 12.32 of the City's Municipal Code.	City of Orange Director of Community Services, or designee	Prior to the issuance of building permits

Table 5.A: Mitigation and Monitoring Reporting Program

	Regulatory Compliance Measures / Mitigation Measures	Responsible Party	Timing for RCM or Mitigation Measure
4.5: Cultural Resources			
MM-CUL-1	**Cultural Resources Monitoring and Accidental Discovery.** Prior to the commencement of ground-disturbing activities, and in adherence to the recommendations of the cultural resources records search results, the project Applicant shall retain, with approval of the City of Orange (City) Community Development Director, or designee, a qualified archaeological monitor. A monitoring plan shall be prepared by the archaeologist and implemented upon approval by the City. Prior to the commencement of ground-disturbing activities, the project Applicant shall also retain a Native American monitor to be approved by the City of Orange (City) Community Development Director, or designee, after consultation with interested tribal and Native American representatives. Both monitors shall be present full-time on the project site during the first 10 working days when excavation activities will extend below Artificial Fill deposits into native soil. If cultural materials are discovered during excavation, a qualified professional archaeologist shall assess the nature and significance of the find and determine if any additional study or treatment of the find is warranted. Additional studies could include, but would not be limited to, collection and documentation of artifacts, documentation of the cultural resources on State of California Department of Parks and Recreation Series 523 forms, or subsurface testing. If further monitoring is warranted, it shall continue until the monitoring archaeologist determines, based on field observations, that there is no likelihood of encountering intact archaeological cultural resources. If deemed appropriate by the archaeologist, subsequent monitoring may be reduced from full-time to part-time, or to spot-checking. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. To the extent feasible, project activities shall avoid these deposits. Upon completion of any monitoring activities, the archaeologist shall prepare a report documenting the methods and results of monitoring activities. The final version of this report shall be submitted to the City of Orange Community Development Department, the SCCIC, and the State Historic Preservation Office, if required.	City of Orange Community Development Director, or designee	Prior to the commencement of ground-disturbing activities
RCM-CUL-1	**Human Remains.** In the event that human remains are encountered on the project site, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the	City of Orange Director of Community Development, or designee	During construction

Table 5.A: Mitigation and Monitoring Reporting Program

Regulatory Compliance Measures / Mitigation Measures		Responsible Party	Timing for RCM or Mitigation Measure
	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 non-destructive 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 Director of the City of Cypress Community Development Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.		
4.6: Energy			
The proposed project would not result in significant adverse impacts related to energy. No mitigation would be required.			
4.7: Geology and Soils			
MM-GEO-1	**Compliance with the Recommendations in the Geotechnical Investigation.** Prior to the issuance of demolition or grading permits, the City of Orange (City) Public Works Department shall verify that requirements and recommendations in the Final Geotechnical Investigation have been appropriately incorporated into the project plans. All grading operations and construction shall be conducted in conformance with all of the recommendations included in the geotechnical document prepared by Geotechnical Professionals, Inc. (GPI), titled Geotechnical Investigation Proposed Phase I Medical Office Building, St. Joseph Hospital, NEC S. Main Street and W. Stewart Drive, Orange, California (Geotechnical Investigation) (March 10, 2020) as well as any Final Geotechnical Reports prepared for the project. All recommendations found in the Geotechnical Investigation report shall be incorporated into project design and shall include, but not be limited to: • General earthwork and grading, including site preparations, over-excavation and re-compaction, fill placement and compaction, importing of fill soil, shrinkage and subsidence, rip ability, and oversized material; • Foundations, including minimum embedment and width, allowable bearing, lateral load resistance, increase in bearing and friction, and settlement estimates; • Temporary backcuts, if required during removal of unsuitable soils, would be reviewed and approved by the Project Geotechnical Consultant;	City of Orange Public Works Department	Prior to the issuance of demolition or grading permits; during construction

