Public Review Draft
Initial Study/Mitigated Negative Declaration

Bella Terra Residential Community and Temple Project

Prepared for

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Planning and Building Division
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ACRONYM LIST

µg/m^3	micrograms per cubic meter
AAM	Annual Arithmetic Mean
AB	Assembly Bill
ADA	Americans with Disabilities Act
ADT	Average Daily Trips
AFY	Acre-feet per year
APN	Orange County Accessor's Parcel Number
AQMP	Air Quality Management Plan
BMP	Best Management Practice
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalGEM	California Geologic Energy Management Division
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	Santa Ana Climate Action Plan
CARB	California Air Resources Board
CB	U.S. Census Bureau
CBC	California Building Code
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
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CIFF	California Important Farmland Finder
City	City of Santa Ana
CMU	Concrete masonry unit
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
Cortese List	Hazardous Waste and Substances Site List
County	Orange County
CUP	Conditional Use Permit
cy	Cubic yards
DAMP	Drainage Area Management Plan
dB	decibel
dBA	A-weighted decibel scale
DMR	California Division of Mine Reclamation
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
Du	Dwelling units

EIR	Environmental Impact Report
EMFAC	EMissions FACtor
EO	Executive Order
EV	electric vehicle
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
ft	feet
FTA	Federal Transportation Administration
General Plan	City of Santa Ana General Plan
GGUSD	Garden Grove Unified School District
GHG	greenhouse gas
HCP	Habitat Conservation Plan
HMP	City of Santa Ana Hazard Mitigation Plan
HOA	Home Owners Association
HVAC	heating, ventilation, and air conditioning
I	Interstate
in/sec	inches per second
IS	IS/MND
IS/MND	Initial Study/Mitigated Negative Declaration
kBTU	One thousand British Thermal Units
km	kilometer
LDN	day-night average sound level
L_{eq}	energy average
L_{eq} dBA	Equivalent Continuous Noise Level in A-weighted decibels
LID	Low Impact Development
LIP	City of Santa Ana Local Implementation Plan
L_{max}	maximum noise level
L_{min}	minimum noise level
LMR-11	Low Medium Density Residential land use designation
LRA	Local Responsibility Area
LST	localized significance threshold
MATES V	Multiple Air Toxics Exposure Study V
MBTA	Migratory Bird Treaty Act
mg	million gallons
mg/m^3	milligrams per cubic meter
mgd	million gallons of wastewater per day
MM	Mitigation measure
MND	Mitigated Negative Declaration
mph	miles per hour
MPO	metropolitan planning organization
MRZ-1	Mineral Resource Zone-1 (an area with no significant mineral deposits)
MRZ-2	Mineral Resource Zone-2 (an area with significant mineral deposits)
MRZ-3	Mineral Resource Zone-3 (an area containing known mineral resources of undetermined significance)
MRZs	Mineral Resources Zones

MS4	Municipal Separate Storm Sewer System Permit
$MTCO_2e$	metric tons of carbon dioxide equivalent
$MTCO_2e/yr$	metric tons of carbon dioxide equivalent per year
MWD	Metropolitan Water District
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NHMLA	Natural History Museum of Los Angeles County
NO	Nitric oxide
NO_2	Nitrogen dioxide
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OCFA	Orange County Fire Authority
OCSD	Orange County Sanitation Districts
OCTA	Orange County Transportation Authority
OCWD	Orange County Water District
OEHHA	Office of Environmental Health Hazard Assessment
OPR	California Governor's Office of Planning and Research
OSHA	Federal Occupational Safety and Health Regulations
PEIR	Program Environmental Impact Report
PM10	respirable particulate matter with a diameter of 10 microns or less
PM2.5	fine particulate matter with a diameter of 2.5 microns or less
PMP	City of Santa Ana Parks Master Plan
ppm	parts per million
ppv	peak particle velocity
PRC	California Public Resources Code
Project	Bella Terra Residential Community and Temple Project
Qyf	young alluvial deposit
RCP	Regional Comprehensive Plan
RHNA	Regional Housing Needs Assessment
rms	root mean square
RR	Regulatory requirement
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SAMC	City of Santa Ana Municipal Code
SAPD	Santa Ana Police Department
SAPL	Santa Ana Public Library
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
SCGC	Southern California Gas Company
SD-53	Specific Development No. 53 zoning district
SF	square foot
SHMA	Seismic Hazards Mapping Act

SIP	State Implementation Plan
SLF	Sacred Lands File
SLF	Sacred Lands File
SO_2	sulfur dioxide
SoCAB	South Coast Air Basin
SR	State Route
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TAZ	Traffic Analysis Zones
T-Bact	best available control technology for toxics
TCP	Traffic Control Plan
TPA	Transit Priority Areas
TTM	Tentative Tract Map
TWLT	Two-way left turn
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOC	volatile organic compound
WQMP	Water Quality Management Plan

1.0 INTRODUCTION

1.1 PURPOSE OF THE INITIAL STUDY

The purpose of this Initial Study (IS) is to (1) describe the proposed Bella Terra Residential Community and Temple Project (hereinafter referred to as the "Project"), to be constructed in the City of Santa Ana and (2) provide an evaluation of potential environmental impacts associated with the Project's construction and operation. If potentially significant impacts are identified, mitigation measures are recommended to lessen or avoid impacts on the environment. The Project involves demolition of the three existing residential structures to accommodate the construction of 12 single-family homes and a 3,500-square-foot (SF) religious temple. This IS was prepared pursuant to the California Environmental Quality Act (CEQA), as amended (Section 21000 et. seq. of the Public Resources Code [PRC]) and in accordance with the State CEQA Guidelines (Title 14, Section 15000 et. seq. of the California Code of Regulations [CCR]).

Pursuant to Section 15367 of the State CEQA Guidelines, the City of Santa Ana (hereinafter referred to as the "City") is the lead agency for the Project. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect on the environment. The City, as the lead agency, has the authority for Project approval and certification of the accompanying environmental documentation. In addition to addressing the potential environmental impacts that would result from the proposed Project, this IS/Mitigated Negative Declaration (IS/MND) serves as the primary environmental document for future activities associated with the Project, including discretionary approvals requested or required for Project implementation.

The City of Santa Ana, as the lead agency, has reviewed and revised, as necessary, all submitted drafts and technical studies and has commissioned the preparation of this IS/MND to reflect its independent judgment. This IS/MND evaluates the potential environmental impacts of Project implementation; includes significance determinations from the environmental analyses; identifies regulatory requirements (RRs) to be incorporated into the Project; and sets forth mitigation measures (MMs) that will lessen or avoid potentially significant Project impacts on the environment.

1.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

In accordance with CEQA and the State CEQA Guidelines, an IS has been prepared for the proposed Project and its associated discretionary approvals. The IS indicates that the Project would have less than significant impacts with MMs required, and therefore, the Project requires the preparation of an IS/MND.

This IS/MND serves as the environmental document that presents the analysis of Project impacts on each of the environmental topics in the CEQA Environmental Checklist provided in Section 4.0. This document will serve to inform City decision makers, representatives of affected trustee and responsible agencies, and other interested parties of the potential

environmental effects that may occur with approval and implementation of the proposed Project.

1.3 PROJECT SUMMARY

1.3.1 LOCATION

The 2.5-acre Project site is located in the City of Santa Ana, in Orange County, California. The City of Santa Ana encompasses approximately 27.4 square miles in the northwestern area of Orange County, California. Adjacent cities include the City of Tustin to the east; the cities of Fountain Valley and Westminster to the west; the cities of Orange and Garden Grove to the north; and the cities of Irvine and Costa Mesa to the south. Refer to Exhibit 1, Regional Location and Local Vicinity.

The Project site consists of three lots (Assessor Parcel Numbers [APNs] 100-261-18, 100-261-19, and 100-261-20) and is located at 4006, 4010, and 4018 West Hazard Avenue between La Vergn Way to the east and Morse Drive to the west. Local access and regional access are provided by North Harbor Boulevard and State Route (SR 22), respectively. Refer to Exhibit 2, Aerial Photograph.

1.3.2 PROJECT PROPONENT

Long Van Nguyen
Studio2 Design + Partners
13902 Harbor Blvd., Suite 2A
Garden Grove, CA 92843

1.3.3 EXISTING GENERAL PLAN AND ZONING

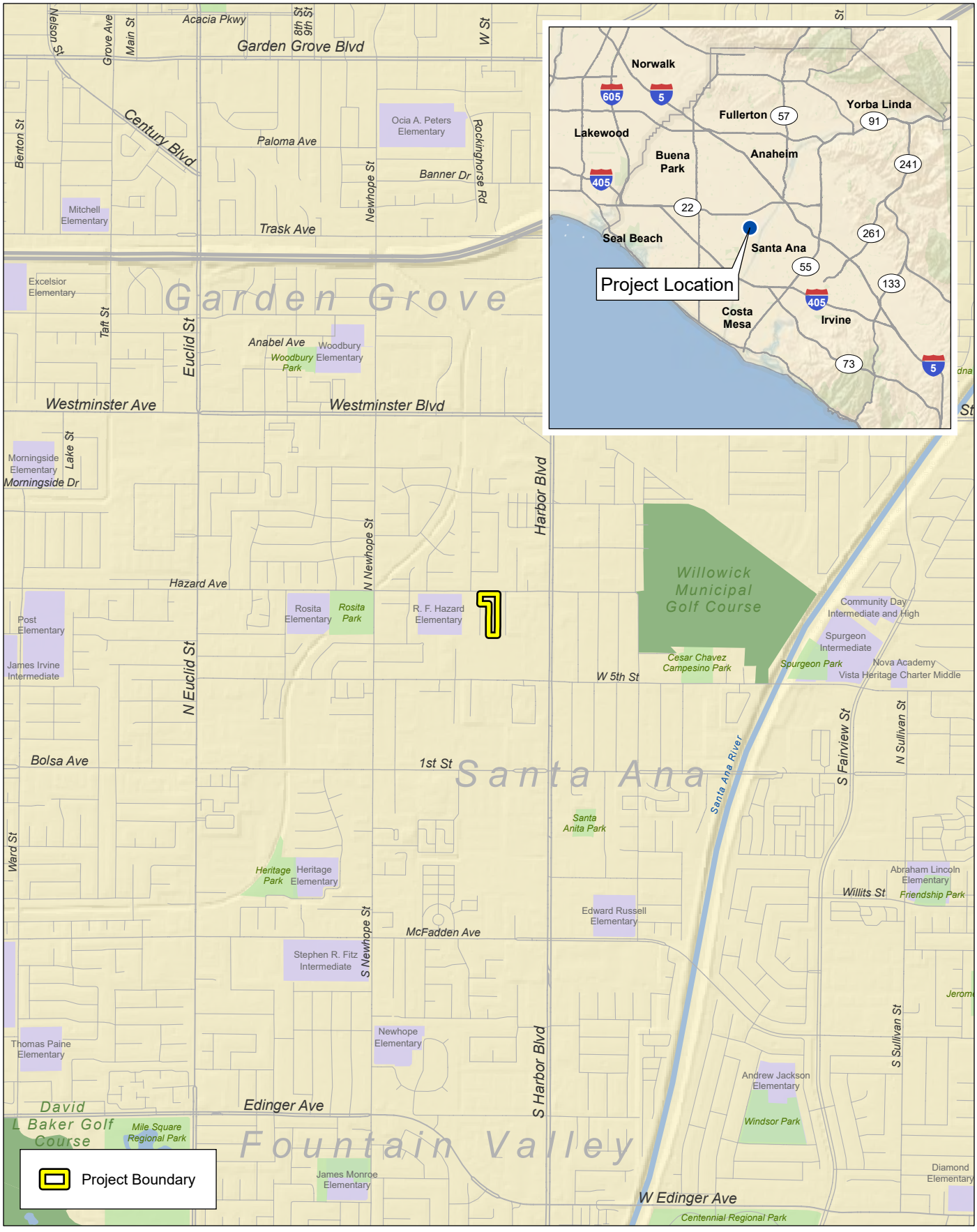
General Plan Land Use Designation: Low Medium Density Residential (LMR-11)

Zoning Classification: Specific Development (SD)-53

1.3.4 EXISTING SETTING

Project Site

The Project site is currently developed with three approximately 1,500-SF single-story, single-family detached residences and associated detached garages and several accessory structures, dirt areas, and asphalt concrete paving along West Hazard Boulevard. The three single-family residences are currently occupied. The site also contains scattered ornamental trees, grasses, and shrubs. No areas with native vegetation or habitat are observed on the site.



Regional Location and Local Vicinity

Exhibit 1

Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

PSOMAS

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D:\Projects\3SAN\Bella_Terra\PRO\Bella_Terra.aprx\ex_Aerial

Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

PSOMAS

(Rev: 3-12-2025 PLO) R:\Projects\SAN05 Sta. Ana\3SAN050102 - Bella Terra\Graphics\ISMND\ex_Aerial.pdf

Surrounding Land Uses

The Project site is located within a highly urbanized portion of the City of Santa Ana, which primarily includes single-family and multi-family residential uses within the immediate vicinity. Surrounding land uses include single-family residences to the north and south; multi-family residences to the east; and single-family residences, a catholic church, and Hazard Elementary School to the west.

1.3.5 PROPOSED DEVELOPMENT

The Project consists of the construction of 12 single-family, two-story residences ranging from 1,576 SF to 2,538 SF in size. Each residence/lot includes a two-car garage and a driveway with space to accommodate two additional vehicles.

Additionally, the Project also proposes a 3,500-SF two-story religious temple with 19 parking stalls. The private driveway will be used by both proposed uses. The temple will consist of a main hall, upper level private altar with no public access, and a covered walkway.

The Project overall would provide 55,566 SF of open space including a community garden, which represents approximately 69 percent of the total net buildable site area. Please refer to Exhibit 3, Site Plan.

1.4 SUMMARY OF FINDINGS

Based on the environmental checklist form prepared for the Project and supporting environmental analysis (Section 4.0), the proposed Project would have no impact, less than significant impact, or less than significant impact with mitigation in all topics.

According to the State CEQA Guidelines, it is appropriate to prepare an IS/MND for the proposed Project because there are no impacts that would remain significant and unavoidable.

1.5 INTENDED USES OF THIS DOCUMENT

This IS/MND has been prepared to determine the appropriate level of environmental documentation required for the proposed Project pursuant to CEQA. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the proposed Project.

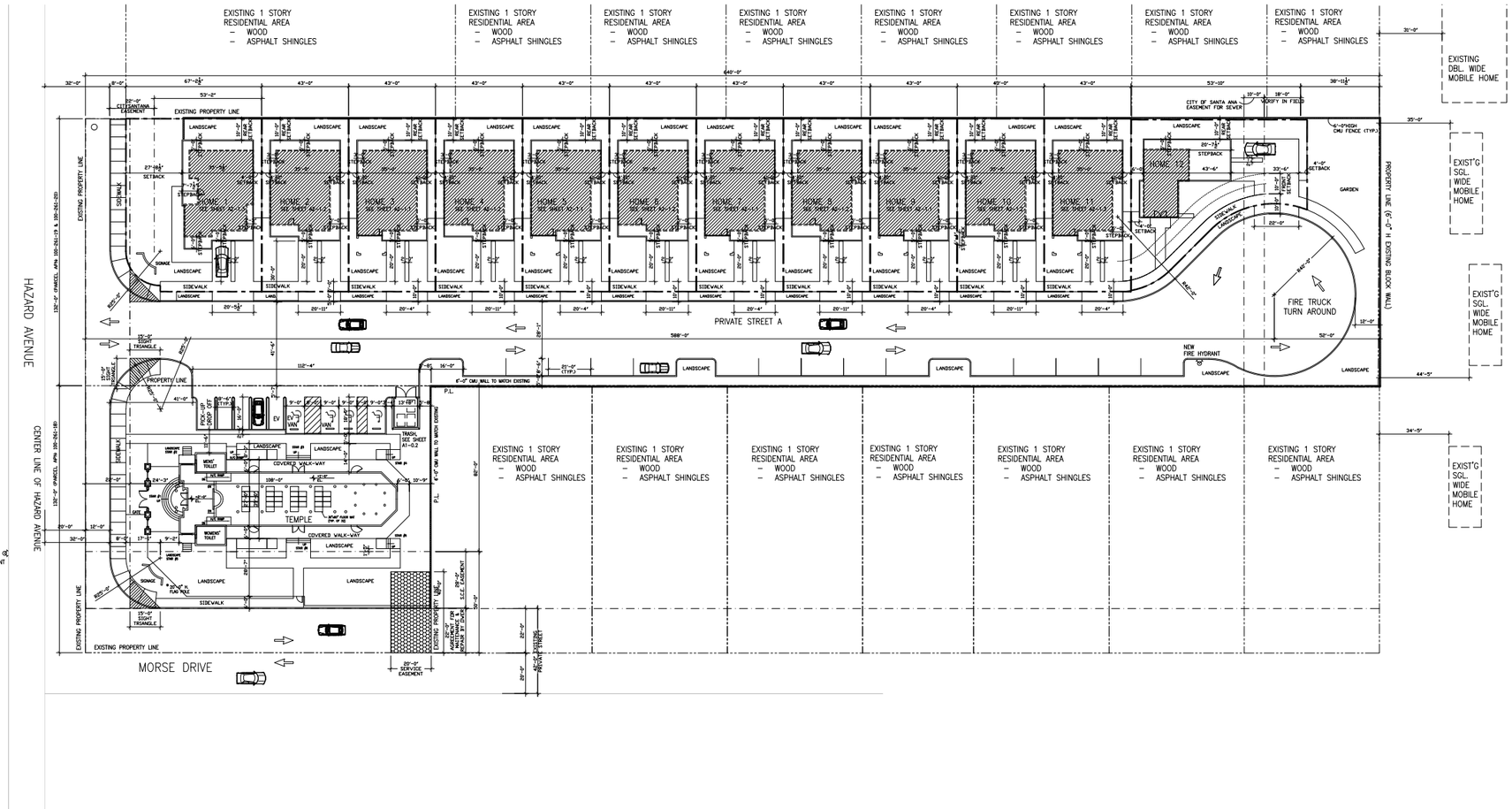
The Draft IS/MND will be circulated for 30 days, during which comments concerning the analysis should be sent to:

City of Santa Ana Planning Division
Attention: Pedro Gomez, Principal Planner
20 Civic Center Plaza, Ross Annex M-20
Santa Ana, CA 92701
PGomez@santa-ana.org

PARKING CALCULATION

TEMPLE PARKING TYPE	SIZE	REQUIRED	PROVIDED	REMARK
STANDARD STALL	8'-6" x 16'-0"	06	14	1 / 400 S.F.
STANDARD EV STALL	8'-6" x 16'-0"	01	01	8% OF TOTAL PARKING STALLS
ADA STALL	8'-6" x 18'-0"	01	01	PER TABLE 11B-208.2
ADA VAN STALL	8'-6" x 18'-0"	01	01	PER TABLE 11B-208.2
ADA EV STALL	8'-6" x 18'-0"	01	01	PER TABLE 11B-228.3.2.1
ADA EV VAN STALL	8'-6" x 18'-0"	01	01	PER TABLE 11B-228.3.2.1
TOTAL		11	19	
RESIDENCES PARKING TYPE	.	REQUIRED	PROVIDED	REMARK
GARAGE SPACES	.	24 SPACES	24 SPACES	.
DRIVEWAY		24 SPACES	24 SPACES	
ON STREET SPACES	.	10 SPACES	10 SPACES	
TOTAL	.	58 SPACES	58 SPACES	

GENERAL NOTES:
01- THE INSTALLATION OF 24" BOX STREET TREES AT 35' ON CENTER OF HAZARD AVENUE AND PRIVATE STREET, INCLUDING DEEP ROOT IRRIGATION SYSTES, PER CITY STANDARDS. CONTACT THE TREE SECTION SUPERVISOR AT (714) 647-3337 FOR TREE SPECIES AND FOR NUMBER AND SIZE OF REQUIRED TREE REPLACEMENT.
02- INSTALL 24" BOX STREET TREES PER THE CITY STANDARDS AND PROVIDED PLAN, AS NEEDED.
03- INSTALLATION OF (2) NEW STREET LIGHT ALONG THE PROPERTY FRONTAGE, AS NEEDED PER APPROVED STREET IMPROVEMENT PLANS AND CITY STANDARD. " WORK WILL INCLUDE CONDUIT, CONDUCTORS, STREETLIGHTS AND SERVICEE PEDESTAL, AS NEEDED. CONTACT CESAR RODRIGUEZ AT (714) 647-5626 FOR STREET LIGHT QUESTIONS.
04- FOR STREET LIGHT PLAN PROVIDE:
  - STREET LIGHT DRAWING SHOWING SERVICE POINT, PEDESTAL, CONDUITS, WIRES, STREET LIGHT LOCATIONS, ETC.
  - SCE SERVICE POINT DRAWING
  - AS-BUILT PLANS
05- ALL EXISTING OVERHEAD UTILITY LINES AND POWER POLES ALONG THE PROPERTY FRONTAGE ON HAZARD AVENUE WILL BE RELOCATED UNDERGROUND FACILITIES, INCLUDING THE OVERHEAD UTILITY LINES THAT RUN ACROSS HAZARD AVENUE. (SANTA ANA MUNICIPAL CODE, SECTION 34-82)
06- ALL UTILITY SERVICES ALONG THE PROPERTY FRONTAGE ON "PRIVATE STREET AND HAZARD STREET TO BE UNDERGROUNDED" (SANTA ANA CODE, SECTION 34-82).
07- THE WORK THAT WILL BE INSTALLED TO BRING BOTH POWER AND COMMUNICATION LINE TO THE FACILITY. SHOW ANY RELATED WORK IN THE PUBLIC RIGHT-OF-WAY.
08- A MINUMUM THROAT DISTANCE (DISTANCE FROM NEW PROPERTY LINE TO FIRST PERPENDICULAR DRIVE AISLE OR PARKING SPACE) OF 40' FOR VEHICLES ENTERING THE DRIVEWAY ON HAZARD AVENUE.
09- THE REMOVAL OF ABANDONED DRIVEWAY(S) AND REPLACEMENT WITH SIDEWALK, CURB AND GUTTER (PER CITY STANDARDS) ON HAZARD AVENUE.
10- THE PROPOSED DRIVEWAY ON HAZARD AVENUE, PER CITY STANDARD, (W=10' MIN., A=28' MIN., X=3'). THE DRIVEWAY MUST BE LOCATED A MINIMUM OF 10' AWAY FROM ANY UTILITY FACILITY, SUCH AS POWER POLES, STREET LIGHTS, CATCH BASINS, ETC.
11- THE REMOVAL OF THE EXISTING SIDEWALK AND RECONSTRUCT WITH A NEW 8' FULL-WIDTH SIDEWALK WITH TREE WELLS, ALONG THE PROPERTY FRONTAGE ON HAZARD AVENUE.
12- THE RELOCATION OF ANY AND ALL UTILITY TO BE 10' MINIMUM AWAY FROM THE DRIVEWAYS STOP OF "X".
13- A 25' RADIUS CURB RETURNS AND 17' x17' CORNER CUT-OFF DEDICATION AT THE SOUTHEAST AND SOUTHWEST CORNER OF THE INTERSECTION OF HAZARD AVENUE AND PRIVATE STREET.
14- THE INSTALLATION OF NEW CURB RAMP AT THE SOUTHWEST AND SOUTHEAST CORNER OF HAZARD AVENUE AND PRIVATE STREET, INCLUDING THE 17'x17' CORNER CUT-OFF DEDICATION, PER CITY STANDARDS.
15- THE REMOVAL AND REPLACEMENT OF CURB RAMP AT THE SOUTHEAST CORNER OF HAZARD AVENUE AND MORSE DRIVE, INCLUDING THE 17'x17' CORNER CUT-OFF DEDICATION, PER CITY STANDARDS.
16- GRINDING AND CAPPING OF FULL DEPTH OF EXISTING AC PAVEMENT FROM CENTERLINE TO GUTTER LIP FOR THE ENTIRE PROPERTY FRONTAGE, ON HAZARD AVENUE. (2"-3" GRINDING & 2"-3" AHR)
17- THE TRASH ENCLOSURE AREA WILL DRAIN INTO A WATER QUALITY INLET TO PREVENT THE DISCHARGE OF SPILLED CONTAMINANTS INTO THE STORM DRAIN. SYSTEM.
18- PROVIDE A TRASH ENCLOSURE WITH A COVER AS REQUIRED BY THE WASTE MANAGEMENT TO ACCOMMODATE THREE 4-CUBIC YARD BINS: ONE FOR WASTE, ONE FOR GREEN WASTE AND ONE FOR RECYCLING.
19- THIS SITE WILL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SANTA ANA REGION ORDER NO R8-2009-0030 DISCHARGE REQUIREMENTS (MS4 PERMIT)".
20- THERE ARE NO GATE FOR THE RESIDENTIAL AREAS.



Source: CN Architecture + Design 2024

Site Plan

Bella Terra Residential Community and Temple Project

Exhibit 3

Map not to scale

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1.6 ORGANIZATION OF THE INITIAL STUDY

The IS/MND is organized into sections, as described below.

- **Section 1.0: Introduction.** This section provides an introduction, Project summary, and overview of the conclusions in the IS/MND.
- **Section 2.0: Project Location and Environmental Setting.** This section provides a brief description of the Project location, relevant background information, and a description of the existing conditions of the Project site and vicinity.
- **Section 3.0: Project Description.** This section provides a description of the proposed Project, a statement of purpose and need, and necessary discretionary approvals.
- **Section 4.0: Environmental Checklist.** The completed Environmental Checklist Form (Appendix G) from the State CEQA Guidelines provides an overview of the potential impacts that may or may not result from Project implementation. The Environmental Checklist Form also includes "mandatory findings of significance", as required by CEQA.
- **Section 5.0**: **List of Preparers.** This section identifies the list of preparers for the IS/MND.
- **Section 6.0: References.** This section identifies the references used to prepare the IS/MND.

2.0 PROJECT LOCATION AND ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION

The 2.5-acre Project site is located in the City of Santa Ana, in Orange County, California. The City of Santa Ana encompasses approximately 27.4 square miles in the northwestern area of Orange County, California. Adjacent cities include the City of Tustin to the east; the cities of Fountain Valley and Westminster to the west; the cities of Orange and Garden Grove to the north; and the cities of Irvine and Costa Mesa to the south. Refer to Exhibit 1, Regional Location and Local Vicinity.

The Project site consists of three lots (Assessor Parcel Numbers [APNs] 100-261-18, 100-261-19, and 100-261-20) and is located at 4006, 4010, and 4018 West Hazard Avenue between La Vergn Way to the east and Morse Drive to the west. Local access and regional access are provided by North Harbor Boulevard and State Route (SR 22), respectively. Refer to Exhibit 2, Aerial Photograph.

2.1.1 SITE ACCESS

Vehicular access to the Project site is currently provided by two driveways located along West Hazard Avenue. Within a regional context, the Project site is located approximately 1 mile south of California State Route 22 (SR-22) and 3.5 miles southwest of Interstate 5 (I-5). Within a local context, the Project site is accessed by North Harbor Boulevard, which is 0.2 mile to the east and New Hope Street, which is 0.3 mile to the west.

2.1.2 EXISTING DEVELOPMENT CONDITIONS

The Project site is currently developed with three approximately 1,500-SF single-story, single-family detached residences (as shown in additional detail in Table 3-1, below) and associated detached garages and accessory structures, dirt areas, and associated asphalt concrete paving along West Hazard Boulevard. The three single-family residences are currently occupied. The site also contains scattered ornamental trees, grasses, and shrubs. No areas with native vegetation or habitat are observed on the site.

2.1.3 EXISTING PHYSICAL CONDITIONS

The Project site topography is relatively flat and drains in the southwest direction into the neighboring property. The neighboring properties in the general Project vicinity drain west into the existing storm drain system, which discharges into the East Garden Grove Wintersburg Channel. Groundwater is shallow at the Project site (CalLand Engineering 2024b).

All utility connections branch off from existing main lines along Hazard Avenue. A sewer main line crosses the rear of the property. Multiple of the existing utility lines are located in overhead lines that front Hazard Avenue.

2.1.4 SURROUNDING LAND USES AND DEVELOPMENT

The Project site is located within a highly urbanized portion of the City of Santa Ana, which primarily includes single-family and multi-family residential uses within the immediate vicinity. Surrounding land uses include single-family residences to the north and south; multi-family residences to the east; and single-family residences, a catholic church, and Hazard Elementary School to the west.

2.2 PLANNING CONTEXT

2.2.1 GENERAL PLAN DESIGNATION

The Project site currently has a General Plan land use designation of Low Medium Density Residential (LMR-11), which applies to residential areas suitable for multiple building types, including single-family detached homes, small-lot subdivisions, townhomes, duplexes, and mobile home parks. Maximum density allowed under LMR-11 is 11 dwelling units (du) per acre and maximum height is 3 stories.

2.2.2 ZONING DESIGNATION

The Project site is currently located in the Specific Development No. 53 (SD-53) zoning district, which establishes specific land uses standards and regulations, and permits 17 single-family lots with 17 single-family units consisting of two floor plans each, with an attached two-car garage and private streets (City of Santa Ana 1989).

3.0 PROJECT DESCRIPTION

3.1 PROPOSED PROJECT

The proposed Project involves demolition of the three existing residential structures and associated improvements to accommodate the construction of 12 single-family homes and a 3,500-SF religious temple, as shown in Table 3-1, Demolition Breakdown.

TABLE 3-1
DEMOLITION BREAKDOWN

Residences	Address	APN	Area (SF)
1	4018 West Hazard Avenue	100-261-18	1,580
2	4010 West Hazard Avenue	100-261-19	1,340
3	4006 West Hazard Avenue	100-261-20	1,470
Source: CN Architecture + Design 10/22/24.			

The Project will develop APNs 100-261-19 and 100-261-20 into 12 single-family, 2-story residences ranging from 1,576 SF to 2,538 SF in size. Each residence/lot will include a two-car garage and a driveway with space to accommodate two additional vehicles.

Additionally, the Project will develop APN 100-261-18 into a 3,500-SF 2-story religious temple, which will include 19 parking stalls and share a private driveway with the residential area. The temple will consist of a main hall, upper level private altar with no public access, and a covered walkway.

The Project overall would provide 55,566 SF of open space including a community garden, which represents approximately 69 percent of the total net buildable site area. Please refer to Exhibit 3, Site Plan. The square footage breakdown of the site is summarized in Table 3-2, Net Buildable Site Area Breakdown, below.

TABLE 3-2
NET BUILDABLE SITE AREA BREAKDOWN

Site Area	Area (SF)
Residential Building Area	14,592
Driveway Area	4,536
Temple Building Area	3,500
Driveway Area	2,200
Open Space Area	55,566
Total Net Site Area	**80,394**
SF: square-feet Source: CN Architecture + Design 10/22/24.	

3.2 ASSOCIATED IMPROVEMENTS

The proposed Project will create a two-way private street through the center of the site, which runs north-south, and connects to Hazard Avenue. The Project would provide sidewalks along West Hazard Avenue and a private street to facilitate pedestrian circulation. The Project would also construct a covered trash enclosure and recycling bin storage located on the northeastern corner of the temple along the proposed private street. A 6-foot concrete masonry unit (CMU) wall will be constructed along the perimeter of the Project site to match the existing wall. The Project would also install two new streetlights along Hazard Avenue in compliance with City standards. All existing overhead utility lines and power poles located along the site frontage on Hazard Avenue would be converted to underground utilities per the City of Santa Ana Municipal Code (SAMC) Section 34-82. All HVAC units for the residences will be located within the side yards, with the HVAC units for the temple located on the roof of the structure. New streetlights will also be provided along the private street serving the units and will be placed per City standards.

3.3 LANDSCAPING

The Project would install landscaping throughout the site and primarily along the perimeter of the proposed private street and West Hazard Avenue and areas adjacent to the proposed temple. Proposed landscaping materials would include a hierarchy of plant materials including trees, shrubs, and groundcover throughout the Project site, as shown in Exhibit 4, Landscape Plan.

Within the Project site, six existing trees would be removed, and 25 new trees would be planted. All trees located on-site are ornamental and their removal would occur in accordance with City standards and applicable permit requirements.

3.4 VEHICLE/BICYCLE PARKING

The Project would provide 72 total vehicle parking spaces, comprised of 19 spaces for the proposed temple and 53 spaces, including 24 garage spaces, 24 driveway spaces, and 5 on-

TREE TYPES


Ⓐ


Ⓓ

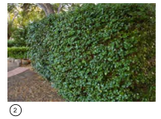

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GROUND-COVER & SHRUBS


①


④


②


③

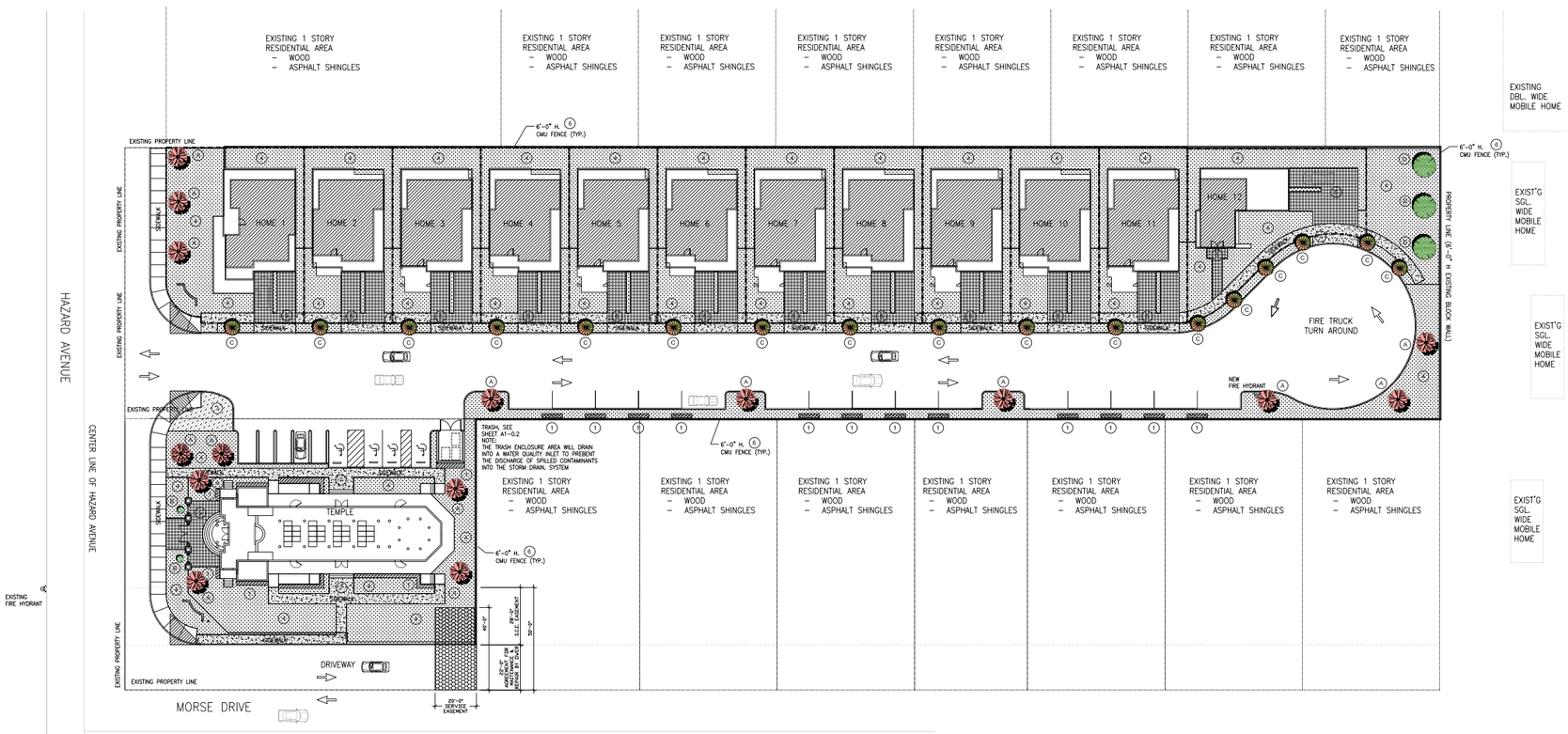
TREE LEGEND

TYPES		TREES	SIZE & QUANTITY	WUCOLS	ZONE
Ⓐ		PRUNUS YODOENSIS 'AKENOBO'	24" BOX/ 22 EA.	MODERATE	1
Ⓑ		PINUS THUNBERGII JAJPANESE BLACK PINE	24" BOX/ 14 EA.	MODERATE	2
Ⓒ		CERCIDIUM HYBRID DESERT	24" BOX/ 12 EA.	MODERATE	1
Ⓓ		GLEDITSIA TRIGANT HOS-SUNBURST	24" BOX/ 4 EA.	LOW	1

NOTES:
1- THE INSTALLATION OF 24" BOX STREET TREES AT 35' ON CENTER OF HAZARD AVENUE AND PRIVATE STREET, INCLUDING DEEP ROOT IRRIGATION SYSTES, PER CITY STANDARDS. CONTACT THE TREE SECTION SUPERVISOR AT (714) 647-3337 FOR TREE SPECIES AND FOR NUMBER AND SIZE OF REQUIRED TREE REPLACEMENT.
2- INSTALL 24" BOX STREET TREES PER THE CITY STANDARDS AND PROVIDED PLAN, AS NEEDED.

GROUND-COVER, SHRUB & FENCES LEGEND

TYPES		SHRUB & GROUNDCOVER	SIZE & QUANTITY	WUCOLS	ZONE
①		RHAPHIOLEPIS INDICA 'PINK LADY' INDIAN HAWTHORN	5 GAL.@36" O.C./100 EA	LOW	1
②		PRUNUS LUCIFOLIA	5 GAL.@24" O.C./2850 EA	LOW	1
③		LANTANA 'NEW GOLD' LANTANA GOLDEN YELLOW	5 GAL.@24" O.C./1624 EA	LOW	1
④		HYBRID BERMUDA SOD.	SOD./3374 SF	MODERATE	1
⑤		CONCRETE PAVERS (SEE ARCH. SHEET A6-1.1)	-	-	-
⑥		6'-0" HIGH CMU FENCE (SEE ARCH. SHEET A6-1.1)	-	-	-
⑦		CONCRETE SIDEWALK			



Source: CN Architecture + Design 2024

Landscape Plan

Bella Terra Residential Community and Temple Project

Exhibit 4

Map not to scale

PSOMAS

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street spaces, for the residential units. Of the 19 spaces for the temple, 4 spaces would be Americans with Disabilities Act (ADA) compliant, and 2 spaces would be electric vehicle (EV) compliant. The total parking spaces proposed exceed required parking per City Code. Additionally, the Project would provide 4 bicycle spaces, per City Code requirements.

3.5 ACCESS/CIRCULATION

The Project would provide primary vehicular ingress and egress to and from the Project site via the proposed two-way private street, which connects to West Hazard Avenue. The proposed private street terminates in a cul-de-sac and provides adequate fire truck turnaround in compliance with the City's Fire Code, incorporated as Chapter 14 of the SAMC.

3.6 ARCHITECTURAL DESIGN AND ELEVATIONS

The Project overall, including the residential and temple components, would primarily incorporate neutral tones along the outer facades, which would utilize stucco, brick, wood, and metal. The temple building architecture would include traditional southeast Asian architectural features, and utilizes a combination of stone, stucco and concrete. Additionally, clay roof tiles and decorative ornaments are incorporated into the project to complete the architectural theme. The proposed residential buildings would have a maximum height of 26 feet, and the temple would have a maximum height of 35 feet to the highest roof point. Decorative panels and moldings would also be incorporated in the architectural design of the temple building.

3.7 GRADING AND CONSTRUCTION

The proposed grading of the site would retain the relatively flat topography of the site. Grading activities would include an estimated 600 cubic yards (cy) of import for the temple and 900 cy of import for the residential component, totaling 1,500 cy of import overall.

Demolition and site preparation activities would occur in June 2026. Construction activities are anticipated to begin in June 2026 through May 2027 for the temple and May 2027 through June 2028 for the residential units, for a total of approximately 24 months. Construction activity would occur between 8 and 10 hours per day between the hours of 7:00 AM and 8:00 PM, and 5 days a week (Monday through Friday), in accordance with the City's permitted hours of construction. Construction would occur in a single phase and include demolition, site preparation, grading/excavation, building construction, paving, and architectural coating.

Construction of the proposed Project would use standard construction equipment, including but not limited to equipment such as an excavator, bulldozer, bobcat, dump truck, compactor, water truck, and concrete truck for prepping the site. No pile driving would be required.

All construction staging areas would occur. A staging area would be designated on the site for the entire duration of construction. A construction trailer and storage containers would be placed within the staging area.

3.8 OPERATIONS

The Project proposed to construct 12 single-family homes, which would generate a total of 46 residents in the City, as discussed further in Section 4.14, Population and Housing. A Home Owners Association (HOA) would be developed for maintenance of the common areas, including the community garden.

In addition, the proposed template would include a maximum of two caretakers on-site to oversee the temple and tend to the operational activities between 10:00 AM to 2:00 PM Monday through Friday. The temple would hold Sunday services between 11:00 AM to 2:00 PM for a maximum of 16 attendees.

3.9 DISCRETIONARY APPROVALS

This IS/MND is intended to serve as the primary CEQA document for all actions associated with implementation of the proposed Project. The following discretionary approvals are required:

- **Conditional Use Permit (CUP):** to permit construction and operation of a religious facility within the SD-53 Zoning District.
- **Tentative Tract Map (TTM):** to subdivide the site into 13 developable lots and one common area lot to accommodate the proposed residential development.
- **Zoning Ordinance Amendment:** to modify the SD-53 to allow religious facilities with a conditional use permit (CUP) and adopt parking standards for temple use that are consistent with those outlined in SD-53.
- **Mitigated Negative Declaration (MND):** to analyze the potential environmental impacts of the proposed Project. The IS/MND serves as finding that the Project would not have a significant effect on the environment, with the incorporation of mitigation measures, as appropriate.

3.10 MINISTERIAL APPROVALS

In addition, the following ministerial permits would be sought from the City of Santa Ana:

- Demolition Permit for existing buildings and site improvements
- Landscape Permit
- Grading Permit
- Building Permits
- Occupancy Permits

The Project would require coverage under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the State Water Resources Control Board (SWRCB). The Project would also require a demolition permit from the South Coast Air Quality Management District (SCAQMD).

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4.0 ENVIRONMENTAL CHECKLIST

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 on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency.)

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 be 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 al potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Pedro Gomez	1-13-26
Signature	Date
Pedro Gomez, AICP	City of Santa Ana
Printed Name	For

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 Analysis," 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 significance.

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 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

Would the Project:

a) Have a substantial adverse effect on a scenic vista?

Less than Significant Impact. Scenic vistas are generally defined as natural landscapes that form views of unique flora, geologic, or other natural features that are generally free from urban intrusions. Typical scenic vistas include views of mountains, hills, uninterrupted open space, and waterbodies. The Project is located within an urbanized setting in the City, and no scenic vistas are located or visible within the vicinity of the Project.

In addition, the City's identifies scenic corridors within the City of Santa Ana, including Harbor Boulevard, which is identified as an intercity corridor. The City defines intercity corridors as streets that run through multiple jurisdictions and serve as major image makers for the City (City of Santa Ana 2021f). The Project site is located 0.1 miles west of Harbor Boulevard.

The Project would demolish three existing single-story residential buildings and construct 12 two-story single-family residences and a two-story religious temple. The religious temple would have a maximum height of 35 feet at the peak of the roof, and the single-family residences would have a maximum height of 26 feet at the peak of the roof. Although the Project would alter the existing visual character of the site, it would not result in a substantially adverse impact on a scenic vista or degrade the City's visual character or quality. Further, there are no City-designated scenic vistas in proximity to the site. Therefore, impacts related to scenic vistas would be less than significant, and no mitigation is required.