Table 5.A: Mitigation and Monitoring Reporting Program

	Regulatory Compliance Measures / Mitigation Measures	Responsible Party	Timing for RCM or Mitigation Measure
	• Specific structural design and earthwork to remove the influence of expansive soils; • Backfilling of retaining walls with sandy (granular) soils; • A geological monitor to observe earthwork and shoring installation; • Surface fault rupture; • Seismic design parameters; • Pavement design; and Additional site grading, foundation, and utility plans shall be reviewed by the project Geotechnical Consultant prior to construction to check for conformance with all of the recommendations of the Geotechnical Investigation (GPI, 2020). Design, grading, and construction shall be performed in accordance with the requirements of the 2019 California Building Code (CBC) applicable at the time of grading, as well as the recommendations of the project Geotechnical Consultant as summarized in the final Geotechnical Report subject to review by the Public Works Department prior to the start of grading activities. The final Geotechnical Report shall present the results of observation and testing done during grading activities.		
MM-PAL-1	**Paleontological Resources Impact Mitigation Program (PRIMP).** A qualified, professional paleontologist who meets the standards set by the Society of Vertebrate Paleontology (SVP) shall be retained by the project Applicant and approved by the City of Orange (City) Director of Community Development, or designee, to develop a PRIMP for this project. The PRIMP shall be consistent with the guidelines of the SVP and shall include the methods that will be used to protect paleontological resources that may exist within the project limits, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of ground disturbance.	A qualified paleontologist	Prior to ground disturbing activities
MM-PAL-2	**Paleontological Monitoring.** Ground-disturbing activities in deposits with high paleontological sensitivity (i.e., older sediments of the Young Alluvial Fan Deposits) at depths of 10 feet (ft) or greater shall be monitored by a qualified paleontological monitor following a PRIMP. No monitoring is required for excavations in deposits with no paleontological sensitivity (i.e., Artificial Fill). If paleontological resources are encountered during the course of ground disturbance, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. In the event that paleontological resources are	A qualified paleontologist	During ground disturbing activities

Table 5.A: Mitigation and Monitoring Reporting Program

	Regulatory Compliance Measures / Mitigation Measures	Responsible Party	Timing for RCM or Mitigation Measure
	encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected and the paleontologist or paleontological monitor shall be contacted to assess the find for scientific significance. If determined to be scientifically significant, the fossils shall be collected from the field in accordance with recommendations in the PRIMP.		
MM-PAL-3	**Report of Findings.** Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository by museum staff. At the conclusion of the monitoring program, a report of findings shall be prepared by the project paleontologist to document the results of the monitoring program and submitted to the City Director of Community Development, or designee, within 6 months of the completion of paleontological monitoring.	A qualified paleontologist	Within 6 months of the completion of paleontological monitoring
4.8: Greenhouse Gas Emissions			
The proposed project would not result in significant adverse impacts related to greenhouse gas emissions. No mitigation would be required.			
4.9: Hazards and Hazardous Materials			
MM-HAZ-1	**Predemolition Surveys and Abatement of Asbestos-Containing Materials and Lead Survey.** Prior to the issuance of a demolition permit, the City of Orange Director of Community Development, or designee, shall verify that predemolition surveys for asbestos-containing materials (ACMs) and lead based paints (LBPs) (including sampling and analysis of all suspected building materials) are performed on buildings constructed prior to 1980. All inspections, surveys, and analyses shall be performed by appropriately licensed and qualified individuals in accordance with applicable regulations (i.e., ASTM International E 1527-05, and Code of Federal Regulations (CFR) Title 40, Subchapter R, Toxic Substances Control Act [TSCA], Part 716). Wherever evidence of ACMs and/or LBPs are present in areas proposed for demolition, all such materials shall be removed, handled, and properly disposed of by appropriately licensed contractors according to all applicable regulations during demolition of structures (40 CFR, Subchapter R, TSCA, Parts 745, 761, and 763). During demolition, air monitoring shall be completed by appropriately licensed and qualified individuals in accordance with applicable regulations both to ensure adherence to applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD]) and to provide safety to workers and the adjacent community. The project Applicant shall provide documentation (e.g., all required waste manifests, sampling, and air monitoring analytical results) to the City of Orange Director of Community Development, or designee, showing that abatement of any ACMs and/or	City of Orange Director of Community Development, or designee	Prior to the issuance of a demolition permit