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

No Impact. Based on the California Department of Transportation (Caltrans) California State Scenic Highway System Map, there are no designated State scenic highways within the City of Santa Ana (Caltrans 2025). The City's identifies scenic corridors within the City of Santa Ana, including Harbor Boulevard, which is identified as an intercity corridor. The City defines intercity corridors as streets that run through multiple jurisdictions and serve as major image makers for the City (City of Santa Ana 2021f). The Project site is located 0.1 miles west of Harbor Boulevard; however, Harbor Boulevard does not qualify as a State scenic highway. Additionally, the site is fully developed with three single-family residences and scattered ornamental trees, grasses, and shrubs, and it does not support native vegetation. There are no scenic resources, including significant trees, rock outcroppings, or historic buildings in the vicinity of the Project site. Therefore, the Project would not have an adverse effect on scenic resources within a State scenic highway. There would be no impact, and no mitigation is required.

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 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?

Less than Significant Impact. The Project is in an urbanized area within the City and not located near any scenic resources or scenic highways. The visual character immediately surrounding the Project site is representative of a built-out urban environment containing a mix of high-density residential, commercial/retail, and institutional uses (Hazard Elementary School and a church).

As such, the Project, involving the development of single-family residences and a religious temple, would be consistent with the existing character of the surrounding area. The proposed single-family residences are permitted under the existing zoning designation; however, the Project would require a CUP to permit construction and operation of a religious facility within the SD-53 zoning district. Additionally, the Project would require a zoning amendment to modify the SD-53 to reduce the number of single-family lots permitted from seventeen to twelve; introduce a Conditional Permitted Use section to include Religious Facility as a conditionally permitted use; and establish development standards for both the temple and residential uses. These changes would not constitute degradation of the Project site or its surroundings.

The Project has been designed in consideration of scale, massing, and architecture to ensure compatibility with existing surrounding development. The Project would primarily incorporate neutral tones along the outer facades, which would involve materials such as stone, stucco, and concrete. Additionally, clay roof tiles and decorative ornaments are incorporated.

In the absence of scenic resources in the vicinity of the site, the Project would not conflict with applicable zoning and other regulations governing scenic quality and resources. Impacts would be less than significant, and no mitigation is required.

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

Less than Significant Impact. The Project site is in an urban area already subject to ambient lighting from the surrounding residential and institutional uses. Existing light sources include exterior building lights, parking lot pole lights, interior building lights, and streetlights along Hazard Avenue. The Project include new exterior lighting sources such as exterior building lights associated with the residential and temple uses, exterior lighting poles associated with parking and open space areas. Additionally, the Project would install two streetlights along Hazard Avenue, which would require a separate permit, plan, and off-site photometric analysis. All Project lighting sources would adhere to applicable City standards, and be designed in compliance with the City's design guidelines which outline lighting standards for each development type (City of Santa Ana 2022c). In compliance with City standards, all on-site lighting would be shielded and directed to prevent light trespass onto neighboring properties. While the Project would introduce new light sources, lighting levels would be consistent with the existing ambient and nighttime conditions in the surrounding areas. Through adherence to City standards, Project impacts related to new lighting sources would be less than significant, and no mitigation is required.

Glare is a common daytime phenomenon and is due mainly to the occurrence of a high number of days per year with direct sunlight and the presence of large reflective surfaces. Excessive glare not only restricts visibility but also increases the ambient heat reflectivity in a given area. Glare is caused by light reflections from pavement, vehicles, and building materials such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on intensity and direction of sunlight, and can create hazards to motorists and nuisances for pedestrians and other viewers. The Project overall, including the residential and temple components, would be primarily constructed with non-reflective materials such as stone, stucco, and concrete. The use of more reflective surfaces, such as metals and aluminum, would be limited for use as design accents. The use of glass would be limited and primarily confined to windows, and would therefore not generate substantial glare affecting surrounding uses. As stated above, the Project would comply with the City Design Guidelines that include guidance for minimizing glare. Impacts would be less than significant, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to aesthetics; therefore, no mitigation measures are required.

4.2 AGRICULTURE AND FOREST RESOURCES

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

Impact Analysis

Would the Project:

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?

No Impact. The Project site is in an urbanized area and would not convert farmland to non-agricultural use. Based on review of the California Important Farmland Finder (CIFF) Map, prepared by the California Department of Conservation (DOC) Farmland Mapping and

Monitoring Program (FMMP), there are no lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on or near the Project site (FMMP 2025). The Project site is classified as "Urban and Built-Up Land", which refers to land occupied by structures with a building density of at least 1 unit to 1.4 acres, or approximately 6 structures to a 10-acre parcel. The Project site is not being used, nor anticipated to be used or zoned for agricultural purposes. The site is not subject to a Williamson Act contract, and it does not contain Prime Farmland or Farmland of Statewide Importance. Additionally, no forest land occurs on the Project site or in the surrounding area. Therefore, the proposed Project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. In addition, the Project site does not contain designated forest land or timberland, as defined in the California Public Resources Code (Section 12220[g] and 4526, respectively). Therefore, no impact to agricultural resources, forest land, or timberland would result from Project implementation, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to agriculture and forest resources; therefore, no mitigation is required.

4.3 AIR QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐

Introduction

Existing Setting

An analysis of potential air quality impacts associated with the proposed Project was prepared and is summarized below. CalEEMod output files detailing the Project's anticipated emissions are included as Appendix A to this IS/MND.

Relevant elements of the proposed Project related to the analysis of potential air quality impacts include (1) demolition of on-site paving and existing buildings, which would require export of demolition and construction debris; (2) on-site grading activities, which are expected to result in a small quantity of fill material; (3) use of construction equipment during construction of the Project; and (4) vehicular trips generated by the proposed Project.

The Project site is located in the Orange County portion of the South Coast Air Basin (SoCAB), and, for air quality regulation and permitting, is under the jurisdiction of the SCAQMD. The SoCAB is a 6,600-square-mile area bound by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south. The SoCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, in addition to the San Gorgonio Pass area of Riverside County. The SoCAB's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive semi-arid climate, which is characterized by moderate temperatures, oceanic influence, and precipitation that is limited to a few storms during the winter (i.e., November through April).

Air Quality Background Information

The SCAQMD has established quantitative thresholds for short-term (construction) emissions and long-term (operational) emissions for the following criteria pollutants: ozone, carbon monoxide, nitrogen oxides, sulfur dioxide, and particulate matter 10 and 2.5 microns. The characteristics and health effects of these criteria pollutants are described below:

- Ozone (O_3) is a nearly colorless gas that is formed by photochemical reaction (when nitrogen dioxide is broken down by sunlight). Ground-level O_3 exposure can cause a variety of health problems, including lung irritation, wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities; permanent lung damage; aggravated asthma; and increased susceptibility to respiratory illnesses.
- Carbon monoxide (CO) is a colorless and odorless toxic gas which, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can lead to headaches, aggravation of cardiovascular disease, and impairment of central nervous system functions.
- Nitrogen oxides (NO_x) are yellowish-brown gases, which at high levels can cause breathing difficulties. NO_x are formed when nitric oxide (a pollutant from internal combustion processes) combines with oxygen.
- Sulfur dioxide (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children.
- Particulate Matter 10 (PM10) and Particulate Matter 2.5 (PM2.5) refer to particulate matter less than ten microns and two and one-half microns in diameter, respectively. Particulates of this size cause a greater health risk than larger-sized particles since fine particles can more easily cause irritation. Particulate matter includes both aerosols and solid particles. An example of particulate matter is fugitive dust. Short-term exposure to high PM2.5 levels is associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure to high PM2.5 levels is associated with premature mortality and development of chronic respiratory disease. Short-term exposure to high PM10 levels is associated with hospital admissions for cardiopulmonary diseases, increased respiratory symptoms, and possible premature mortality.

Toxic Air Contaminants

Carcinogenic risks (i.e., cancer risks) are estimated as the incremental probability that an individual will develop cancer as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a probability (e.g., 10 in 1 million). A risk level of 1 in 1 million implies a likelihood that up to 1 person out of 1 million equally exposed people would contract cancer to the specific concentration over 30 years residential period. This would be in addition to those cancer cases that would normally occur in an unexposed population of

one million people (OEHHA 2015). The Hazard Index (HI) expresses the potential for chemicals to result in non-cancer-related health impacts. HIs are expressed using decimal notation (e.g., 0.001). A calculated HI exposure less than 1.0 will likely not result in adverse non-cancer-related health effects over a lifetime of exposure. However, an HI greater than 1.0 does not necessarily mean that adverse effects will occur (OEHHA 2015). Pursuant to SCAQMD Rule 1401(d)(1), the risks associated with potential exposure to emissions from a source equipped with the best available control technology for toxics (T-BACT) and from all emissions sources included within a "project" are acceptable if the incremental cancer risk (1) is less than 10 in 1 million and (2) is less than 1 in 1 million for sources not equipped with T-BACT.

The Multiple Air Toxics Exposure Study V (MATES V) is a monitoring and evaluation study conducted in the SoCAB. According to the MATES V Study, the carcinogenic risk from air toxics in the Basin has improved from the past. While toxic air pollutants decreased by more than 54 percent from 2012 to 2018, the cancer risk for residents of the SoCAB was 455 in one million in the year 2018 (SCAQMD 2021). The results of this Study indicate that diesel exhaust is the primary contributor to air toxics risk within the SoCAB.

Existing Air Quality Conditions

Air quality data for the Project site is represented by the Anaheim-Pampas Lane monitoring station located at 1630 West Pampas Lane, Anaheim. The monitoring station is located approximately 5.5 miles northwest of the Project site. Pollutants measured at the Anaheim-Pampas Lane Monitoring Station include O_3, PM10, PM2.5, and nitrogen dioxide (NO_2). The monitoring data presented in Table 4-1, Air Quality Levels Measured at the Anaheim-Pampas Lane Monitoring Station, was obtained from the California Air Resources Board (CARB 2025). Federal and State air quality standards are presented with the number of days those standards were exceeded.

TABLE 4-1
AIR QUALITY LEVELS MEASURED AT THE
ANAHEIM-PAMPAS LANE MONITORING STATION

Pollutant	California Standard	National Standard	Year	Max. Level	State Standard Days Exceeded	National Standard Days Exceeded
O_3 (1 hour)	0.09 ppm	None	2022	0.102	1	0
			2023	0.089	1	0
			2024	0.104	3	0
O_3 (8 hour)	0.070 ppm	0.070 ppm	2022	0.077	1	1
			2023	0.077	2	2
			2024	0.079	3	3
PM10 (24 hour)	50 µg/m³	150 µg/m³	2022	67.0	1	0
			2023	99.4	1	0
			2024	118.9	0	0
PM10 (AAM)	20 µg/m³	None	2022	20.9	–	–
			2023	20.6	–	–
			2024	27.7	–	–
NO_2 (1 hour)	0.18 ppm	0.100 ppm	2022	0.053	0	0
			2023	0.051	0	0
			2024	0.053	0	0
NO_2 (AAM)	0.030 ppm	0.053 ppm	2022	0.011	–	–
			2023	0.010	–	–
			2024	0.010	–	–
CO (1 hour)	20 ppm	35 ppm	2022	NA	NA	NA
			2023	NA	NA	NA
			2024	NA	NA	NA
CO (8 hour)	9 ppm	9 ppm	2022	NA	NA	NA
			2023	NA	NA	NA
			2024	NA	NA	NA
PM2.5 (24 Hour)	None	35 µg/m³	2022	33.1	–	0
			2023	50.7	–	1
			2024	49.7	–	5
PM2.5 (AAM)	12 µg/m³	15 µg/m³	2022	9.9	–	–
			2023	9.1	–	–
			2024	10.5	–	–

O_3: ozone; ppm: parts per million; PM10: respirable particulate matter with diameter of 10 microns or less; µg/m3: micrograms per cubic meter; AAM: Annual Arithmetic Mean; NO2: nitrogen dioxide; CO: carbon monoxide; PM2.5: fine particulate matter with a diameter of 2.5 microns or less.

NA: Not Available

Source: CARB 2025.

Regulatory Background

The U.S. Environmental Protection Agency (USEPA) defines seven criteria air pollutants: O_3, CO, NO_2, SO_2, PM10, PM2.5, and lead. These pollutants are called criteria pollutants because the USEPA has established National Ambient Air Quality Standards (NAAQS) for the concentrations of these pollutants (USEPA 2023). California Air Resources Board (CARB) has also established standards for the criteria pollutants, known as California Ambient Air Quality Standards (CAAQS), and the State standards are generally more restrictive than the NAAQS. When a region has air quality that fails to meet the standards, the USEPA and the CARB designate the region as "nonattainment" and the regional air quality agency must develop plans to attain the standards.

Based on monitored air pollutant concentrations, the USEPA and the CARB designate an area's status in attaining the NAAQS and the CAAQS, respectively, for selected criteria pollutants. These attainment designations are shown in Table 4-2.

TABLE 4-2
ATTAINMENT STATUS OF CRITERIA POLLUTANTS
IN THE SOUTH COAST AIR BASIN

Pollutant	State	Federal
O_3 (1 hour)	Nonattainment	No Standards
O_3 (8 hour)	Nonattainment	Extreme Nonattainment
PM10	Nonattainment	Attainment/Maintenance
PM2.5	Nonattainment	Serious Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	No Standard	Attainment/Nonattainment*
All others	Attainment/Unclassified	No Standards

O_3: ozone; PM10: particulate matter 10 microns or less in diameter; PM2.5: particulate matter 2.5 microns or less in diameter; CO: carbon monoxide; NO_2: nitrogen dioxide; SO_2: sulfur dioxide.

* The Los Angeles County portion of the SoCAB is designated nonattainment for lead; the remainder of the SoCAB is designated attainment.

Source: SCAQMD 2017; USEPA 2023.

CARB, a part of the California Environmental Protection Agency, is responsible for coordinating and administering both the federal and State air pollution control programs in California. In this capacity, CARB conducts research, sets the CAAQS (as shown in Table 4-3), compiles emission inventories, develops suggested control measures, oversees local programs, and prepares the State Implementation Plan (SIP). For regions that do not attain the CAAQS, CARB requires the air districts to prepare plans for attaining the standards. These plans are then integrated into the SIP. CARB establishes emissions standards for (1) motor vehicles sold in California, (2) consumer products (e.g., hair spray, aerosol paints, barbecue lighter fluid), and (3) various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

TABLE 4-3
CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m³)	—	—
	8 Hour	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)	Same as Primary
PM10	24 Hour	50 µg/m³	150 µg/m³	Same as Primary
	AAM	20 µg/m³	–	Same as Primary
PM2.5	24 Hour	–	35 µg/m³	Same as Primary
	AAM	12 µg/m³	12.0 µg/m³	15.0 µg/m³
CO	1 Hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	—
	8 Hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	—
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)	—	—
NO_2	AAM	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	—
SO_2	24 Hour	0.04 ppm (105 µg/m³)	—	—
	3 Hour	—	—	0.5 ppm (1,300 µg/m³)
	1 Hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
Lead	30-day Avg.	1.5 µg/m³	—	—
	Calendar Quarter	—	1.5 µg/m³	Same as Primary
	Rolling 3-month Avg.	—	0.15 µg/m³	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m³		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m³)		

O_3: ozone; ppm: parts per million; µg/m³: micrograms per cubic meter; PM10: respirable particulate matter 10 microns or less in diameter; AAM: Annual Arithmetic Mean; —: No Standard; PM2.5: fine particulate matter 2.5 microns or less in diameter; CO: carbon monoxide; mg/m³: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer.

[a] *National Primary Standards:* The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[b] *National Secondary Standards:* The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2016

The SCAQMD was established in 1977 by merging the individual air pollution control districts of the four counties within the SoCAB: Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAQMD and the, in coordination with local governments and the private sector, develop the Air Quality Management Plan (AQMP) for the SoCAB to satisfy these requirements. The AQMP is the most important air management document for the SoCAB because it provides the blueprint for meeting State and federal ambient air quality standards.

The current regional plan applicable to the Project is the SCAQMD's 2022 AQMP. The SCAQMD is responsible for ensuring that the SoCAB meets the NAAQS and CAAQS by reducing emissions from stationary (area and point), mobile, and indirect sources. To accomplish this goal, the SCAQMD prepares AQMPs in conjunction with the Southern California Association of Governments (SCAG), County transportation commissions, and local governments; develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary, as indicated above.

Sensitive Air Quality Receptors

Sensitive receptors include, but are not limited to, children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. These sensitive receptor uses include, but are not limited to, sensitive receptors at schools, parks, hospitals, high-density residential areas, and convalescent homes. The Project site is located in the midst of a residential neighborhood and is surrounded on all sides by residential uses. Other sensitive receptors in the vicinity of the Project site include the Iglesia de Dios church, located 170 feet to the west and Hazard Elementary School, located approximately 290 feet further west of the Project site.

SCAQMD Thresholds of Significance

The SCAQMD's Air Quality Analysis Handbook (CEQA Handbook) provides significance thresholds for both construction and operation of projects within the SCAQMD's jurisdictional boundaries (SCAQMD 2023). The SCAQMD recommends that projects be evaluated in terms of the quantitative thresholds established to assess both the regional and localized impacts of project-related air pollutant emissions. The City of Santa Ana uses the current SCAQMD thresholds to determine whether a proposed project would have a significant impact. These SCAQMD thresholds are identified in Table 4-4.

TABLE 4-4
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds[a]		
Pollutant	**Construction**	**Operation**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TACs, Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO_2e for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants[b, c]		
NO_2 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (State) 0.03 ppm (State) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	10.4 µg/m^3 (construction)[c] & 2.5 µg/m^3 (operation) 1.0 µg/m^3	
PM2.5 24-hour average	10.4 µg/m^3 (construction)[c] & 2.5 µg/m^3 (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (State) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (State)	
Sulfate 24-hour average	25 µg/m^3 (State)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20.0 ppm (State) and 35 ppm (federal) 9.0 ppm (State/federal)	
Lead 30-day average Rolling 3-month average	1.5 µg/m^3 (State) 0.15 µg/m^3 (federal)	

TABLE 4-4
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds[a]
NOx: nitrogen oxides; lbs/day: pounds per day; VOC: volatile organic compound; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SOx: sulfur oxides; CO: carbon monoxide; TACs: toxic air contaminants; GHG: greenhouse gases; South Coast AQMD: South Coast Air Quality Management District; MT/yr CO_2e: metric tons per year of carbon dioxide equivalents; NO_2: nitrogen dioxide; ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter; SO_2: sulfur oxides; CO: carbon monoxide.
[a] Source: South Coast AQMD CEQA Handbook (SCAQMD 2023)
[b] Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated
[c] Ambient air quality threshold is based on South Coast AQMD Rule 403
Source: SCAQMD 2023.

These regional emission thresholds cannot be used to correlate whether a specific health impact would occur to an individual receptor. These significance thresholds were developed to assist Lead Agencies with a consistent threshold that could be used to determine whether a project's emissions could significantly contribute to the total emissions occurring within an air basin. The totality of the air basin's emissions would determine whether it would be in attainment of the CAAQS and NAAQS.

LST Thresholds of Significance

Short-term local impacts to nearby sensitive receptors from on-site emissions of NO_2, CO, PM10, and PM2.5 are examined based on SCAQMD's localized significance threshold (LST) methodology. To assess local air quality impacts for development projects without complex dispersion modeling, the SCAQMD developed screening (lookup) tables to assist lead agencies in evaluating impacts. The LST method was developed to provide a conservative estimate of the level of project-generated air pollutants that have the potential to exceed the NAAQS or CAAQS, which could consequently result in adverse health impacts. Exceedance of the LST does not describe the prevalence or magnitude of health effects, but rather assesses the potential for a project-related health effect to occur. The LST method cannot provide an estimate of health effects related to O_3ozone. Reactive organic gases (ROGs) and NO_x are pollutants that contribute to the formation of ozone, otherwise known as O_3ozone precursors. It would be too speculative to determine how an individual project could affect the formation of O_3ozone, and how it could affect the health for a specific receptor: O_3ozone does not fully form within the proximity of a project site, and the formation of O_3ozone is affected by solar irradiance, meteorological conditions, presence of O_3ozone precursors from other sources, and other factors. As such, modeling of O_3ozone concentrations is conducted on the "macro" scale of an air basin for all pollutant sources within the basin, and not for an individual project. Consequently, the LST analysis focuses on a project-level analysis of the four criteria pollutants of greatest concern (CO, NO_x, PM_{10}, and $PM_{2.5}$).

The LST method is recommended to be limited to projects that are five acres or less. For the purposes of an LST analysis, the SCAQMD considers receptors where it is possible that an individual could remain for 1 hour for NO_2 and CO exposure and 24 hours for PM10 and

PM2.5 exposure. The emissions limits in the lookup tables are based on the SCAQMD's Ambient Air Quality Standards (SCAQMD 2022).

Impact Analysis

Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary. It is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources and has prepared an AQMP that establishes a program of rules and regulations directed at attaining the NAAQS and CAAQS.

As stated above, the current regional plan applicable to the Project is the SCAQMD's 2022 AQMP. The SCAQMD is responsible for ensuring that the SoCAB meets the NAAQS and CAAQS by reducing emissions from stationary (area and point), mobile, and indirect sources. To accomplish this goal, the SCAQMD prepares AQMPs in conjunction with the Southern California Association of Governments (SCAG), County transportation commissions, and local governments; develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary, as indicated above.

The 2022 AQMP was adopted on December 2, 2022, by the SCAQMD Governing Board. The 2022 AQMP is a regional and multi-agency effort among the SCAQMD, CARB, SCAG, and USEPA. The 2022 AQMP includes an analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. The purpose of the 2022 AQMP is to set forth a comprehensive program that would promote reductions in criteria pollutants, greenhouse gases (GHGs), and toxic risk and efficiencies in energy use, transportation, and goods movement. The 2022 AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS); updated emission inventory methods for various source categories; and SCAG's latest growth forecasts. The 2022 AQMP includes strategies and measures necessary to meet the NAAQS. The AQMP is based on projections of energy usage and vehicle trips from land uses within the SoCAB.

The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and State air quality standards. For a project to be consistent with the AQMP, the pollutants emitted from the project should not (1) exceed the SCAQMD CEQA air quality significance thresholds or (2) conflict with or exceed the assumptions in the AQMP.

With respect to the first criterion, based on the air quality modeling analysis conducted for the proposed Project, provided below, construction and operation of the Project would not exceed the SCAQMD's CEQA thresholds of significance and consequently would not result in

an increase in the frequency or severity of existing air quality violations nor cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emissions reductions in the AQMP. Therefore, the Project is consistent with the first criterion.

With respect to the second criterion, the proposed Project was assessed as to whether it would exceed the assumptions in the AQMP. The Project site currently has a General Plan land use designation of Low Medium Density Residential (LMR-11), which applies to residential areas suitable for multiple building types, including single-family detached homes, small-lot subdivisions, townhomes, duplexes, and mobile home parks. Maximum density allowed under LMR-11 is 11 dwelling units (du) per acre and maximum height is 3 stories. The proposed Project is consistent with the General Plan's vision which in turn is consistent with the AQMP. The proposed Project is not anticipated to exceed the AQMP assumptions for the Project site and is found to be consistent with the AQMP for the second criterion. Therefore, the Project would not result in an inconsistency with the SCAQMD's 2022 AQMP. Less than significant impacts would occur, and no mitigation is required.

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?

Less than Significant Impact. A project may have a significant impact where project-related emissions would exceed federal, State, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation. As identified in Table 4-2, Orange County is a nonattainment area for O_3, PM10, and PM2.5. The Project would generate PM10, PM2.5, and O_3 precursors (NOx and volatile organic compound [VOC]) during short-term construction and long-term operations. The SCAQMD has developed construction and operations thresholds to determine whether projects would considerably contribute toward a violation of ambient air quality standards.

Construction Activities

Air pollutant emissions would occur from construction equipment exhaust; dust from demolition and site grading; exhaust and particulate emissions from trucks hauling demolition and construction debris, soil, and building materials to and from the Project site; from automobiles and light trucks driven to and from the Project site by construction workers; and VOCs from painting and asphalt paving operations. The proposed Project would comply with applicable SCAQMD rules and regulations, including Rule 403 for fugitive dust control. Rule 403 measures include regular watering of active grading areas and unpaved roads, limiting vehicle speeds on unpaved surfaces, stabilizing stockpiled earth, and curtailing grading operations during high wind conditions. Watering of active grading areas is included in the California Emissions Estimator Model (CalEEMod) emissions analysis and results in reduced PM10 and PM2.5 emissions. The emission reductions associated with compliance with this rule have been included in the emissions calculations.

Regional Emissions Thresholds – Maximum Daily Regional Emissions

Table 4-5, Estimated Maximum Daily Regional Construction Emissions, presents the estimated maximum daily emissions during construction of the proposed Project and compares the estimated emissions with the SCAQMD's daily regional emission thresholds. As shown in Table 4-5, Project construction mass daily emissions would be less than the SCAQMD's thresholds for all criteria air pollutants, and the impact would be less than significant. No mitigation is required.

TABLE 4-5
ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS

Year	Emissions (lbs/day)					
	VOC	**NOx**	**CO**	**SO_2**	**PM10**	**PM2.5**
2026	2	13	15	<1	3	2
2027	9	13	15	<1	3	2
2028	14	9	12	<1	<1	<1
SCAQMD Thresholds	***75***	***100***	***550***	***150***	***150***	***55***
Exceeds SCAQMD Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SO_2: sulfur dioxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

Source: SCAQMD 2023 (thresholds); see Appendix A for CalEEMod model outputs.

Operational Activities

The following section provides an analysis of potential long-term air quality impacts to regional air quality with the long-term operation of the proposed Project. The potential operations-related air emissions have been analyzed below for the regional criteria pollutant emissions and cumulative impacts.

Operational emissions are comprised of area, energy, and mobile source emissions. The principal source of VOC emissions associated with the Project would result from the use of consumer products (examples include hairspray, cleaning products, etc.); the primary source of CO, NOx, PM10, and PM2.5 emissions would be mobile sources. Area and energy source emissions are based on CalEEMod assumptions for the specific land uses and size. Mobile source emissions are based on estimated Project-related trip generation forecasts, as contained in the Project traffic impact analysis. The Project would generate 167 daily trips. Estimated peak daily operational emissions are shown in Table 4-6.

TABLE 4-6
PEAK DAILY OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	**NO_x**	**CO**	**SO_2**	**PM10**	**PM2.5**
Mobile sources	1	1	6	<1	1	<1
Area sources	1	<1	1	<1	<1	<1
Energy sources	<1	<1	<1	<1	<1	<1
Water	<1	<1	<1	<1	<1	<1
Waste	<1	<1	<1	<1	<1	<1
Refrigeration	<1	<1	<1	<1	<1	<1
Total Operational Emissions*	**2**	**1**	**7**	**<1**	**1**	**<1**
SCAQMD Significance Thresholds (Table 4-4)	***55***	***55***	***550***	***150***	***150***	***55***
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Note: CalEEMod model data sheets are included in Appendix A.

As shown in Table 4-6, the Project's operational emissions would be less than the SCAQMD CEQA significance thresholds for all criteria pollutants. It should be noted that the analysis provided above in Table 4-6 is conservative, because it provides the gross emissions, and does not deduct operational emissions from existing uses. Therefore, the Project's operational impact on regional emissions would be less than significant, and no mitigation is required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. A significant impact may occur when a project would generate pollutant concentrations to a degree that would significantly affect sensitive receptors, which include populations that are more susceptible to the effects of air pollution than the population at large. Exposure of sensitive receptors is addressed for the following situations: Construction-phase Localized emissions, CO hotspots, and toxic air contaminants (TACs, specifically diesel particulate matter [DPM]) from on-site construction. Operational, long-term TACs may be generated by some industrial land uses; commercial land uses (e.g., gas stations and dry cleaners); and diesel trucks on freeways. As the Project does not propose any of these uses, operational impacts related to TACs would be less than significant.

Construction-Phase Localized Significance Thresholds

As stated above, in addition to the mass daily emissions thresholds established by the SCAQMD, short-term local impacts to nearby sensitive receptors from on-site emissions of NO_2, CO, PM10, and PM2.5 are examined based on SCAQMD's localized significance threshold (LST) methodology, which is recommended to be limited to projects that are five acres or

less. The emissions screening thresholds used in this analysis are for receptors within 25 meters (82 feet) of the Project site for NO_x, and CO, PM10, and PM2.5; the thresholds for receptors farther away would be higher, and the Project emissions would be a smaller fraction of the thresholds.

Table 4-7, Construction-Phase Localized Significance Threshold Emissions, shows the maximum daily on-site emissions for construction activities compared with the SCAQMD LST screening thresholds. The Project site is 2.5-acre in area. The thresholds shown are from the lookup tables for a site disturbance area that is 1 acre, which is based on the maximum equipment used on-site. The Project's maximum daily on-site emissions for all pollutants would occur during the building construction phase. As shown in Table 4-7, localized emissions for all criteria pollutants would be less than their respective screening thresholds. Therefore, localized air quality impacts would be less than significant, no mitigation is required.

TABLE 4-7
CONSTRUCTION-PHASE
LOCALIZED SIGNIFICANCE THRESHOLD EMISSIONS

Emissions and Thresholds	Emissions (lbs/day)			
	NOx	**CO**	**PM10**	**PM2.5**
Project maximum daily emissions	13	15	2	1
Localized Significance Threshold	**98**	**600**	**5**	**3**
Exceed threshold?	**No**	**No**	**No**	**No**

lbs/day: pounds per day; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter.

Note: Data is for SCAQMD Source Receptor Area 17, Central Orange County

Source: SCAQMD 2009 (thresholds); see Appendix A for CalEEMod model outputs.

Carbon Monoxide Hotspot

In an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations generally are found close to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (e.g., congested intersection) increases. Therefore, for purposes of providing a conservative worst-case impact analysis, CO concentrations typically are analyzed at congested intersection locations. If impacts are less than significant close to congested intersections, impacts also would be less than significant at more distant sensitive-receptor and other locations. The proposed Project would have an increase in peak morning and evening traffic volumes of 9 and 12 trips, respectively. The Project contribution of vehicle trips are not of sufficient magnitude to result in a substantial contribution to CO concentrations at localized intersections. As such, Project-related vehicles would not result in a significant impact related to CO hotspots.

Criteria Pollutants from On-Site Construction

Exposure of persons to NOx, CO, PM10, and PM2.5 emissions is discussed in response to Threshold 4.3(a) above. As shown in Table 4-7, in response to Threshold 4.3(a), localized emissions for all criteria pollutants would be less than their respective screening thresholds. Therefore, localized air quality impacts to sensitive receptors would be less than significant.

Toxic Air Contaminant Emissions from On-Site Construction

Construction activities would result in short-term, Project-generated emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, excavation, and grading); paving; building construction; and other miscellaneous activities. CARB identified DPM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments—which determine the exposure of sensitive receptors to TAC emissions—should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project.

There would be relatively few pieces of off-road, heavy-duty diesel equipment in operation, and the total construction period of approximately 13 months would be relatively short when compared to a 30-year exposure period. The period for which offroad construction equipment is used would be even less. Combined with the highly dispersive properties of DPM and additional reductions in particulate emissions from newer construction equipment, as required by USEPA and CARB regulations, construction emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. The impact would be less than significant, and no mitigation is required.

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

Less than Significant Impact. Potential operational odors could be created by cooking and trash collection associated with commercial uses. These odors would be similar to those of existing uses surrounding the Project site and throughout the City. According to the SCAQMD's *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 2023). The proposed Project does not include any uses identified by the SCAQMD as being associated with odors and, therefore, would not produce objectionable odors. Rule 402 prohibits the discharge from any source of air contaminants or other material which would cause injury, detriment, nuisance, or annoyance to people or the public. As such, the Project would have a less than significant impact with regard to other emissions. No mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to air quality; therefore, no mitigation measures are required.

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 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 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

Would the Project:

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

No Impact. The Project site is located on a developed site within an urban area, and surrounded by a mix of residential and institutional uses. The entire Project site and immediately surrounding areas are developed and do not support native plant communities or native habitat. The site contains scattered ornamental trees, grasses, and shrubs, and no areas with native vegetation or habitat are on-site.

In addition, no fish, amphibian, or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish or amphibians were observed

on or within the vicinity of the Project site. Therefore, no fish are expected to occur and are presumed absent from the Project site. Due to the high level of anthropogenic disturbances on-site, and surrounding development, no special-status reptilian species are expected to occur within the Project site. The Project site provides minimal foraging habitat for bird or mammal species that have adapted to human disturbance. The existing ornamental landscaping provides potential habitats for common animal species that are typically found in urban areas, such as small mammals, birds, small reptiles, and insects. However, the site does not provide natural habitats for sensitive plant and animal species.

Review of the U.S. Fish and Wildlife Service's (USFWS') Critical Habitat for Threatened and Endangered Species shows there are no designated critical habitat areas on or near the Project site (USFWS 2025). The nearest critical habitat is located in the City of Huntington Beach, approximately 6.5 miles to the southwest.

Since there are no natural or sensitive biological resources on the Project site, the proposed Project would not impact any candidate, sensitive, or special status species, as identified in the local or regional plans, policies, or regulations by the California Department of Fish and Wildlife (CDFW) or USFWS. There would be no impact on sensitive species, and no mitigation is required.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

No Impact. Riparian habitat is composed of the trees and other vegetation and physical features normally found on the stream banks and flood plains associated with streams, lakes, or other bodies of water. The City of Santa Ana is largely urbanized. The Santa Ana River is the closest body of water and is located approximately 0.9 miles east of the Project site. The Project site is located in an urbanized area of the City and is surrounded by existing development. The site supports ornamental landscaping at scattered locations but does not contain riparian habitat or sensitive natural vegetation communities identified by CDFW and USFWS. There would be no impact to riparian habitats or sensitive natural vegetation communities, and no mitigation is required.

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?

No Impact. The Project site is largely developed and does not support State or federally protected wetlands, or other areas under the jurisdiction of the CDFW, the Regional Water Quality Control Board (RWQCB), or U.S. Army Corps of Engineers (USACE). There are no jurisdictional drainages, wetlands, or riparian habitats located at the Project site. Therefore, no impacts associated with federally protected wetlands would occur, and no mitigation is required.

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?

Less than Significant Impact. The Project site is fully developed and is immediately surrounded by residential and institutional uses (i.e., church and Hazard Elementary School) and roadways, with commercial uses also located nearby. The Project site is isolated from regional wildlife corridors and linkages, and there are no riparian corridors, creeks, or useful patches of steppingstone habitat (natural areas) within or connecting the Project site to any identified wildlife corridors or linkages. As a result, implementation of the proposed Project would not disrupt or have any adverse effects on any migratory corridors or linkages in the surrounding area. The Project would not affect the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors, as the Project is part of none. Also, there are no native wildlife nursery sites on or near the Project site.

Due to the presence of trees and vegetation on the Project site, there is the potential for birds protected by the Federal Migratory Bird Treaty Act (MBTA) and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code to nest at the site. The MBTA protects common and special status migratory birds and their nests and eggs. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (50 Code of Federal Regulations Section 10.13, as amended). Multiple sections of California Fish and Game Code provide protection for nesting birds and raptors. Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically addresses raptors (i.e., birds of prey in the orders Falconiformes and Strigiformes) and makes it unlawful to take, possess, or destroy these birds or their nest or eggs. Section 3513 prohibits the take or possession of migratory non-game birds or any part of such bird, as designated by the MBTA. As such, the Project is subject to all requirements as set forth by the MBTA during construction and operations. Therefore, potential impacts associated with the substantial interference with the movement of any native resident or migratory fish or wildlife species or with an established native resident or migratory wildlife corridor, or the use of native wildlife nursery sites would be less than significant, and no mitigation would be required.

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

Less than Significant Impact. The proposed Project would involve the demolition of three existing residences and associated site improvements on the Project site to accommodate the construction and operation of a 3,500-sf religious temple and 12 single-family residences. The Project would also include site improvements typical of infill development such as private street and utility infrastructure, landscaping, site lighting, and trash/recycling enclosures. The Project site is located on previously disturbed parcels, with no existing native or sensitive biological resources on-site.

The proposed Landscape Plan (Exhibit 4) would consist of a hierarchy of plant materials including trees, shrubs, vines, grasses, and groundcover throughout the Project site. The

Project would remove one existing ornamental tree on-site, which is not located within the public right-of-way, and plant approximately 25 new trees. The City does not have a tree preservation ordinance; however, the General Plan's Conservation Element, Policy CN 3.5, includes goals encouraging the increased planting of trees, bushes, and shrubs on private and public property (City of Santa Ana 2022d). The existing tree subject to removal on-site is not subject to regulations as set forth by the SAMC. The removal of this tree, as well as the installation of new trees, would be conducted in accordance with City standards and applicable permit requirements. Therefore, impacts would be less than significant associated with a conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, would occur, and no mitigation would be required.

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?

No Impact. The Project site is not within the boundaries of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan. Therefore, the proposed Project would not conflict with the provisions of an adopted HCP, NCCP, or other approved conservation plan. Therefore, no impacts would occur, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to biological resources; therefore, no mitigation measures are required.

4.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource 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?	☐	☐	☒	☐

Introduction

Existing Setting

Background research was conducted on the Project site to establish a thorough and accurate historic context, and to confirm the development history of the property. This included a historic and archaeological resources record search and literature review conducted by Psomas on March 13, 2025 at the South-Central Coastal Information Center (SCCIC), located on the campus of California State University, Fullerton. The SCCIC houses records of the California Historical Resources Information System (CHRIS) for Los Angeles, Orange, Ventura, and San Bernardino Counties. The records search included a 0.5-mile search radius around the Project site. The results of this records search are included in Appendix B of this IS/MND.

The SCCIC records search identified seven prior cultural resources studies within the 0.5-mile search radius, as summarized below in Table 4-8. The studies that were identified include archaeological literature searches, field studies, and architectural/historical evaluations. None of the seven studies occurred within the Project site.

TABLE 4-8
PREVIOUS CULTURAL RESOURCE STUDIES CONDUCTED
WITHIN 0.5-MILE OF THE PROJECT SITE

Report No.	Year	Author(s)	Type of Study	Title	Proximity to Project Site
OR-01764	1998	Bonner, Wayne H.	Archaeological, Literature search	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 094-01, in the City of Santa Ana, California	Outside
OR-01954	1996	Padon, Beth	Archaeological, Field Study	Archaeological Archival Review and Survey of the Co 5 and Co 6 Flood Control Channels, Anaheim, Newport, and Seal Beach USGS 7.5' Quadrangles, Orange County, California	Outside
OR-03520	2009	Bonner, Wayne H.	Archaeological, Field Study	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate LA33321C (Rosita Park Lt. Standard), 4600 West Hazard Avenue, Santa Ana, Orange County, California	Outside
OR-03776	2000	Padon, Beth	Archaeological, Field Study	Historic Property Survey Report for Harbor Boulevard Smart Street Improvements, City of Garden Grove, Orange County, California.	Outside
OR-03776A	2000	Mc Elory, Sheila	Architectural/Historical, Evaluation, Field study	Historic Architectural Survey Report for Harbor Boulevard Smart Street Project For the City of Garden Grove, California	Outside
OR-03889	2003	Dice, Michael	Archaeological, Field Study	A Cultural Resources Assessment: The Newhope Street Resurfacing Project, Edinger Avenue to Westminster Avenue, City of Santa Ana, California	Outside
OR-04310	2013	Haas, Hannah, Hunt, Kevin, and Ramirez, Robert	Archaeological, Field Study	Cultural Resources Study for the 803-815 N Harbor Boulevard Residential Project Santa Ana, Orange County, California	Outside
Source: Appendix B.					

In addition to the studies shown above, the SCCIC records search identified a total of 18 previously recorded cultural resources within the 0.5-mile search radius (Table 4-9). All 18 of the previously recorded cultural resources are historic-era buildings. None of these resources are located within the Project site boundaries.

TABLE 4-9
PREVIOUSLY RECORDED CULTURAL RESOURCES
WITHIN 0.5-MILE OF THE PROJECT SITE

Primary No.	Resource Name	Type	Age	Proximity to Project Site
P-30-176916	1509 N Harbor	Building	Historic	Outside
P-30-176917	1513 N Harbor	Building	Historic	Outside
P-30-176918	3802 W Westminster	Building	Historic	Outside
P-30-176919	1406 N Harbor	Building	Historic	Outside
P-30-176920	1402 N Harbor	Building	Historic	Outside
P-30-176921	1221 N Harbor	Building	Historic	Outside
P-30-176922	Frank's Lawnmowers	Building	Historic	Outside
P-30-176923	913 N Harbor	Building	Historic	Outside
P-30-176924	US Airweld Inc.	Building	Historic	Outside
P-30-176925	Botanica Nursery	Building	Historic	Outside
P-30-176926	Cozy Corner Drive-In	Building	Historic	Outside
P-30-176927	214 N Figueroa St	Building	Historic	Outside
P-30-176928	222 N Harbor	Building	Historic	Outside
P-30-176929	226 N Harbor	Building	Historic	Outside
P-30-176930	322 N Harbor	Building	Historic	Outside
P-30-176931	Kings Kars	Building	Historic	Outside
P-30-176932	Khoa's Auto Service	Building	Historic	Outside
P-30-177500	Fredson Trailer / RV Supply	Building	Historic	Outside
Source: Appendix B.				

Impact Analysis

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. Based on the SCCIC literature reviews search and records search results, there are no documented historical resources identified on the Project site. Additionally, based on review of the City's Historic Resources Map, which highlights historic properties and districts within Santa Ana, there are no historical objects, buildings, structures, or sites within the Project site determined by the City, as the lead agency, to be historically significant (City of Santa Ana 2025a). Therefore, the Project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5. No impact would occur, and no mitigation is required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant Impact with Mitigation Incorporated. Based on the searches conducted, no archaeological resources were identified on the Project site or within the 0.5-mile search radius of the site. However, the potential for unknown archaeological materials to be uncovered during construction of the Project does exist, which represents a potentially significant impact. Therefore, to ensure that no significant impacts to any unknown archaeological resources would result from the Project, **MM CUL-1** is required in the event that cultural resources (archaeological, tribal cultural resources) are inadvertently unearthed during excavation and grading activities associated with construction of the Project. **MM CUL-1** requires the Project Applicant to retain a qualified professional (i.e., archaeologist) to observe grading activities within previously undisturbed soils and, in the event where previously unknown archaeological resources are unearthed, evaluate the significance of the finding and appropriate course of action. With implementation of **MM CUL-1**, the potential for the destruction of any significant archaeological resources would be reduced to less than significant.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. There is no indication that human remains are present within the Project site, and the SCCIC records search does not indicate evidence of human remains within the 0.5-mile search radius of the site. However, the potential for construction activities to unearth previously undiscovered human remains does exist. However, in compliance with existing State and federal regulations, if human remains are encountered during excavation activities, all work shall halt at the site and or any nearby areas reasonably suspected to overlie adjacent remains, and the County Coroner shall be notified (**RR CUL-1**). The Coroner shall determine whether the remains are of forensic interest within two working days of receiving notification. If the Coroner, with the aid of the qualified archaeologist, determines that the remains are prehistoric, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC shall be responsible for designating the most likely descendant, who will be responsible for the ultimate disposition of the remains, as required by Section 5097.98 of the California Public Resources Code. Compliance with **RR CUL-1** would ensure that impacts on human remains would be less than significant, and no mitigation is required.

Regulatory Requirements

RR CUL-1 In the event that human remains are unearthed during excavation and grading activities, all activity shall cease immediately. Pursuant to State Health and Safety Code Section 7050.5, no further disturbance shall occur until the County coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the NAHC.

Mitigation Measures

The MMs and RRs are applicable to the proposed Project and incorporated herein as standard conditions of approval.

MM CUL-1 Prior to the issuance of the grading permit, the Project Applicant shall provide written evidence to the City that the Applicant has retained an Orange County-certified archaeologist to observe grading activities within previously undisturbed soils, and to salvage and catalogue archaeological resources as necessary. The archaeologist shall be present at the pre-grade conference, shall establish procedures for archaeological resource surveillance within previously undisturbed soils, and shall establish, in cooperation with the Applicant, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate. If archaeological resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery and the archaeologist and City shall be notified immediately. If the archaeological resources are found to be significant, the archeologist, in consultation with the City, shall determine appropriate actions for exploration and salvage. After the find has been appropriately avoided or mitigated, work in the area may resume.

4.6 ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in 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?	☐	☐	☐	☒

Impact Analysis

Energy calculations and data are provided in Appendix C to this IS/MND.