Table 5.A: Mitigation and Monitoring Reporting Program

	Regulatory Compliance Measures / Mitigation Measures	Responsible Party	Timing for RCM or Mitigation Measure
	LBPs identified in these structures has been completed in full compliance with all applicable regulations and approved by the appropriate regulatory agencies (40 CFR, Subchapter R, TSCA, Parts 716, 745, 761, 763, and 795 and California Code of Regulations [CCR] Title 8, Article 2.6).		
4.10: Hydrology and Water Quality			
RCM-WQ-1	**Construction General Permit**. Prior to issuance of a grading permit, the project Applicant shall obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System No. CAS000002, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent for coverage under the permit to the State Water Resources Control Board (SWRCB) via the Stormwater Multiple Application and Report Tracking System (SMARTs). The project Applicant shall provide the Waste Discharge Identification Number (WDID) to the Director of the City of Orange (City) Public Works Department, or designee, to demonstrate proof of coverage under the Construction General Permit. Project construction shall not be initiated until a WDID is received from the SWRCB and is provided to the Director of the City's Public Works Department, or designee. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the proposed project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction best management practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in stormwater runoff as a result of construction activities. Upon completion of construction and stabilization of the site, a Notice of Termination shall be submitted via SMARTs.	City of Orange Director of Public Works, or designee	Prior to the issuance of a grading permit
RCM-WQ-2	**Water Quality Management Plan.** Prior to the issuance of grading or building permits, the project Applicant shall submit a Final Water Quality Management Plan (WQMP) to the City of Orange (City) Engineer, or designee, for review and approval in compliance with the requirements of the Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff Orange County (Order No. R8-2009-0030, NPDES No. CAS618030, as amended by Order No. R8-2010-0062) (North Orange County MS4 Permit). The Final WQMP shall be prepared consistent with the requirements of the Technical Guidance	City or Orange Engineer, or designee	Prior to the issuance of grading and/or building permits

Table 5.A: Mitigation and Monitoring Reporting Program

	Regulatory Compliance Measures / Mitigation Measures	Responsible Party	Timing for RCM or Mitigation Measure
	Document for Water Quality Management Plans (December 2013) and the Water Quality Management Plan template, or subsequent guidance manuals. The Final WQMP shall specify the BMPs to be incorporated into the project design to target pollutants of concern in runoff from the project area. The City shall ensure that the BMPs specified in the Final WQMP are incorporated into the final project design.		
RCM-WQ-3	**Final Hydrology and Hydraulic Analysis.** The project Applicant shall submit a Final Hydrology Study to the City of Orange (City) Director of Public Works, or his/her designee, for review and approval prior to issuance of grading and building permits. The Final Hydrology Study shall be prepared consistent with the requirements of the Orange County Hydrology Manual (Orange County Environment Agency 1986) and Orange County Hydrology Manual Addendum No. 1 (Orange County Environment Agency 1996), or subsequent guidance manuals. The Final Hydrology Study shall demonstrate that the on-site drainage facilities are designed and adequately sized to accommodate stormwater runoff from the design storm so that peak flow of stormwater from the project site would not exceed pre-project conditions. The City Director of Public Works, or designee, shall ensure that the drainage facilities specified in the Final Hydrology Study are incorporated into the final project design.	City of Orange Director of Public Works, or designee	Prior to the issuance of grading and/or building permits
4.11: Land Use and Planning			
The proposed project would not result in significant adverse impacts related to land use and planning. No mitigation would be required.			
4.12: Mineral Resources			
The proposed project would not result in significant adverse impacts related to mineral resources. No mitigation would be required.			
4.13: Noise			
RCM-NOI-1	**Construction Noise and Vibration.** Prior to issuance of grading permits, the City of Orange (City) Director of Community Development Department, or designee, shall verify that grading and construction plans include the following requirements: • The project construction contractor shall ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved. • The project construction contractor shall equip construction equipment, fixed or mobile, with properly operating and maintained noise mufflers consistent with manufacturer's standards. • The project construction contractor shall locate construction staging areas away from off-site sensitive uses during the later phases of project development.	City of Orange Director of the Community Development Department, or designee	Prior to the issuance of grading permits