Would the Project:

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

Less than Significant Impact. Southern California Edison (SCE) and the Southern California Gas Company (SCGC) are utility companies that currently provide and would continue to provide electrical and natural gas services to the Project site. Compliance with energy efficiency and conservation policies and regulations is discussed in this section.

The Santa Ana General Plan has developed attainable conservation goals and policy actions that would assist in energy conservation within the community. These conservation goals and policy actions include:

Goal CN-3: Energy Resources **–** Reduce consumption of and reliance on nonrenewable energy and support the development and use of renewable energy sources.

> POLICY CN-3.1 INTERAGENCY COORDINATION
> Consult with regional agencies and utility companies to pursue energy efficiency goals and expand renewable energy strategies.
>
> POLICY CN-3.2 EDUCATION PROGRAMS
> Support education programs to provide information on energy conservation and alternatives to nonrenewable energy sources.
>
> POLICY CN-3.3 DEVELOPMENT PATTERNS
> Promote energy-efficient development patterns by clustering mixed-use developments and compatible uses adjacent to public transportation.

POLICY CN-3.4 SITE DESIGN
Encourage site planning and subdivision design that incorporates the use of renewable energy systems.

POLICY CN-3.5 LANDSCAPING
Promote and encourage the planting of native and diverse tree species to improve air quality, reduce heat island effect, reduce energy consumption, and contribute to carbon mitigation with special focus in environmental justice areas.

POLICY CN-3.6 LIFE CYCLE COSTS
Encourage construction and building development practices that use renewable resources and life cycle costing in construction and operating decisions.

POLICY CN-3.7 ENERGY CONSERVATION DESIGN AND CONSTRUCTION
Incorporate energy conservation features in the design of new construction and rehabilitation projects.

POLICY CN-3.8 ENERGY-EFFICIENT PUBLIC FACILITIES
Promote and encourage efficient use of energy and the conservation of available resources in the design, construction, maintenance, and operation of public facilities, infrastructure, and equipment.

POLICY CN-3.9 ENERGY GENERATION IN PUBLIC FACILITIES
Encourage and support the generation, transmission, use, and storage of locally distributed renewable energy in order to promote energy independence, efficiency, and sustainability.

POLICY CN-3.10 ENERGY CONSERVATION IN PUBLIC PROJECTS
Work with businesses and contractors that use energy efficient practices in the provision of services and equipment for City construction projects.

POLICY CN-3.11 ENERGY-EFFICIENT TRANSPORTATION INFRASTRUCTURE
Continue to support public and private infrastructure for public transportation such as bus routes, rail lines, and the OC Streetcar.

The State of California has also adopted efficiency design standards within the Title 24 Building Standards and California Green Building Standards Code (CALGreen) requirements. Title 24 of the California Code of Regulations (CCR, specifically, Part 6) is California's Energy Efficiency Standards for Residential and Non-residential Buildings (**RR ENE-1**). Title 24 was established by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and to provide energy efficiency standards for residential and non-residential buildings. The 2022 California Green Building Standards Code (24 CCR, Part 11), also known as the CALGreen Code, contains mandatory requirements for new residential and nonresidential buildings throughout California (**RR ENE-2**)**.** The development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The Code is established to

reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction. The regulation of energy efficiency for residential and non-residential structures is established by the CEC and its California Energy Code.

Construction

Project construction would require the use of construction equipment for demolition, grading, and building activities. All off-road construction equipment is assumed to use diesel fuel. Construction also includes the vehicles of construction workers and vendors traveling to and from the Project site.

Off-road construction equipment use was calculated from the equipment data (mix, hours per day, horsepower, load factor, and days per phase) provided in the CalEEMod construction output files included in Appendix A. The total horsepower hours for the Project were then multiplied by fuel usage estimates per hours of construction activities included in the Off-Road Model.

Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total vehicle miles traveled (VMT) was then calculated for each type of construction-related trip and divided by the corresponding miles per gallon factor using CARB's EMissions FACtor (EMFAC) 2021 model (CARB 2022a). EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks.

As shown in Table 4-10, Energy Use During Construction, a total of 16,120 gallons of gasoline and 7,384 gallons of diesel fuel is estimated to be consumed during Project construction.

TABLE 4-10
ENERGY USE DURING CONSTRUCTION

Source	Gasoline – gallons	Diesel Fuel – gallons
Off-road Construction Equipment	13,377	6,681
Worker Commute	2,289	6
Vendors	453	5
On-road Haul	1	7.384
Totals	16,120	7,384
Sources: based on data from CalEEMod, OffRoad, and EMFAC2021. Energy data can be found in Appendix C to this IS/MND.		

Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. The Project would also implement best management practices such as requiring equipment to be properly maintained and minimize idling. Furthermore, there are no unusual Project characteristics that would necessitate the

use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the State. Energy used in the construction of the Project would enable the development of buildings that meet the latest energy efficiency standards as detailed in California's Title 24 building standards. Therefore, the proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operations

The proposed Project would promote building energy efficiency through compliance with energy efficiency standards (Title 24 and CALGreen). The Project site is currently developed with residential uses that complied with older less stringent building energy efficiency standards. The proposed Project is required to comply with the latest (2022) building energy efficiency standards adopted by the State of California. The estimated energy consumption attributable to the Project is shown in Table 4-11, below.

TABLE 4-11
ENERGY USE DURING OPERATIONS

Land Use	Gasoline	Diesel	Natural Gas (kBTU/yr)	Electricity (kWh/yr)
Project Land Uses	11,218	1,518	596,990	196,898
Santa Ana General Plan	148,001,638	19,896,581	27,074,864	1,189,836,014
Percent of Project Use	0.007%	0.008%	2.205%	0.017%
kBTU/yr: one thousand British Thermal Units; kWh/yr: kilowatt hours per year. Sources: Energy data can be found in Appendix C of this IS/MND.				

The CEC anticipates the new 2025 Building Energy Efficiency Standards would result in a reduction of energy use as compared to previous energy standards (CEC 2025c). Therefore, the new buildings would be more energy efficient than the existing buildings to be demolished. The Project's energy efficient building is consistent with Policy CN-3.7 Energy Conservation Design and Construction.. As such, the Project is consistent with Policy CN-3.3 Therefore, the proposed Project would not result in an inefficient, wasteful, or unnecessary consumption of energy. There would be a less than significant impact, and no mitigation is required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Project would be required to comply with the State of California's Title 24 Energy Efficiency Standards and Title 24 Building Standards. As discussed previously, the latest building standards would incorporate the CEC's building energy efficiency standards, which would reduce energy consumption through the incorporation of energy efficiency requirements. This would result in efficient use of electricity, natural gas, and water as compared to older buildings developed under less stringent Title 24 requirements. The Project's incorporation of the latest energy and resource efficiency measures are consistent with Policy CN-3.7 Energy Conservation Design and Construction of the General Plan which

seeks to incorporate energy conservation features in the design of new construction and rehabilitation projects.

As such, the development of new Project-related buildings would result in greater energy efficiency by replacing the existing less efficient older buildings consistent with the energy efficiency goals of the Santa Ana General Plan, consistent with and supportive of applicable plans.

As the Project complies with the latest energy efficiency standards and would be relatively small in magnitude relative to the energy consumption presented in the General Plan, the Project would not result in a substantial amount of energy use as illustrated in Table 4-11, the Project would also be consistent with energy conservation goals established in the Santa Ana General Plan (discussed previously) and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. There would be a less than significant impact, and no mitigation is required.

Regulatory Requirements

RR ENE-1 The Project must be designed in accordance with the applicable Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations [CCR], Title 24, Part 6). These standards are updated, nominally every three years, to incorporate improved energy efficiency technologies and methods.

RR ENE-2 The Project is subject to the California Green Building Standards Code (CALGreen) (CCR, Title 24, Part 11). These standards are updated, nominally every three years, to incorporate improved energy efficiency technologies and methods.

Mitigation Measures

Project implementation would not result in significant impacts related to energy; therefore, no mitigation measures are required.

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?	☐	☐	☐	☒
ii) Strong seismic groundshaking?	☐	☐	☒	☐
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?	☐	☒	☐	☐

Impact Analysis

Would the Project:

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?

No Impact. The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS) for the Alquist-Priolo Earthquake Fault Zone Program. An active fault is defined as one that has had surface displacement within Holocene time (about the last 11,700 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years) but has had no known

Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive. Surface fault rupture is the offset or rupturing of the ground surface by relative displacement across a fault during an earthquake.

The Project site is not located within an Alquist-Priolo Zone, nor do traces of any known active or potentially active faults traverse through or project toward the site (CGS 1998). The nearest mapped active fault to the Project site is the Newport-Inglewood Fault located approximately 7.2 miles southwest (City of Santa Ana 2021e). Therefore, the potential for surface rupture is relatively low at this location. Lurching or cracking of the ground surface due to nearby seismic events is possible, as with all sites located within seismically active Southern California. The surface rupture of a known fault within the Project site that would result in substantial adverse effects is not considered reasonably foreseeable. There would be no impact, and no mitigation is required.

ii) Strong seismic groundshaking?

Less than Significant Impact. The Project site is located in Southern California, a known seismically active region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active faults. As stated in Threshold 4.7(a)(i) above, no active faults are known to underlie or project towards the site and the closest active fault is the Newport-Inglewood Fault located approximately 7.2 miles from the site.

Consistent with its location in a seismically active region, the site may be subject to strong ground shaking resulting from a major earthquake on one or more faults in the area within the lifetime of the Project. Seismic ground shaking from major earthquakes in the region is not anticipated to be greater than at any other sites in Southern California. The potential for strong ground shaking is an existing seismic hazard that affects the site, and the Project would not exacerbate this condition. The Project would comply with applicable provisions of the most recent California Building Code (CBC), which has been adopted by reference by the City of Santa Ana (SAMC Section 8-43), regarding seismic design and structural features to minimize the risk of loss, injury, or death resulting from strong seismic shaking. Therefore, there would be a less than significant impact from strong seismic ground shaking, and no mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction occurs when the pore pressures generated within a soil mass approach the effective overburden pressure. Liquefaction of soils may be caused by cyclic loading such as that imposed by ground shaking during earthquakes. The increase in pore pressure results in a loss of strength, and the soil then can undergo both horizontal and vertical movements, depending on the site conditions. Other phenomena associated with soil liquefaction include sand boils, ground oscillation, and loss of foundation bearing capacity. Liquefaction is generally known to occur in loose, saturated, relatively clean, fine-grained cohesionless soils at depths shallower than approximately 50 feet. Factors to consider in the evaluation of soil liquefaction potential include groundwater conditions, soil type, grain size distribution, relative density, degree of saturation, and both the intensity and duration of ground motion.

The Project site is located within a State-designated liquefaction zone, as identified by the California Geological Survey (CGS 1998). Pursuant to existing regulations imposed under the California Seismic Hazards Mapping Act (SHMA) and the most recent CBC, the Project Applicant is required to prepare and submit a site-specific geotechnical report to the City for review and approval prior to issuance of any grading or building permits. The site-specific geotechnical report will evaluate the potential for seismic-related ground failure, including liquefaction, to ensure that the Project is feasible from a geotechnical standpoint. Additionally, the Project's geotechnical report will provide site-specific recommendations to ensure that the Project is designed and constructed to reduce seismic hazards to a less than significant level. Implementation of the recommendations contained in the approved site-specific geotechnical report will be required as a condition of Project approval, and the Project applicant will be required to demonstrate to the City that all applicable recommendations have been incorporated into the final Project design and implemented during grading and construction of the Project. Compliance with this existing requirement would ensure that the potential for seismic-related ground failure, including liquefaction, would be adequately addressed and impacts would be less than significant. Therefore, the Project would not result in a substantial adverse effect related to the risk of loss, injury, or death, due to seismic-related ground failure, including liquefaction. A less than significant impact would occur, and no mitigation is required.

iv) Landslides?

Less Than Significant Impact. Landslide hazards depend on various factors, including existing slope stability, shaking potential, and presence of existing landslides. Landslides are most common in areas of high topographic relief, such as steep canyon walls or steep hillsides. Due to the generally flat topography of the area encompassing the City, there are no substantial landslide hazards in Santa Ana, including at the Project site (City of Santa Ana 2021e). Based on the review of the official State of California Earthquake Zones of Required Investigation Map for the Anaheim Quadrangle, the Project site is not located within, or near, an area subject to landslide hazards (CGS 1998). Due to the relatively level and limited gradient changes of the site and surrounding areas, the potential for landslides at the Project site is considered low to negligible. Therefore, the Project would not result in a substantial adverse effect, including the risk of loss, injury, or death, due to landslides. A less than significant impact would occur, and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The Project site is fully developed with three single-family residential buildings, paved concrete driveways, and associated site improvements and has a relatively flat topography. During demolition and construction activities, temporary soil erosion may occur due to soil disturbance and the removal of buildings and paved surfaces. In addition, soil erosion due to rainfall and wind may occur if unprotected soils are exposed during construction.

The Project is subject to compliance with all applicable State and local regulations imposed to prevent erosion during and after construction. During construction, the Project would adhere to the Orange County Drainage Area Management Plan (DAMP) and the City of Santa

Ana Local Implementation Plan (LIP), which implement the NPDES Municipal Separate Storm Sewer System (MS4) Permit requirements issued by the Santa Ana Regional Water Quality Control Board (RWQCB). These programs require the use of construction Best Management Practices (BMPs) to minimize soil erosion, sedimentation, and pollutant discharges during grading and site work. As required under the Orange County DAMP, the Project has prepared a Water Quality Management Plan (WQMP) that provides erosion control, sediment control, tracking, waste management, and construction site maintenance BMPs to reduce the potential for soil and wind erosion during construction activities.

Additionally, as the Project site includes more than one acre of land (2.5-acres), it would be required to obtain an NPDES Construction General Permit from the SWRCB. In compliance with the requirements of the NPDES Construction General Permit, the Project would prepare a Stormwater Pollution Prevention Plan (SWPPP) which would further specify site-specific erosion and sediment control measures, as well as inspection and maintenance protocols. Compliance with these regulatory requirements, including the implementation of the Project-specific WQMP and SWPPP, would ensure that the Project would not result in significant impacts related to soil erosion or the loss of topsoil during construction.

As discussed in more detail in Section 4.10, Hydrology and Water Quality, the proposed Project would install an underground infiltration basin to mitigate stormwater produced on the Project site before flowing southernly and westerly to sump pumps draining into Hazard Avenue and Morse Street, respectively. The peak runoff flow rates during proposed conditions would be less than existing conditions and would not result in additional erosion or siltation. To prevent long-term erosion, the Project site plan and tentative map would incorporate the construction of any proposed "Site Design" BMPs (such as walkways with open joints, sidewalks and parking lot aisles with minimum widths, draining sidewalks into adjacent landscaping, and incorporating the landscape area into the drainage system) to minimize the impervious areas and to maximize permeability and natural areas. As such, the Project would not result in substantial soil erosion or the loss of topsoil during construction or operation. A less than significant impact would occur, and no mitigation is required.

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?

Less than Significant Impact. Secondary seismic hazards related to the underlying geologic unit include several types of ground failure that can occur due to severe ground shaking. These hazards include landslides, collapse, ground lurching, shallow ground rupture, and liquefaction. The probability for each type of ground failure depends on the severity of the earthquake, the site's distance from the fault, the local topography, and subsoil and groundwater conditions, among other factors. In addition, there can be soil engineering characteristics inherent in the underlying sediments on a site that can adversely affect structures if not appropriately managed during construction, including expansive soils. Liquefaction and landslide are addressed above under Thresholds 4.7(a)(iii) and 4.7(a)(iv). Lateral spreading is a liquefaction-related phenomenon; therefore, the above analysis in Threshold 4.7(a)(iii) would also apply to this secondary seismic hazard.

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas, or through other methods such as earthquakes, soil compaction, erosion, sinkhole formation, and the saturation of soils with water. According to the City's General Plan Update Geotechnical Background Technical Report, the probability of subsidence effects is generally low in the majority of Santa Ana, with the most susceptible areas along the margins of the Santa Ana River and Santiago Creek (City of Santa Ana 2020). As shown on Figure 3 of the General Plan Update Paleontological Technical Report, the Project site lies on alluvium deposits of silt and sand, which is expected to be stable (City of Santa Ana 2020). No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity, and therefore no significant impacts related to subsidence would occur.

Seismic settlement and/or collapse is considered to be a moderate hazard in the City based on the compressibility of underlying alluvial soils and the presence of shallow groundwater. Strong ground shaking can cause settlement of alluvial soils and artificial fills if they are not adequately compacted. Because unconsolidated soils and undocumented fill material are present in the City, seismically induced settlement and/or collapse is a potential hazard. As noted previously, in accordance with the CBC, which has been adopted by the City, the Project applicant would submit a site-specific geotechnical report prior to the issuance of grading and building permits. The report will evaluate subsurface conditions, including the presence of unstable soils or geologic units, and will provide recommendations for site preparation, grading and compaction techniques, foundation design, and construction practices to ensure the stability of the Project.

As noted previously, the Project would be designed and constructed in accordance with the 2022 CBC and required to implement the recommendations provided in the Project-specific geotechnical report. Compliance with existing State and local regulations, including the preparation of a site-specific geotechnical report and implementation of all identified recommendations, would ensure that any potential impacts related to unstable geologic conditions are less than significant. Therefore, there would be a less than significant impact, and no mitigation is required.

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?

Less than Significant Impact. Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. The onsite fill consists of sandy silt within the soils encountered near the ground surface. Expansive soils contain significant amounts of clay particles that swell considerably when wet and shrink when dried. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors, and may cause unacceptable settlement or heave of structures, concrete slabs supported on-grade, or pavements supported over these materials. Depending on the extent and location below finished subgrade, these soils could have a detrimental effect on the proposed construction. According to the Geotechnical Background Technical Report prepared for the City's General Plan Update, there is some potential for expansive soils throughout Santa Ana (City of Santa Ana 2020). As previously described, the Project

Applicant is required to submit a site-specific geotechnical report for the review and approval by the City prior to issuance of grading or building permits. This report will characterize on-site soil conditions, including the potential for expansive soils. If expansive soils are identified on the site, the Project will be required to incorporate specific engineering solutions, such as specialized foundation designs, moisture barriers, and/or over-excavation and replacement of soils with engineered fill, to reduce the risk of damage associated with soil expansion. Implementation of the report's recommendations would be verified by the City through the plan check process and during construction inspections. Compliance with this requirement would ensure that any potential risks related to expansive soils would be reduced to a less than significant level. Therefore, impacts would be less than significant and no mitigation is required.

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?

No Impact. The use of septic tanks or alternative wastewater disposal systems is not proposed by the Project. Therefore, no impact would result, and no mitigation is required.

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

Less than Significant Impact with Mitigation Incorporated. The Project site is situated in the southeastern portion of the Los Angeles Basin, which contains sedimentary rocks of Pliocene and Quaternary age that are between 5,000 to 13,000 feet thick. According to the U.S. Geological Survey (USGS) 7.5-Minute Santa Ana Quadrangle Map, the Project site is underlain by undifferentiated young alluvial deposit (Qyf) that typically consists of unconsolidated to slightly consolidated, undissected to slightly dissected boulders, cobbles, gravels, sands, and silt deposits issued from a very confined valley or canyon.

This analysis is based on the results of a literature review and records search conducted through the Natural History Museum of Los Angeles County (NHMLA) and a review of geologic maps and aerials of the Project site. The paleontological records search was completed on June 29, 2025. The records search included a thorough search of the NHMLA paleontology collection records for the locality and specimen data for the Project site and surrounding area. The records search did not identify any recorded or georeferenced fossil localities within the site. However, seven fossil localities were located nearby from similar sedimentary deposits that may occur in the Project area, either at the surface or at depth. These localities included sheep (*Ovis*), mammoth (*Mammuthus*), bison (*Bison*), school shark (*Galeorhinus*), eagle ray (*Myliobatus*), goby (*Lepidogobius, Leptocottus*), midshipmen (*Porichthys*), croaker (*Seriphus*), flatfish (*Citharichthys*), cusk-eel (*Otophidium*), skate (*Raja*), angelshark (*Squatina*), sculpin (*Cottidae*), clam (*Saxidomus*), bryozoan (*Bryozoa indet., Conopeum*), and several uncatalogued or unspecified invertebrate species.

As indicated above, the Project site is generally underlain by Quaternary-aged young Holocene alluvial soils, which could contain unknown fossils. However, the site history indicates the contemplated earthmoving activities would take place in previously disturbed

soils, which consist of re-deposited alluvial soil and artificial fill. Nevertheless, while paleontological resources are not anticipated to be discovered during excavations, if grading activities encounter unknown paleontological resources, implementation of **MM GEO-1** would ensure this impact to be less than significant. Therefore, this impact would be less than significant with mitigation incorporated.

Mitigation Measures

The following MM is applicable to the proposed Project and incorporated herein as standard conditions of approval.

MM-GEO-1 Prior to commencement of earthmoving activities, the Project Applicant shall retain a qualified Orange-County certified Paleontologist, for on-call services in the event of a discovery of paleontologically sensitive rock formations during ground disturbance activities. Should these resources be found during ground-disturbing activities for the Project, the Paleontologist shall first determine whether it is a significant paleontologically sensitive fossil locality or rock formation. If the above-mentioned resources are found during earthmoving activities, the Paleontologist shall formulate a report and a mitigation plan in consultation with the City of Santa Ana. For paleontological resources, the disposition of the resources shall be subject to approval by the City. All recovered paleontologically sensitive fossils and rock formations shall be deposited in an accredited institution or museum, such as the Natural History Museum of Los Angeles County. If resources are discovered, work may proceed in other areas of the site, subject to the direction of the Paleontologist.

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?	☐	☐	☒	☐

Introduction

This section discusses the existing GHG emissions setting and the Project's potential impacts related to GHG emissions. GHG emissions were calculated for the Project by using CalEEMod version 2022.1.1.0 (CAPCOA 2022). CalEEMod is a computer program accepted by the SCAQMD that can be used to estimate criteria pollutant and GHG emissions associated with land development projects in California. CalEEMod has separate databases for specific counties and air districts. The Orange County database was used for the Project. For this analysis, the results are expressed in metric tons of carbon dioxide equivalent per year ($MTCO_2e/yr$).

Existing Setting

Climate change refers to any significant change in measures of climate (e.g., average temperature, precipitation, or wind patterns) over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth's surface temperature. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emissions of GHGs through fossil fuel combustion in conjunction with other human activities are associated with global warming.

GHGs, as defined under California's AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. General discussions on climate change often include water vapor, atmospheric ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies, such as CARB, or climate change groups, such as

the California Climate Action Registry, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, atmospheric ozone, or aerosols is provided.

Regulatory Background

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05, which calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

The principal overall State plan and policy adopted for the purpose of reducing GHG emissions is AB 32 (California Global Warming Solutions Act of 2006). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 recognizes that California is the source of substantial amounts of GHG emissions. The statute states the following:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

In order to avert these consequences, AB 32 establishes a State goal of reducing GHG emissions to 1990 levels by the year 2020, codifying the goal of EO S-3-05.

CARB approved a Climate Change Scoping Plan as required by AB 32 in 2008; this plan is required to be updated every five years. The Climate Change Scoping Plan proposes 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" (CARB 2008). The 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 such as a cap-and-trade system, and an AB 32 implementation regulation to fund the program. On February 10, 2014, CARB released the Draft Proposed First Update to the Climate Change Scoping Plan (CARB 2014). The board approved the final First Update to the Climate Change Scoping Plan on May 22, 2014. The first update describes California's progress towards AB 32 goals, stating that "California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). The 2017 Scoping Plan Update incorporates the 40 percent reduction to 1990 emissions levels by 2030. The 2022 Scoping Plan assesses progress towards achieving carbon neutrality by 2045 or earlier through the reduction of emissions by 85 percent below 1990 levels (CARB 2022b).

The Sustainable Communities and Climate Protection Act of 2008, Senate Bill (SB) 375, established a process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 required the SCAG to incorporate the SCS into its RTPs that will achieve GHG emission reduction targets though several measures, including land use decisions. SCAG's SCS is included in the SCAG 2024–2050 RTP/SCS (SCAG 2024a). The goals and policies of the RTP/SCS that reduce VMT focus on transportation and land use planning that include building infill projects; locating residents closer to where they work and play; and designing communities so there is access to high quality transit service.

On April 29, 2015, Governor Brown signed EO B-30-15, which ordered an interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. Five key goals for reducing GHG emissions through 2030 include (1) increasing renewable electricity to 50 percent; (2) doubling the energy efficiency savings achieved in existing buildings and making heating fuels cleaner; (3) reducing petroleum use in cars and trucks by up to 50 percent; (4) reducing emissions of short-lived climate pollutants; and (5) managing farms, rangelands, forests, and wetlands to increasingly store carbon. EO B-30-15 also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

On September 8, 2016, the Governor signed Senate Bill (SB) 32 to codify the GHG reduction goals of EO B-30-15, requiring the State to reduce GHG emissions by 40 percent below 1990 levels by 2030 (Health and Safety Code Section 38566). As stated above, this goal is expected to keep the State on track to meeting the goal set by EO S-3-05 of reducing GHG emissions by 80 percent below 1990 levels by 2050.

AB 197 was signed at the same time to ensure that the SB 32 goals are met by requiring CARB to provide annual reports of GHGs, criteria pollutants, and TACs by facility, City and sub-county level, and sector for stationary sources and at the County level for mobile sources. It also requires the CARB to prioritize specified emission reduction rules and regulations and to identify specified information for emission reduction measures (e.g., alternative compliance mechanism, market-based compliance mechanism, and potential monetary and nonmonetary incentive) when updating the Scoping Plan.

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 is the implementation of some of the goals of EO B-30-15. The objectives of SB 350 are as follows:

1. To increase from 33 percent to 50 percent, the procurement of our electricity from renewable sources
2. To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation

The text of SB 350 sets a December 31, 2030, target for 50 percent of electricity to be generated from renewable sources. SB 350 also requires the State to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. Additionally, SB

350 sets requirements for large utilities to develop and submit integrated resources plans, which detail how utilities would meet their customers' resource needs, reduce GHG emissions, and integrate clean energy resources (CEC 2025a).

On September 10, 2018, Governor Brown signed SB 100, the 100 Percent Clean Energy Act of 2018. SB 100 requires renewable energy and zero-carbon resources to supply 100 percent of electric retail sales to end-use customers and 100 percent of electricity procured to serve state agencies by December 31, 2045. This policy requires the transition to zero-carbon electric systems that do not cause contributions to increase of GHG emissions elsewhere in the western electricity grid (CEC 2025b). SB 100 also creates new standards for the Renewable Portfolio Standard goals established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned utilities and publicly owned utilities from 50 percent to 60 percent by 2030.

Further, on September 10, 2018, Governor Brown also signed California EO B-55-18, which sets a new statewide goal of carbon neutrality as soon as possible, and no later than 2045 and achieve net negative emissions thereafter. EO B-55-18 was added to the existing Statewide targets of reducing GHG emissions, including the targets previously established by Governor Brown of reducing emissions to 40 percent below 1990 levels by 2030 (EO B-30-15 and SB 32), and by Governor Schwarzenegger of reducing emissions to 80 percent below 1990 levels by 2040 (EO S-3-05).

The Santa Ana Climate Action Plan (CAP) provides a framework for reducing GHG emissions and managing resources to best prepare for a changing climate (City of Santa Ana 2015). In 2014, the City Council adopted emissions reduction goals for the CAP including a goal to reduce community wide emissions by 30% by 2035 (City of Santa Ana 2015). The plan outlines baseline metrics and goals for GHG reduction, and establishes timelines that are consistent with state policies and SB 100. Additionally, the CAP recommends GHG emissions targets that are consistent with the reduction targets of the State of California, including AB 32, and presents strategies for each category of GHG emissions (e.g., transportation, emergency consumption, water consumption and waste disposal) that will make it possible for the City to meet the recommended targets.

Thresholds of Significance

Because the City has a CAP which demonstrates how it will meet AB 32 requirements, the determination of whether a project would generate GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions can be made by determining the consistency of that project with the CAP. However, the City's CAP does not address recent requirements established by SB 32 to reduce GHG emissions by 40 percent below 1990 levels by 2030. Therefore, in addition to establishing the Project's consistency with the CAP, the determination as to whether the proposed Project would generate GHG emissions that may have a significant impact on the environment is also determined by comparing the Project's emissions to the suggested SCAQMD threshold for all land use projects, discussed below.

On December 5, 2008, the SCAQMD Governing Board presented the staff proposal for a tiered threshold approach wherein Tier 1 determines if a project qualifies for an applicable CEQA exemption, Tier 2 determines consistency with GHG reduction plans, and Tier 3 proposes a numerical screening value as a threshold. At their September 28, 2010, meeting, the Working Group suggested a Tier 3 threshold of 3,000 $MTCO_2e$ per year for all land use types (SCAQMD 2010). Tier 4 determines if the project meets performance standards. Tier 4 has three options: Option 1—percent emission reduction target; Option 2—early implementation of applicable measures; and Option 3—sector-based standard. Tier 5 determines mitigation for CEQA offsets.

In the absence of adopted thresholds, the Tier 3 standard of 3,000 $MTCO_2e/yr$ is used for this analysis. The development of project-level thresholds in accordance with CEQA is an ongoing effort at the State, regional, and County levels, and significance thresholds may differ for future projects based on new or additional data and information that may be available at that time for consideration. The City of Santa Ana has not officially adopted any GHG CEQA significance threshold. The City defers to assessment methods and significance thresholds developed by the SCAQMD. This impact analysis evaluates consistency with regulatory programs designed to reduce GHG emissions and that contribute to the achievement of AB 32's and SB 32's goals as the primary significance criterion. In addition, this impact analysis also evaluates the Project's estimated emissions compared to the Tier 3 threshold for impacts related to GHG emissions proposed by staff members of the SCAQMD, but not adopted by the SCAQMD Board.

Impact Analysis

Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Project GHG emissions were estimated using CalEEMod, which is designed to model construction and operational emissions for land development projects and allows for the input of project- and County-specific information. For modeling purposes, construction activities were based on the Project's construction assumptions and default assumptions derived from CalEEMod. The input for operational emissions was based on the vehicle trip generation rates provided in the Traffic Memorandum (Appendix F) and the proposed building area.

The estimated construction GHG emissions for the proposed Project would be 534 $MTCO_2e$, as shown in Table 4-12, Estimated Greenhouse Gas Emissions from Construction.

TABLE 4-12
ESTIMATED GREENHOUSE GAS
EMISSIONS FROM CONSTRUCTION

Year	Emissions ($MTCO_2e$)
2026	172
2027	274
2028	88
Total	**534**

$MTCO_2e$: metric tons of carbon dioxide equivalent

Notes:
- Totals may not add due to rounding variances.
- Detailed calculations in Appendix A.

Operational phase GHG emissions would come primarily from vehicle trips; other sources including electricity and water consumption; natural gas for space and water heating; and gasoline-powered landscaping and maintenance equipment. Table 4-13, Estimated Annual Greenhouse Gas Emissions from Project Operation, shows the annual GHG emissions from proposed Project's operations. It should be noted that the emissions provided in Table 4-13 do not deduct existing GHG emissions from current on-site uses.

TABLE 4-13
ESTIMATED ANNUAL GREENHOUSE GAS
EMISSIONS FROM PROJECT OPERATION

Source	Emissions ($MTCO_2e$/yr)
Area	<1
Energy	59
Mobile	163
Waste	9
Water	3
Refrigeration	<1
Total Operational Emissions	**234**

$MTCO_2e$/yr: metric tons of carbon dioxide equivalent per year

Notes:
- Totals may not add due to rounding variances.
- Detailed calculations in Appendix A.

Because impacts from construction activities occur over a relatively short period of time, they contribute a relatively small portion of the overall lifetime Project GHG emissions. In addition, GHG emission reduction measures for construction equipment are relatively limited. The SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime so that GHG reduction measures address construction GHG emissions as part of the operational GHG reduction strategies (SCAQMD 2008). Therefore, construction and

operational emissions are combined by amortizing the construction and operations over an assumed 30-year Project lifetime. This combination is shown in Table 4-14, Estimated Total Project Annual Greenhouse Gas Emissions, using the proposed Project's amortized construction and operational emissions.

TABLE 4-14
ESTIMATED TOTAL PROJECT ANNUAL GREENHOUSE GAS EMISSIONS

Source	Emissions ($MTCO_2e/yr^a$)
Construction (Amortized)	18
Operations (Table 4-13)	234
Total[b]	**252**
SCAQMD-Recommended Threshold (Tier 3)	**3,000**
Exceeds Threshold?	**No**

$MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year; SCAQMD: South Coast Air Quality Management District.

[a] Total derived by dividing construction emissions (see Table 4-12) by 30.

[b] Total annual emissions are the sum of amortized construction emissions and operational emissions.

As discussed above, there are no established applicable quantitative federal, State, regional, or local CEQA significance criteria for GHG emissions for non-industrial projects in the SoCAB. The SCAQMD has proposed, but not adopted, a threshold of 3,000 $MTCO_2e$ per year for non-industrial land use projects. As shown, the estimated GHG emissions from the Project, without taking credit for the GHG emissions from existing uses that would be removed with Project implementation, would be less than this suggested threshold. The impact would be less than significant, and no mitigation is required.

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

Less than Significant Impact. As discussed above, the principal State plan and policy adopted for the purpose of reducing GHG emissions is SB 32, whose quantitative goal is to reduce GHG emissions to 1990 levels by 2020. This goal is further supplemented by SB 32, which established a reduction target of at least 40 percent below 1990 emissions by 2030, and by EO B-30-15 and EO S-3-05, which sets an 80 percent reduction below 1990 emissions by 2050.

The 2022 Scoping Plan implements the reduction target adopted under SB 32 and seeks to reduce GHG emissions through a number of measures. Those that are applicable to the Project include the development of pedestrian infrastructure which promotes non-automobile transportation options, the development of energy efficient buildings, reduction of VMT by providing local employment opportunities, supporting California's EV mandate by

providing EV chargers, onsite employee EV usage, as well as other energy efficiency and conservation measures.

The regulations, plans, and polices adopted for the purpose of reducing GHG emissions that are directly applicable to the Project include the Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings and the Title 24 California Green Building Standards Code. Adherence to standard requirements would ensure that the Project would comply with both of these regulations. The Project would also be replacing an older structure which was built in accordance with an outdated version of the Title 24 California Green Building Standards Code; the Project would be built in compliance with the most recent 2022 Title 24 Energy Efficiency Standards. This would be consistent with the Scoping Plan's goals associated with the development energy efficient buildings. In addition to EV installed parking stalls, the Project would provide EV make ready stalls, consistent with the EV goals established within the Scoping Plan. As such, the Project would be consistent with consistent with SB 32 and the associated Scoping Plan.

At a regional level, SCAG has adopted Connect SoCal, the 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy. Connect SoCal's "Core Vision" centers on maintaining and better managing the existing transportation network while expanding mobility choices. The plan identifies six components of the Core Vision: Sustainable Development, System preservation and Resilience, Demand and System Management, Transit Backbone, Complete Streets, and Goods Movement. As discussed above, the Project would replace existing older structures with a more energy efficient building and provide new EV equipped and EV ready parking stalls. The Project's construction and operational GHG emissions would be below the SCAQMD's GHG thresholds. In addition, the Project would incorporate the latest energy efficiency standards for buildings, develop alternative fueled charging stations, be supported by mass transit, and support reduced vehicular emissions by providing local employment. Therefore, the Project would not conflict with State and City plans and policies adopted for the purpose of reducing the emissions of GHGs.

Mitigation Measures

Project implementation would not result in significant impacts related to GHG emissions; therefore, no mitigation measures are required.

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 two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Impact Analysis

Would the Project:

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

Less than Significant Impact. Demolition and construction activities for the proposed Project would involve the use of chemical substances such as solvents, paints, fuel for equipment, and other potentially hazardous materials. Hazards to the environment or the public would typically occur with the transport, use, storage, or disposal of hazardous materials. Demolition and construction activities would be relatively short-term and the transport, use, and disposal of hazardous materials as part of these activities would utilize small quantities and be temporary. The contractor would be required to comply with existing regulations for the transport, use, storage and disposal of hazardous materials to prevent public safety hazards. These regulations include the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, California Hazardous Waste Control Act, and California Accidental Release Prevention Program, among others.

Once constructed, the proposed land uses would consist of residential and religious institutional uses. The Project would not include any industrial or manufacturing land uses, which would routinely utilize large quantities of hazardous materials. Nevertheless, the Project would potentially utilize typical hazardous materials such as paint, pesticides, cleansers, and solvents for routine maintenance activities, and any use would be in limited quantities typical for residential and religious institutional uses. The Project would not utilize, store, or generate hazardous materials or wastes in quantities that would pose a significant hazard to the public. Impacts would be less than significant, and no mitigation is required.

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?

Less than Significant Impact. Construction of the Project would involve the use of common hazardous substances such as petroleum-based fuels and hydraulic fluid. However, the level of risk associated with the accidental release of hazardous substances during construction is considered low due to the small volume of hazardous materials that would be used during construction. Hazardous substances required for construction would be handled, transported, and/or disposed of in accordance with all federal, State, and local laws. Upon required compliance with these existing regulations, upset and accident conditions involving the use of such substances are not reasonably foreseeable.

Operation of the Project would not involve the transport, use, or disposal of copious quantities of hazardous materials. The use of hazardous materials on the Project site post-construction would consist of those commonly used in a residential setting for routine maintenance and cleaning. Proper handling of the use and disposal of hazardous materials would reduce the potential for exposure. Therefore, with incorporation of the Project-specific recommendations, consistency with the General Plan policies and programs, and with application of local, State, and federal regulations related to hazardous materials, no new impacts associated with creating 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 would occur.

As such, construction and operation of the Project would not involve the release of hazardous materials into the environment that would create a significant hazard to the public or environment. There would be a less than significant impact, and no mitigation is required.

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

Less than Significant Impact. There is one school located within one-quarter mile of the Project site. Hazard Elementary School is located approximately 290 feet to the west of the Project site. As stated above in Threshold 4.9(a), during construction, a potential exists for the accidental release or spill of hazardous substances such as gasoline, oil, hydraulic fluid, diesel fuel, or other liquids associated with construction equipment operation and maintenance. However, use of these materials would be in limited quantities as is typical during the operation and maintenance of construction equipment and would be conducted

in compliance with applicable federal, State, and local regulations. Additionally, the contractor would be required to use standard construction controls and safety procedures, which would avoid and minimize the potential for accidental release or spill of such substances into the environment. Once operational, the Project site would utilize paint, pesticides, cleansers, and solvents for routine maintenance activities and would not generate significant hazardous emissions. The operational activities associated with the Project would be similar to other residential and religious land uses surrounding the site and would not generate hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste in quantities that may impact students at schools within 0.25 mile of the site. Therefore, the level of risk associated with the accidental release of hazardous substances during construction and operations would be less than significant, and no mitigation is required.

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?

No Impact. Based on review of the California Department of Toxic Substances Control (DTSC) Hazardous Waste and Substances Site List – Site Cleanup (Cortese List) (DTSC 2025), and review of the State Water Resource Control Board's GeoTracker database (SWRCB 2025), the Project site is not included on a list of hazardous material sites compiled pursuant to California Government Code Section 65962.5 (CalEPA 2025). Additionally, based on review of the City's General Plan Update Draft Program Environmental Impact Report (PEIR), the City requires any development, redevelopment, or reuse on or next to any open hazardous materials sites to prepare an environmental site assessment to ensure a proposed project would not disturb hazardous materials and create a significant hazard to the public or environment. As the Project site is not on or next to any open hazardous materials site, this requirement would not apply to the Project. Therefore, the Project does not have the potential to create a significant hazard to the public or the environment due to presence of an existing hazardous materials site identified on the Cortese List. No impact would occur, and no mitigation is required.

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

No Impact. The Project site is not located within two miles of an airport. The nearest airport is the John Wayne Airport, which is located 5.6 miles southeast of the Project site. No impact would occur, and no mitigation is required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The City of Santa Ana Hazard Mitigation Plan (HMP) was prepared in response to the Disaster Mitigation Act of 2000 and aims to develop mitigation goals and objectives, address hazardous risks, and prepare implementation strategies (City

of Santa Ana 2022a). Additionally, the City has a Community Emergency Response Team Program which educates residents about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire suppression, light search and rescue, and disaster medical operations (City of Santa Ana 2023).

During construction activities, all construction staging areas would occur on-site and would be prohibited to occur on the street or within the public right-of-way. The Project would likely close lanes and temporarily alter traffic patterns along Hazard Avenue during construction. However, the Project would not completely close Hazard Avenue at any point. The Project would comply with all conditions set forth in the required Project specific Traffic Control Plan (TCP), which would be reviewed and approved by the City prior to initiation of construction activities. Therefore, with implementation of the required TCP, the temporary closure of a few lanes along Hazard Avenue would not result in a significant interference of emergency evacuation routes.

In the event an emergency evacuation route was needed, the Project could utilize nearby potential evacuation routes including residential streets (major arterials and divided collector arterials) which connect to the regional freeways/highways such as SR-22 located to the north.

In the long-term, the Project would provide access from a single driveway located along the south side of Hazard Avenue. This driveway would comply with the Orange County Fire Authority (OCFA) and City requirements including adequate fire vehicle access and would be utilized for emergency evacuation of the site. Operationally, the Project would not affect emergency response or emergency evacuation of adjacent land uses. Therefore, the Project would have less than significant impacts regarding interference with emergency response or evacuation plans during construction and operation, and no mitigation is required.

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

No Impact. The Project site is located in a highly urbanized area of the City, and there are no large, undeveloped areas and/or steep slopes on or near the site that may pose wildfire hazards. According to the California Department of Forestry and Fire Prevention (CAL FIRE), the Project site is located in an area that the State Fire Marshal has identified as having no Fire Hazard Severity Zone in Local Responsibility Area, per Government Code section 51178. In summary, the site and the surrounding areas are not located in designated Very High Fire Hazard Severity Zones (VHFHSZ) (CAL FIRE 2025). The Project would also be required to adhere to construction provisions as provided in the Municipal Code, the CBC, and California Fire Code. Implementation of the Project would not expose people or structures directly or indirectly to a significant risk of loss or death associated wildland fires. No impact would occur, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to hazards and hazardous materials; therefore, no mitigation measures are required.

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 ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including 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) substantially 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?	☐	☐	☒	☐

Introduction

CalLand Engineering, Inc. (CalLand Engineering) prepared a WQMP, dated May 9, 2024 (CalLand Engineering 2024a), and a Hydrology Study and Drainage Analysis (Hydrology Report), dated October 24, 2024 (CalLand Engineering 2024b), for the Project. The reports are included as Appendix D-1 and Appendix D-2, respectively.

Existing Setting

The Project site is within the Anaheim Bay Watershed. Under existing conditions, runoff from the site drains in a southwest direction toward the neighboring property. Runoff from neighboring properties in the vicinity generally drains west toward the existing storm drain system, which ultimately drains into the East Garden Grove Wintersburg Channel.

Impact Analysis

Would the Project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. Implementation of the Project would involve demolition of the existing residential buildings and associated site improvements, in addition to construction of the proposed residences, temple, and site improvements. Therefore, the Project has the potential to result in short-term construction impacts to surface water quality from demolition, grading, and construction-related activities. Stormwater runoff from the construction site would contain loose soils, organic matter, and sediments. Spills or leaks from heavy equipment and machinery, such as fuel, oil, and grease, and heavy metals, could also enter the runoff. Building construction would involve the use of hazardous materials (e.g., paints, solvents, cleansers) that, if not properly handled, may enter the stormwater runoff.

The Clean Water Act establishes a framework for regulating potential water quality impacts from construction activities, as well as new development and major redevelopment, through the NPDES program. Construction activities that disturb one acre or more of land are required to obtain an NPDES permit or coverage under the NPDES Construction General Permit. As the Project would disturb approximately 2.5 acres, coverage under the Construction General Permit is required. In compliance with the Construction General Permit, during construction, the Project would implement various erosion and sediment controls, pollution prevention measures, and stabilizing controls outlined in the Project-specific SWPPP, in addition to BMPs contained in the Project-specific WQMP, to reduce stormwater pollutants to the maximum extent practicable. Through compliance with the NPDES General Construction Permit, including implementation of all BMPs as outlined in the Project-specific SWPPP, the Project would not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade surface or groundwater quality during construction.