Table 5.A: Mitigation and Monitoring Reporting Program

	Regulatory Compliance Measures / Mitigation Measures	Responsible Party	Timing for RCM or Mitigation Measure
	• The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site whenever feasible. • The project construction contractor shall use on-site electrical sources to power equipment rather than diesel generators whenever feasible. • The project construction contractor shall reduce non-essential idling of construction equipment to no more than five minutes per hour.		
4.14: Population and Housing			
The proposed project would not result in significant adverse impacts related to population and housing. No mitigation would be required.			
4.15: Public Services			
RCM-PS-1	**Payment of Fire Protection Facility Program Fee.** Prior to the issuance of building permits, the City of Orange (City) Director of Community Development, or designee, shall confirm that the project Applicant has paid all required Fire Protection Facility Program Fees in accordance with Section 15.38.020, Fire Protection Facility Program Fee, of the City of Orange Municipal Code.	City of Orange Director of Community Development, or designee	Prior to the issuance of building permits
RCM-PS-2	**Payment of Police Facility Development Fee.** Prior to the issuance of building permits, the City of Orange (City) Director of Community Development, or designee, shall confirm that the project Applicant has paid all required Police Protection Facility Program Fees in accordance with Section 3.12.020, Police Facility Development Fee, of the City of Orange Municipal Code.	City of Orange Director of Community Development, or designee	Prior to the issuance of building permits
RCM-PS-3	**Payment of School Developer Fee.** Prior to issuance of building permits, the project Applicant shall submit proof to the City of Orange Director of Community Development, or designee, that payment of applicable school facility development fees to the Orange Unified School District has been made in compliance with Section 65995 of the California Government Code.	City of Orange Director of Community Development, or designee	Prior to the issuance of building permits
RCM-PS-4	**Payment of Park Impact Fee.** Prior to the issuance of building permits, the City of Orange Director of Community Development, or designee, shall confirm that the project Applicant has paid all required park facility fees as established in Section 3.40.040, Payment of Park Facilities Fees, of the Orange Municipal Code.	City of Orange Director of Community Development, or designee	Prior to the issuance of building permits

Table 5.A: Mitigation and Monitoring Reporting Program

Regulatory Compliance Measures / Mitigation Measures		Responsible Party	Timing for RCM or Mitigation Measure
RCM-PS-5	**Payment of Library Facilities Fee.** Prior to the issuance of building permits, the City of Orange Director of Community Development, or designee, shall confirm that the project Applicant has paid all required Library Impact Fees as established in Section 3.50.040 of the Orange Municipal Code.	City of Orange Director of Community Development, or designee	Prior to the issuance of building permits
4.16: Recreation			
The proposed project would not result in any significant adverse impacts related to recreation. No mitigation would be required.			
4.17: Transportation			
The proposed project would not result in any significant adverse impacts related to transportation. No mitigation would be required.			
4.18: Tribal Cultural Resources			
Refer to Mitigation Measure CUL-1 above in Section 4.5, Cultural Resources.			
4.19: Utilities and Service Systems			
RCM-UTL-1	**Water Efficient Landscape Ordinance**. Prior to the issuance of a building permit, the City of Orange Director of Community Development, or designee, shall confirm that the Final Landscaping Plan for the proposed Project is consistent with all applicable provisions outlined in the City's Landscape Water Efficiency Ordinance, as codified in City Resolution No. 10413.	City of Orange Director of Community Development, or designee	Prior to the issuance building permit
RCM-UTL-2	**Payment of Sewer Main Connection Fee.** Prior to the issuance of building permits, the City of Orange Director of Community Development, or designee, shall confirm that the project Applicant has paid all required sewer main connection fees as established in Section 13.56.090, Charges for Sewer Mains or Extensions, of the Orange Municipal Code.	City of Orange Director of Community Development, or designee	Prior to the issuance of building permits
4.20: Wildfire			
The proposed project would not result in any significant adverse impacts to wildfire. No mitigation would be required.			
4.21: Mandatory Findings of Significance			
Refer to Mitigation Measures MM-BIO-1, MM-CUL-1, MM-GEO-1, MM-PAL-1, MM-PAL-2, MM-PAL-3 and MM-HAZ-1.			

SECTION 6.0 LIST OF PREPARERS

CITY OF ORANGE

Robert Garcia, Senior Planner

Ashley Brodkin, Associate Planner

LSA ASSOCIATES, INC.

Ashley Davis, Principal, Environmental

Ryan Bensley, AICP, Associate

Arthur Black, Associate

Elise Miller, Assistant Environmental Planner

Nicole West, CPSWQ, QSD/QSP, Associate

Abby Annicchiarico, Assistant Environmental Planner

Michael Slavick, Senior Air Quality Specialist

J.T. Stephens, Associate

Gary Dow, Associate, Graphics

Chantik Virgil, Senior Word Processor

Lauren Johnson, Technical Editor

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