Stormwater pollutants generated by the Project in the long-term would include sediment, trash and debris, oil and grease, bacterial indicators, nutrients, and pesticides from landscaped areas and pet waste, metal roofing, cars, drive aisles, and parking areas. In accordance with the NPDES program, a WQMP has been prepared for the Project in compliance with the requirements of the County of Orange NPDES Stormwater Program. The WQMP is subject to City review and approval prior to construction and operation of the Project. The WQMP includes low impact development (in the form of an underground infiltration basin and catch basin insert systems), non-structural BMPs, and source control BMPs. Additionally, the use of hazardous materials (e.g., cleaning solvents, pesticides, fertilizers, paint, oil, and grease) would be in limited quantities and in accordance with existing regulations, as discussed in Section 4.9, Hazards and Hazardous Materials. Therefore, with implementation of these features and BMPs, the Project would not result in significant soil, surface water, or groundwater contamination during operations. As such, the Project would not violate water quality standards or waste discharge requirements or

otherwise substantially degrade surface or ground water quality during construction or operations. Impacts would be less than significant, and no mitigation is required.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project impedes sustainable groundwater management of the basin?

Less than Significant Impact. The Project would increase the amount of impervious area from existing conditions. The Project would install an underground infiltration basin designed to capture stormwater and allow it to percolate into the underlying groundwater aquifer. Rather than depleting groundwater, this feature would enhance local groundwater recharge by increasing percolation in an area that otherwise contributes runoff to the storm drain system. The proposed infiltration basin would be constructed in accordance with the applicable City and Orange County Public Works standards and would not extract groundwater for its operation. The Project Hydrology Study and WQMP indicate that the infiltration basin would not significantly alter existing groundwater levels or affect long-term sustainable yield of the underlying aquifer. The Project would support sustainable groundwater management objectives by promoting localized recharge consistent with the Santa Ana River Basin Groundwater Management Plan. Therefore, the Project would not substantially decrease groundwater supplies or interfere with recharge, and impacts would be less than significant. No mitigation is required.

c) Substantially alter the existing drainage pattern of the site or area, including 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;

Less than Significant Impact. As indicated in Response 4.10a, the Project would be required to comply with all BMPs as outlined in the WQMP and SWPPP, which were prepared in compliance with the NPDES program. Compliance with the WQMP and SWPPP would provide erosion control, sediment control, tracking, waste management, and construction site maintenance BMPs to reduce the potential for soil and wind erosion during construction activities. With compliance with the required WQMP and BMPs, construction-related erosion would be less than significant, and no mitigation is required.

As stated above, under existing conditions, stormwater runoff from the site flows in southwest direction toward the neighboring property, which then drains westerly toward the existing storm drain system, ultimately draining into the East Garden Grove Wintersburg Channel. Under proposed conditions, the Project would install an underground infiltration basin underneath the proposed private two-way street to mitigate the stormwater generated on the Project site before overflowing to the southwest in the neighboring property. Stormwater will be routed from the proposed single-family homes into the private street where it will be collected into a sump pump which will pump the stormwater into the existing stormwater system in Hazard Avenue. Stormwater from the proposed religious temple will drain to the west into Morse Street. Although the drainage pattern would be altered and the Project would generate larger flow than existing conditions, the proposed

underground infiltration would mitigate 100 percent of the Project-generated flow, and the Project would not result in additional erosion or siltation.

Additionally, the proposed underground infiltration basin, which would include a Flo-Gard Filter on the proposed catch basin as pre-treatment, would mitigate the 85th percentile, 24-hour storm event. The proposed Project's stormwater capture and detainment system would prevent runoff from substantial erosion or siltation on or off site. As such, the Project would not result in substantial erosion or siltation during operations. Operation-related erosion would be less than significant, and no mitigation is required.

ii) substantially 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

Less than Significant Impact. As stated above, the Project would install an underground infiltration basin which would be designed to mitigate 100 percent of the stormwater flow generated by the Project. Under proposed conditions, the Project site would be divided into two drainage areas: Area A-1, which includes the 12 single-family residences, private street, and associated improvements; and Area A-2, which includes the religious temple lot. Area A-1 would drain southernly along the private street where it would be collected into a sump pump and directed into the existing system along Hazard Avenue, and Area A-2 would drain westerly into Morse Street. Although the Project would result in increased flows compared to existing conditions due to the associated increase in impervious surface, the underground infiltration basin would reduce Project-generated flows and ensure the post-development runoff would be less or equal to the pre-development runoff volume. As such, the proposed changes resulting from the Project site would not substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or offsite or exceed capacity of existing or planned stormwater drainage systems. Impacts would be less than significant, and no mitigation is required.

iv) impede or redirect flood flows?

Less than Significant Impact. The Federal Emergency Management Agency (FEMA) has prepared flood insurance rate maps for use in administering the National Flood Insurance Program. The Project site is included on FEMA Flood Map Panel No. 06059C143J, Flood Zone A (Special Flood Hazard Areas) without a Base Flood Elevation, meaning that the site is within the 1 percent annual chance (100-year) floodplain (CalLand Engineering 2024a). To reduce potential impacts associated with being located in the 100-year floodplain, and as stated in the WQMP, the lowest finish floor elevation of the proposed Project structures would be designed to be one foot above the highest adjacent grade. As stated above, stormwater runoff would be conveyed to catch basins and an underground infiltration basin sized to retain stormwater for storm events, then pumped out onto curbs and gutters off Morse Street and West Hazard Avenue. This would reduce the potential for flooding to occur as a result of the Project. Therefore, the Project would not result in a significant impact

associated with impeding or redirecting flood flows. Impacts would be less than significant, and no mitigation is required.

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

Less than Significant Impact. As previously stated, the Project is within the 100-year floodplain without a Base Flood Elevation; however, Project structures would be constructed to be one foot above the highest adjacent grade to reduce potential risks associated with flood hazards. Through design features and compliance with the Project-specific WQMP, the potential for the Project to result in the release of pollutants due to Project inundation would be less than significant.

Tsunamis are waves generated by massive landslides near or under sea water. The site is not located on any State of California – County of Orange Tsunami Inundation Map for Emergency Planning. The potential for the site to be adversely impacted by earthquake-induced tsunamis is considered to be negligible due to the distance from the site to the shore of the Pacific Ocean. Seiches are standing wave oscillations of an enclosed water body after the original driving force has dissipated. The potential for the site to be adversely impacted by earthquake-induced seiches is considered to be low due to the lack of any significant enclosed bodies of water located in the vicinity of the site. There are no hillside areas on site or in the surrounding area that could generate mudflow. As a result, no impacts related to seiche, tsunami, or mudflow would occur.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. The Project Site is not located within an Orange County Water District (OCWD) designated groundwater recharge facility. The Project would not conflict or obstruct the County's NPDES program, Urban Water Management Plan (UWMP), or Orange County Stormwater Resource Plan. The Proposed Project would include an on-site underground infiltration basin system and would not significantly alter drainage patterns on-site. The Project would additionally comply with the WQMP, which includes BMPs that are a part of the proposed Project design and work to ensure the reduction of pollutants from construction and operation activities entering surface waters. Therefore, potential impacts associated with the conflict or obstruction of implementing a water quality control plan or sustainable groundwater management plan would be less than significant, and no mitigation would be required.

Mitigation Measures

Project implementation would not result in significant impacts related to hydrology and water quality; therefore, no mitigation measures are required.

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

Would the Project:

a) Physically divide an established community?

Less Than Significant Impact. One of the primary factors in considering division of an established community is whether the project would create any physical barriers that change the connectivity between areas of a community. As stated in Section 2.0, Project Description, the Project site is located within a highly urbanized portion of the City of Santa Ana, which primarily includes single-family and multi-family residential uses. The Project site is bound by West Hazard Avenue to the north; single-family residences to the east and south; and Morse Drive to the west. Other dominant land uses within the Project vicinity include multi-family residences located to the east and south; a catholic church and Hazard Elementary School located to the west; and commercial car dealerships located to the east. The Project would demolish three existing single-family residences, which are all currently occupied, and develop the site with 12 single-family homes (APNs 100-261-19, -20) and a 3,500 SF religious temple (APN 100-261-18). The proposed residential and temple uses would be consistent with surrounding uses which include a mix of single- and multi-family residential and institutional uses and would not create any physical barriers or connectivity issues. Additionally, the Project would improve pedestrian access to and from the site through the provision of sidewalks along West Hazard Avenue and the proposed private street. Therefore, the Project would not divide or disrupt the physical arrangement of the existing adjacent residential neighborhoods. Impacts would be less than significant, and no mitigation is required.

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?

Less than Significant Impact. The Project would construct 12 single-family homes and a religious temple within the City of Santa Ana. Local plans and programs relevant to the Project and the consistency of the proposed Project with these plans and programs are discussed below.

SCAG RTP/SCS

With respect to regional planning, SCAG is the Metropolitan Planning Organization (MPO) for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. As the designated MPO, the federal government mandates SCAG to prepare plans for growth management, transportation, air quality, and hazardous waste management. In addition, SCAG reviews projects of regional significance for consistency with the existing regional plans. SCAG's regional planning programs, including the Regional Comprehensive Plan (RCP), Regional Housing Needs Assessment (RHNA), and Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), are not directly applicable to the proposed Project because the Project is not of Statewide, regional or area-wide significance, as defined by Section 15206 of the CEQA Guidelines. As such, the Project would not conflict with the RTP/SCS.

City of Santa Ana General Plan

The City of Santa Ana General Plan is a comprehensive, long-range policy document that guides the City's growth and development over multiple decades. It establishes the framework for land use, identifying where residential, commercial, industrial, institutional, and open space uses are appropriate, while promoting compatibility among different types of development. The plan also provides policies for circulation and transportation, including roadways, bicycle and pedestrian facilities, transit, and parking, ensuring connectivity within the City and coordination with regional transportation systems. In addition, the General Plan addresses public safety and hazard mitigation, environmental protection, sustainability, and the provision of community services and infrastructure such as parks, schools, and libraries. Overall, the General Plan provides the legal and policy framework for decision-makers, City staff, and developers to guide development in a safe, sustainable, and organized manner that reflects the community's goals and priorities.

An evaluation of the Project's consistency with applicable goals, policies, and actions of the General Plan is provided in following Table 4-15, Proposed Project General Plan Consistency Analysis.

TABLE 4-15
PROPOSED PROJECT GENERAL PLAN LAND USE ELEMENT
CONSISTENCY ANALYSIS

General Plan Goal		Consistency Analysis
Goal LU-1: Growing Responsibility		
Policy LU-1.8	DEVELOPMENT TRADEOFFS: Ensure that new development projects provide a net community benefit.	**Consistent**. The Project would provide a community-serving religious temple as well as 12 new single-family homes, contributing to housing supply. The inclusion of landscaped areas, private open space, and a community garden would enhance neighborhood amenities, resulting in a net community benefit. Therefore, the Project would be consistent with this Policy.
Goal LU-3 – Compatibility of Uses		
Policy LU-3.1	COMMUNITY BENEFITS: Support new development which provides a net community benefit and contributes to neighborhood character and identity.	**Consistent**. As mentioned above, the Project would introduce a religious temple and new housing that strengthen the neighborhood's character and identity. The addition of landscaped areas, private open space and a community garden would further provide amenities that benefit residents and the broader community. Therefore, the Project would be consistent with this Policy.
Policy LU 3.4	COMPATIBLE DEVELOPMENT: Ensure that the scale and massing of new development is compatible and harmonious with the surrounding built environment.	**Consistent**. As stated in Section 4.1, Aesthetics, the Project would develop 12 two-story single-family homes and a two-story temple building with maximum heights of 26 feet and 35 feet, respectively, to the top of the roof. In designing the proposed development, consideration was given to scale, massing, and architecture of the Project to ensure that it complements the existing buildings within the surrounding development. The Project would primarily incorporate neutral tones along the outer facades, which would involve materials such as plaster, stucco, brick, wood, and metals. In addition, the Project is located within an area characterized partially by residential uses with institutional uses nearby. Therefore, the Project would be consistent with this Policy.
Goal LU-4 – Complete Communities		
Policy LU-4.1	COMPLEMENTARY USES: Promote complete neighborhoods by encouraging a mix of complementary uses, community services, and people places within a walkable area.	**Consistent.** The Project includes a mix of residential homes and a religious temple, providing both housing and community-serving uses within a walkable neighborhood. Landscaped areas, a community garden, and pedestrian connections further support active, people-oriented spaces. Therefore, the Project is consistent with this policy.

TABLE 4-15
PROPOSED PROJECT GENERAL PLAN LAND USE ELEMENT
CONSISTENCY ANALYSIS

General Plan Goal		Consistency Analysis
Policy LU 4.2	PUBLIC REALM: Maintain and improve the public realm through quality architecture, street trees, landscaping, and other pedestrian-friendly amenities.	**Consistent**. As discussed above, the Project would provide neutral tones among the outer facades and involve materials such as plaster/stucco, wood, brick, and metals. Architectural design was considered to ensure Project complements the existing buildings within the surrounding development. Additionally, the Project would provide landscaping features and construct a sidewalk fronting West Hazard Avenue and the proposed private street to ensure pedestrian-friendly environment. Therefore, the Project would be consistent with this Policy.
Policy LU-4.3	SUSTAINABLE LAND USE STRATEGIES: Encourage land uses and strategies that reduce energy and water consumption, waste and noise generation, soil contamination, air quality impacts, and light pollution.	**Consistent**. The Project would incorporate outdoor water conservation measures such as the installation of a drip irrigation system and drought-resistant plants to optimize water usage. Additionally, the Project would include solar panels to reduce energy consumption. All Project lighting would be subject to the City of Santa Ana Design Guidelines, which outlines lighting standards for residential and institutional projects and includes direction on minimizing glare onto adjoining properties. All on-site lighting would be shielded and directed so that no lighting trespasses onto the adjacent properties. Overall, Project impacts related to energy and water consumption, waste and noise generation, soil contamination, air quality impacts, and light pollution, as analyzed in this IS/MND, would be less than significant or less than significant with mitigation incorporated. Therefore, the Project would be consistent with this Policy.
Policy LU-4.5	VMT REDUCTION: Concentrate development along high-quality transit corridors to reduce vehicle miles traveled (VMT) and transportation-related carbon emissions.	**Consistent**. The Project is located along West Hazard Avenue, which is classified as a Divided Collector Arterial. As such, the location of the proposed Project is within a high-quality transit corridor. As discussed further in Section 4.17, Transportation, the Project would be screened out of a VMT Analysis. Therefore, the Project would be consistent with this Policy.
Policy LU-4.6	HEALTHY LIVING CONDITIONS: Support diverse and innovative housing types that improve living conditions and promote a healthy environment.	**Consistent**. The Project includes the development of 12 single-family residential units and a 3,500-SF religious temple. Approximately 69 percent of the total net buildable site area would be dedicated to open space areas, including a community garden, to serve future Project residents. Therefore, the Project is consistent with this policy.

TABLE 4-15
PROPOSED PROJECT GENERAL PLAN LAND USE ELEMENT
CONSISTENCY ANALYSIS

General Plan Goal		Consistency Analysis
Goal CM-1: Recreation and Culture		
Policy CM-1.6	RECREATION ON PRIVATE PROPERTY: Promote the development and use of privately-owned recreation and entertainment facilities that help meet the needs of Santa Ana residents.	**Consistent.** The Project would include approximately 55,566 SF of open space areas, including a community garden, which represents approximately 69 percent of the overall net buildable site area. Therefore, the Project is consistent with this Policy.
Policy CM-1.8	DEVELOPER INVOLVEMENT: Promote developer participation in the provision of community facilities to meet the recreational needs of residents.	**Consistent.** As discussed above, the Project would include the provision of community facilities to meet the recreational demands of future Project residents. Therefore, the Project is consistent with this Policy.
Goal CM-3: Active Living and Well-Being		
Policy CM-3.2	HEALTHY NEIGHBORHOODS: Continue to support the creation of healthy neighborhoods by addressing public safety, land use conflicts, hazardous soil contamination, incompatible uses, and maintaining building code standards	**Consistent.** The Project would adhere to all applicable regulations related to public safety, land use, hazards, and building code standards. Therefore, the Project is consistent with this Policy.
Goal M-4: Transportation, Land Use, and Design		
Policy M-4.4	FAIR SHARE IMPACTS: Ensure that all development projects pay their fair share of the system improvements necessary to accommodate the transportation needs of their projects.	**Consistent.** The Project would be required to pay all fair share fees to accommodate the needs of the Project. Therefore, the Project is consistent with this Policy.
Policy M-4.5	LAND USE DEVELOPMENT DESIGN: Ensure that building placement and design features create a desirable and active streetscape, by prioritizing pedestrian access directly from the street and placing parking lots to the rear of a development site.	**Consistent.** As previously discussed, the Project would include sidewalks along West Hazard Avenue and the proposed private street to facilitate pedestrian access to the site. Both residential and religious temple components would be directly accessible by pedestrians from West Hazard Avenue. Parking areas would not front public streets and would be contained within the site with landscaping features separating parking areas from public streets. As such, the Project is consistent with this Policy.

TABLE 4-15
PROPOSED PROJECT GENERAL PLAN LAND USE ELEMENT
CONSISTENCY ANALYSIS

General Plan Goal		Consistency Analysis
Goal M-5: Sustainable Transportation Design		
Policy M-5.3	TRAVEL VIEWS: Promote the undergrounding of utilities and the reduction of visual clutter along travelways.	**Consistent.** All new utilities proposed as part of the Project would be installed underground. Additionally, the Project would convert all existing overhead utility lines and power poles located along the site frontage on Hazard Avenue to underground utilities per SAMC Section 34-82. As such, the Project is consistent with this Policy.
Goal PS-1: Public Facilities		
Policy PS-1.10	FAIR SHARE: Require that new development pays its fair share of providing improvements to existing or creating new public facilities and their associated costs and services.	**Consistent.** The Project would be required to pay all fair share fees to accommodate the needs of the Project. Therefore, the Project is consistent with this Policy.
Policy PS-1.11	SAFETY: Remove actual and perceived safety concerns that create barriers to physical activity by requiring adequate lighting, street visibility, and areas of clear connectivity, especially for new projects or improvements within environmental justice area boundaries.	**Consistent.** The Project would include exterior street and building lighting, including two new streetlighting along West Hazard Avenue, to ensure adequate visibility and safety of future Project residents. Additionally, the Project would provide sidewalks along the proposed private street, as well as the portion of West Hazard Avenue connecting to the private street, to facilitate pedestrian connectivity. As such, the Project is consistent with this Policy.
Goal PS-3: Utility Infrastructure		
Policy PS-3.5	GREEN INFRASTRUCTURE: Incorporate sustainable design and Low Impact Development (LID) techniques for stormwater facilities and new development to achieve multiple benefits, including enhancing, preserving, and creating open space and habitat; reducing flooding; and improving runoff water quality.	**Consistent.** The Project would incorporate LID features through installation of a proposed underground infiltration basin and catch basin filter to reduce flooding and improve runoff water quality. As such, the Project is consistent with this Policy.
Policy PS-3.12	SEWER AND WATER: Maintain and upgrade sewer and water infrastructure through impact fees from new development and explore other funding sources.	**Consistent.** The Project would be required to pay all required utility impact fees. Therefore, the Project is consistent with this Policy.

TABLE 4-15
PROPOSED PROJECT GENERAL PLAN LAND USE ELEMENT
CONSISTENCY ANALYSIS

General Plan Goal		Consistency Analysis
Goal OS-1: Parks, Open Space, and Recreation		
Policy OS-1.9	NEW DEVELOPMENT: Require all new development to provide adequate parks and open space, including via parkland dedication or development fees, in order to meet the City's park standard. Ensure that new development includes pedestrian and multi-modal travelways to promote a quality living environment. For new development within park deficient and environmental justice areas, prioritize the creation and dedication of new public parkland over the collection of impact fees.	**Consistent.** The Project would provide 55,566-SF of open space, including a community garden, which represents approximately 69 percent of the total net buildable site area. The Project would also include facilities to enhance pedestrian connectivity within and surrounding the site. Therefore, the Project is consistent with this Policy.
Goal N-2: Noise Generators		
Policy N-2.3	TEMPORARY AND/OR NUISANCE NOISE: Minimize the effects of intermittent, short-term, or other nuisance noise sources.	**Consistent.** The Project includes measures to mitigate potential temporary noise and vibration impacts during construction, including MM NOI-1, which would erect a temporary noise barrier along the west and east Project site boundary, and MM NOI-1, which would require construction contractors to restrict operation of vibratory rollers. Therefore, the Project is consistent with this Policy.
Goal S-1: Flood Safety		
Policy S-1.8	DEVELOPMENT IN FLOOD ZONE: Continue to implement federal, state, and regional requirements related to new construction in flood-plain areas to ensure that future flood risks to life and property are minimized.	**Consistent.** The Project would adhere to all federal, State, and regional requirements related to flood hazards, and would include measures to reduce potential risks associated with flood hazards. Therefore, the Project is consistent with this Policy.
Goal S-3: Geologic and Seismic Hazards		
Policy S-3.2	SEISMIC AND GEOTECHNICAL STANDARDS: Ensure that all new development abides by the current City and state seismic and geotechnical requirements and that projects located in areas with potential for geologic or seismic hazards prepare a hazards study.	**Consistent.** The Project would comply with all current City and State seismic and geotechnical requirements. The Project Applicant is required to submit a site-specific seismic hazards study to the City for review and approval, and all recommendations provided in the study would be incorporated into Project design and construction. Therefore, the Project is consistent with this Policy.

TABLE 4-15
PROPOSED PROJECT GENERAL PLAN LAND USE ELEMENT
CONSISTENCY ANALYSIS

General Plan Goal		Consistency Analysis
Goal HE-1: Housing and Neighborhoods		
Policy HE-1.3	COMPLETE NEIGHBORHOODS: Improve neighborhood quality by locating or providing access to complementary services and public facilities, including the integration of community gardens and access to healthy food options in neighborhoods.	**Consistent.** As mentioned above, the Project would provide 55,566-SF of open space, including a community garden, which would be fully accessible by future Project residents. Therefore, the Project is consistent with this Policy.
Goal HE-2: Housing Supply and Diversity		
Policy HE-2.6	HOUSING DESIGN: Require excellence in architectural design through the use of materials and colors, building treatments, landscaping, open space, parking, and environmentally sensitive ("green") building and design practices.	**Consistent.** The Project has been designed in accordance with all applicable City design standards. As previously discussed, the Project would primarily incorporate neutral tones along the outer facades, which would utilize stucco, brick, wood, and metal. Decorative panels and moldings will also be incorporated in the architectural design of the temple building. The Project would provide landscaping throughout the site and primarily along the perimeter of the proposed private street and West Hazard Avenue and areas adjacent to the proposed temple. The Project would consist of a hierarchy of plant materials including trees, shrubs, and groundcover throughout the Project site, as shown in Exhibit 3-1, Landscaping Plan. Therefore, the Project would be consistent with this Policy.
Goal UD-1: Physical Character		
Policy UD-1.1	DESIGN QUALITY: Ensure all developments feature high quality design, materials, finishes, and construction.	**Consistent.** The Project has been designed in accordance with all applicable City design standards. As previously discussed, the Project would primarily incorporate neutral tones along the outer facades, which would utilize stucco, brick, wood, and metal. Decorative panels and moldings will also be incorporated in the architectural design of the temple building. Therefore, the Project would be consistent with this Policy.
Policy UD-1.4	SAFETY THROUGH DESIGN: Incorporate public safety design features into private and public developments to prevent loitering, vandalism, and other undesirable activities.	**Consistent.** The Project would be managed by an HOA which would contribute to safety by maintaining common areas, implementing security measures and surveillance, and establishing rules and procedures for community safety. The Project would include exterior building and street lighting to facilitate visibility and community safety. Therefore, the Project is consistent with this Policy.

TABLE 4-15
PROPOSED PROJECT GENERAL PLAN LAND USE ELEMENT
CONSISTENCY ANALYSIS

General Plan Goal		Consistency Analysis
Policy UD-1.7	VISUAL CLUTTER: Promote the beautification and accessibility of the public realm through the undergrounding of utility lines and aboveground equipment.	**Consistent.** As discussed above, all new utilities proposed as part of the Project would be installed underground. Additionally, the Project would convert all existing overhead utility lines and power poles located along the site frontage on Hazard Avenue to underground utilities per SAMC Section 34-82. As such, the Project is consistent with this Policy.
Goal UD-2: Sustainable Environment		
Policy UD-2.5	RELATION TO SURROUNDINGS: Ensure new development exhibits a functional, comfortable scale in relation to its neighborhood.	**Consistent.** The Project would be similar in scale and consistent in use to the surrounding existing uses. Therefore, the Project is consistent with this Policy.
Policy UD-2.8	INNOVATIVE DEVELOPMENT STRATEGIES: Explore development and subdivision options that promote new opportunities for sustainable, livable, and affordable development.	**Consistent.** The Project consists of a residential subdivision and incorporates sustainable design features to support overall community well-being. Therefore, the Project is consistent with this Policy.
Policy UD-2.10	GREENING THE BUILT ENVIRONMENT: Promote planting of shade trees and require, where feasible, preservation and site design that uses appropriate tree species to shade parking lots, streets, and other facilities, with the goal of reducing the heat island effect.	**Consistent.** Approximately 69 percent of the total overall net buildable site area would be used for open space, including a community garden. The Project would incorporate landscaping throughout the site and primarily along the perimeter of the proposed private street and West Hazard Avenue and areas adjacent to the proposed temple. Proposed landscaping would include a hierarchy of plant materials including trees, shrubs, and groundcover throughout the Project site, as shown in Exhibit 3-1, Landscaping Plan. Therefore, the Project is consistent with this Policy.
Policy UD-2.11	SUSTAINABLE PRACTICES: Encourage sustainable development through the use of drought-tolerant landscaping, permeable hardscape surfaces, and energy-efficient building design and construction.	**Consistent.** The Project would include drought-tolerant landscaping, permeable hardscaped surfaces, and energy-efficient building design and construction, as discussed in Section 4.6, Energy. Therefore, the Project is consistent with this Policy.
Source: City of Santa Ana 2022e through 2022m.		

As demonstrated in Table 4-15, the Project would be consistent with the applicable goals policies of the General Plan, and no conflict would occur.

Santa Ana Municipal Code

The City of Santa Ana Municipal Code is a collection of ordinances adopted by the City Council that serves as the law of the City, including development standards (i.e., setbacks, building height, site coverage, parking, and sign requirements) and zoning, that identifies the corresponding permitted, conditionally permitted, and prohibited land uses.

The Project site is currently zoned SD-53 (Specific Development), and the Project includes a Zoning Ordinance Amendment to modify the SD-53 to reduce the number of single-family lots permitted from seventeen to twelve; introduce a Conditional Permitted Use section to include Religious Facility as a conditionally permitted use; and establish development standards for both the temple and residential uses. In addition, the Project would request a CUP to permit construction and operation of a religious facility within the SD-53 Zoning District. The Project would be required to meet all development standards and would apply for ministerial permits through the City, including a demolition permit, landscape permit, grading permit, building permits and occupancy permits. With approval of the Zone Ordinance Amendment and CUP, the proposed Project would be consistent with the Santa Ana Municipal Code. As such, the Project would not conflict with the Municipal Code.

Therefore, the Project would not cause a significant environmental impact, as the Project would not conflict with any applicable land use plan, policy, or regulation. Impacts would be less than significant, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to land use and planning; therefore, no mitigation measures are required.

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

Would the Project:

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

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?

No Impact. The CGS designates Mineral Resources Zones (MRZs) according to the presence of, or potential for underlying mineral resources. MRZ-1 is an area with no significant mineral deposits; MRZ-2 is an area with significant mineral deposits; and MRZ-3 is an area containing known mineral resources of undetermined significance. The Project site is designated by the CGS as MRZ-3 (City of Santa Ana 2021a). As stated in Section 5.11, Mineral Resources, of the City's General Plan Update, Updated Draft Program EIR, the only area within the City where significant mineral resources are known and/or very likely (MRZ-2) is a small area in the northeast corner of the City, approximately 3.2 miles northeast of the Project site (City of Santa Ana 2021a).

The Project site is developed with residential buildings, and there are no mining activities or mineral extraction uses near the Project site. Based on review of the California Division of Mine Reclamation's (DMR) Mines Online mapping application, there are no active or inactive mines on or near the Project site (DMR 2025). Thus, the Project would not result in the loss of availability of locally-important mineral resources. No impacts would occur, and no mitigation is required.

There are no past or ongoing oil or gas drilling activities on or near the site. Review of the California Geologic Energy Management Division's (CalGEM) Well Finder shows no oil or gas wells are located on the Project site or in the vicinity of the site (CalGEM 2025). Additionally, the City of Santa Ana is not known to lie above an oil or gas field, and no oil or gas exploration drilling operations have taken place in the City since 1956, which did not yield any oil (City of Santa Ana 2021a). Therefore, redevelopment of the site would not result in the loss of availability of regional mineral resources. No impacts would occur, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to mineral resources; therefore, no mitigation is required.

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 two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Introduction

An analysis of potential noise and vibration impacts associated with the proposed Project was conducted and the results are presented below. The noise and vibration calculations are included as Appendix E to this IS/MND.

Noise and Vibration Concepts

Noise

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

Sound pressure levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale. A doubling of the energy of a noise source (such as doubling of traffic volume) would increase the noise level by 3 dB. The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale was devised; the A-weighted decibel scale (dBA) approximates the frequency response of the average healthy ear when listening to most ordinary everyday sounds and is used in this analysis.

Human perception of noise has no simple correlation with acoustical energy. Due to subjective thresholds of tolerance, the annoyance of a given noise source is perceived very differently from person to person. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at 3 feet is approximately 60 dBA, while loud jet engine noises at 1,000 feet equate to 100 dBA, which can cause serious discomfort.

Table 4-16, Noise Levels for Common Events, shows the relationship of various noise levels in dBA to commonly experienced noise events.

TABLE 4-16
NOISE LEVELS FOR COMMON EVENTS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet fly-over at 300 m (1,000 ft)	100	
Gas lawn mower at 1 m (3 ft)	90	
Diesel truck at 15 m (50 ft) at 80 km/hr (50 mph)	80	Food blender at 1 m (3 ft); garbage disposal at 1 m (3 ft)
Noisy urban area, daytime gas lawn mower at 30 m (100 ft)	70	Vacuum cleaner at 3 m (10 ft)
Commercial area, heavy traffic at 90 m (300 ft)	60	Normal speech at 1 m (3 ft)
Quiet urban daytime	50	Large business office, dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural nighttime	20	Bedroom at night, concert hall (background)
	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing
dBA: A-weighted decibels; m: meter; ft: feet; km/hr: kilometers per hour; mph: miles per hour Source: Caltrans 2013.		

Two equal noise sources, when heard together, do not "sound twice as loud" as one of the sources. As stated above, a doubling of noise sources results in a noise level increase of 3 dB. It is widely accepted that (1) the average healthy ear can barely perceive changes of a 3 dB increase or decrease; (2) a change of 5 dB is readily perceptible; and (3) an increase (decrease) of 10 dB sounds twice (half) as loud (Caltrans 2013).

From the source to the receiver, noise changes both in the level and frequency spectrum. The most obvious change is the decrease in noise level as the distance from the source increases. Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. For point sources, such as heating, ventilation, and air conditioning (HVAC) units or construction equipment, the sound level attenuates (or drops off) at a rate of 6 dB for each doubling of distance (i.e., if the noise level is 70 dBA at 25 feet, it is 64 dBA at 50 feet). Vehicle movement on a road makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The sound level attenuates or drops off at a rate of 3 dB per doubling of distance for line sources.

A large object in the path between a noise source and a receiver can significantly attenuate noise levels at that receiver location. The amount of attenuation provided by this "shielding"

depends on the size of the object and the frequencies of the noise levels. Natural terrain or landform features as well as man-made features (e.g., buildings and walls) can significantly alter noise exposure levels. For a noise barrier to work, it must be high enough and long enough to block the view from the receiver to a road or to the noise source. Effective noise barriers can reduce outdoor noise levels at the receptor by up to 15 dB.

Several rating scales (or noise "metrics") exist to analyze effects of noise on a community. These scales include the equivalent noise level (L_{eq}), including L_{max} and L_{min}, which are respectively the highest and lowest A-weighted sound levels that occur during a noise event, and the Community Noise Equivalent Level (CNEL). Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, which is the equivalent noise level for that period of time. The period of time averaging may be specified; for example, $L_{eq(3)}$ would be a three-hour average. Noise of short duration (i.e., substantially less than the averaging period) is averaged into ambient noise during the period of interest. Thus, a loud noise lasting many seconds or a few minutes may have minimal effect on the measured sound level averaged over a one-hour period.

To evaluate community noise impacts, CNEL was developed to account for human sensitivity to nighttime noise. CNEL represents the 24-hour average sound level with a penalty for noise occurring at night. The CNEL computation divides a 24-hour day into three periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening sound levels are assigned an approximately 5-dB penalty, and the nighttime sound levels are assigned a 10-dB penalty prior to averaging with daytime hourly sound levels.

Vibration

Vibration is an oscillatory motion through a solid medium in which the amplitude of the motion can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is described as the velocity, and the rate of change of the speed is described as the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction of a project, the operation of construction equipment can cause ground borne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure. Analysis of this type of vibration is best measured in velocity and acceleration.

The three main wave types of concern in the propagation of groundborne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

- Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding cylindrical wave front, similar to the ripples produced by

throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation (known as retrograde elliptical).

- Compression or P-waves are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.
- Shear or S-waves are also body waves, carrying their energy along an expanding spherical wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

The peak particle velocity (PPV) or the root mean square (rms) velocity is usually used to describe vibration amplitudes. The PPV is defined as the maximum instantaneous peak of the vibration signal and the rms is defined as the square root of the average of the squared amplitude of the signal. The PPV is more appropriate for evaluating potential building damage and also used for evaluating human response.

The units for PPV are normally inches per second (in/sec). Often, vibration is presented and discussed in VdB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV velocity levels are in in/sec and all vibration levels are in VdB relative to one microinch per second.

The threshold of human perception is approximately 0.3 in/sec PPV. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Manmade vibration problems are, therefore, usually confined to short distances (500 feet or less) from the source.

Construction generally includes a wide range of activities that can generate groundborne vibration. In general, blasting and demolition of structures and pile driving generate the highest vibrations. Heavy trucks can also generate groundborne vibrations, which vary depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, differential settlement of pavement, and other anomalies all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration of normal traffic on streets and freeways with smooth pavement conditions (FTA 2018).

Existing Setting

The existing noise environment in the Project area is primarily influenced by traffic noise on nearby roads. The roadway contributing the most noise to the Project site is Hazard Avenue. The nearest major arterial is North Harbor Boulevard, located approximately 750 feet east of the Project site. For the purpose of this noise analysis, the study area includes the Project site, the areas immediately adjacent to the Project site, and the land uses adjacent to the roadway segments where the Project adds vehicular trips to the roadway system.

Sensitive Receptors

The State of California defines noise-sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions (State of California 2017). The land use categories requiring the lowest noise thresholds are schools, libraries, churches, hospitals, and residences. Schools, libraries, churches, hospitals, and residences proximate to the Project site are referred to as the Project's "noise sensitive receptors" due to sensitivity of these uses to noise exposure.

The Project site is located in the midst of a residential neighborhood and is surrounded on all sides by residential uses. The buildings and structures that immediately adjoin the Project site to its east and west are single-family residential uses. Areas to the north, across Hazard Avenue, also consist of single-family residential land uses. Town & Country Villa is a mobile home park located immediately south of the Project site. Other sensitive receptors in the vicinity of the Project site include the Iglesia de Dios Casa de Refugio Santa Ana church, located 170 feet to the west and Hazard Elementary School, located approximately 290 feet further west of the Project site.

Existing Noise Environment

Psomas conducted short-term and 24-hour ambient noise monitoring at five locations representing the adjoining sensitive land uses around the Project site on March 25 and March 26th, 2025. Exhibit 5 shows the selected noise measurement locations. One continuous 24-hour noise measurement was conducted at monitoring location 1 using a SoftdB Piccolo II sound level meter (SLM). and two sets of short-term (20 minutes each) noise measurements were conducted at each of the four short-term monitoring locations using a Larson Davis Laboratories Model 831 SLM and a Larson Davis LxT1 SLM. The measurement microphones were placed approximately five feet above the local ground and equipped with windscreens. The SLMs were set to "A"-weighted decibel reading and a time response of "slow."

The meteorological conditions were documented at the time of the noise monitoring. Overall, the sky was overcast at the time of the noise monitoring, temperatures ranged from 58 to 75 degrees Fahrenheit (^{o}F), with relative humidity measured at 65 to 85 percent. There was a light breeze with wind speeds varying from one to four miles per hour. Table 4-17, Existing Measured Short-Term Noise Levels, summarizes the results of the short-term noise monitoring.



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Noise Monitoring Locations

Exhibit 5

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

PSOMAS

(Rev: 11-21-2025 PLO) R:\Projects\SAN05 Sta. Ana\3SAN050102 - Bella Terra\Graphics\ISMND\ex_Noise_Monitoring.pdf

TABLE 4-17
EXISTING MEASURED SHORT-TERM NOISE LEVELS

Noise Monitoring Location Description	Primary Noise Sources	Measurement Star/End Time	Measured Noise Levels (dBA)		
			L_{eq}	L_{min}	L_{max}
Location 2: Southern Portion of the Project site	Distant traffic, distant aircraft overflights, distant barking dogs, birds	Start: 9:24 AM End: 9:44 AM	45.6	39.3	59.3
		Start: 9:57 AM End: 10:17 AM	46.3	40.6	62.4
Location 3: West side of Project site, next to 721 Morse Drive	Distant traffic, distant aircraft overflights, distant barking dogs, birds	Start: 10:05 AM End: 10:25 AM	48.6	40.5	60.7
		Start: 10:34 AM End: 10:54 AM	45.9	41.6	56.8
Location 4: North Side of Hazard Avenue	Traffic, distant aircraft overflights, distant children playing, birds, distant barking dogs, distant traffic, distant landscaping activities, pedestrians	Start: 10:40 AM End: 11:00 AM	62.2	42.9	77.9
		Start: 11:15 AM End: 11:35 AM	60.0	44.5	74.3
Location 5: Northwest corner of 11819 Hazard Avenue	Local traffic, distant children playing, distant traffic, birds	Start: 11:15 AM End: 11:35 AM	53.9	44.2	68.9
		Start: 11:37 AM End: 11:57 AM	54.7	43.4	72.9

dBA: A-weighted decibels
L_{eq}: average measured noise level
L_{min}: minimum measured noise level
L_{max}: maximum measured noise level
Noise measurement data provided in Appendix E.

As shown in Table 4-17, existing measured daytime L_{eq} at the receptors adjoining the Project site ranged from 46 to 49 dBA. At the southern edge of the residential areas north of Hazard Avenue, measured L_{eq} was in the range of 60 to 62 dBA, and at the setback of backyards of homes north of Hazard Avenue, the measured L_{eq} was between 54 to 55 dBA. Predominant source of noise around the Project site is vehicle traffic on Hazard Avenue. Other sources of noise during the measurements included children playing at the Hazard Elementary School, distant traffic, birds, distant aircraft overflights, occasional pedestrians, landscaping activities, and distant barking dogs, among others.

Psomas also collected 24-hour noise levels at monitoring location 1, as shown in Exhibit 5, Noise Monitoring Locations. The results of the 24-hour measurements are provided in Table 4-18, Measured Existing 24-Hour Noise Levels at the Project Site.

TABLE 4-18
MEASURED EXISTING 24-HOUR NOISE LEVELS AT THE PROJECT SITE
LOCATION 1: NEAR 714 LA VERGN WAY, SANTA ANA

Measurement Date	Measurement Start Time	Measured Sound Level (dBA)		
		L_{eq}	L_{min}	L_{max}
3/25/2025	10:00 AM	45.4	38.1	62.1
	11:00 AM	44.8	40.6	60.7
	12:00 PM	43.6	37.7	60.5
	1:00 PM	44.5	40.4	58.6
	2:00 PM	46.2	41.0	61.7
	3:00 PM	45.8	41.0	58.6
	4:00 PM	44.7	40.4	55.9
	5:00 PM	47.1	41.4	59.8
	6:00 PM	46.7	41.3	62.6
	7:00 PM	47.1	38.9	63.4
	8:00 PM	44.2	36.9	60.9
	9:00 PM	43.3	33.2	61.1
	10:00 PM	41.5	31.0	59.9
	11:00 PM	40.5	30.6	60.3
3/26/2025	12:00 AM	34.7	30.0	57.2
	1:00 AM	32.1	29.7	42.9
	2:00 AM	39.3	29.5	60.1
	3:00 AM	40.7	30.3	63.5
	4:00 AM	38.3	30.6	59.6
	5:00 AM	43.7	32.0	62.9
	6:00 AM	41.6	33.8	54.4
	7:00 AM	40.7	34.3	52.1
	8:00 AM	43.4	34.2	61.8
	9:00 AM	41.7	34.7	58.8
CNEL		48.3		

Leq: equivalent average noise level
Lmin: minimum sound level
Lmax: maximum sound level
CNEL: Community Noise Equivalent Level

As shown in Table 4-18, existing measured hourly L_{eq} over the 24-hour period ranged from 32 to 47 dBA. The overall CNEL, or the weighted average noise level over the 24-hour measurement period, for the Project site is 48 dBA. The maximum noise level (L_{max}) during the measurement period was 64 dBA, while the minimum sound level (L_{min}) was 30 dBA.

Regulatory Setting

Noise

Public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise.

Federal Transit Administration

The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (FTA 2018) has developed construction impact guidelines shown in Table 4-19, FTA Construction Noise Criteria.

TABLE 4-19
FTA CONSTRUCTION NOISE CRITERIA

1-Hour Criteria (L_{eq})		
Land Use	**Day**	**Night**
Residential	90	80
Commercial	100	100
Industrial	100	100
8-Hour Criteria (L_{eq})		
Land Use	**Day**	**Night**
Residential	80	70
Commercial	85	85
Industrial	90	90
Source: FTA 2018		

State of California

Title 24 of the *California Code of Regulations*, also known as the CBC, establishes building standards applicable to all occupancies throughout the State. The most recent building standards adopted by the legislature and used throughout the State is the 2019 version. The State of California codifies noise insulation standards in the CBC. Section 1206.4, Allowable interior noise levels, states "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (L_{dn}) or the CNEL, consistent with the noise element of the local general plan." (DGS 2021). These noise standards are for new construction in California for the purposes of interior compatibility with exterior noise sources. The regulations specify that acoustical studies must be prepared for new buildings with habitable rooms that are near major transportation noises, and where such noise sources create an exterior noise level of 60 dBA CNEL/L_{dn} or higher.

City of Santa Ana

The City of Santa Ana has established guidelines and standards in the General Plan (City of Santa Ana 2022g) and the Santa Ana Municipal Code.

City of Santa Ana General Plan

"The purpose of the Noise Element is to appraise noise levels in the community, prepare noise contours to guide land use decisions, and establish measures that address current and future noise impacts." (City of Santa Ana 2022g). The City's primary focus is to minimize noise problems in areas sensitive to noise because most of the land in Santa Ana if fully established. It notes that residential uses should be protected with sound insulation over and above what is provided by normal building construction when they are constructed in areas with noise levels higher than 65 dB CNEL (community noise equivalent level) (City of Santa Ana 2022g).

The General Plan identifies the following Noise Goals:

- N-1: Land Use Compatibility – Ensure that existing and future land uses are compatible with current and projected local and regional noise conditions.
- N-2: Noise Generators – Reduce the impact of known sources of noise and vibration.
- N-3: Airport and Land Use Environs – Protect sensitive land uses from airport related noise impacts.

Table 4-20, Interior and Exterior Noise Standards, displays the standards and guidelines for noise levels adopted by the City for various land uses. These guidelines are used to evaluate the proposed Project's compatibility with the ambient noise level.

TABLE 4-20
INTERIOR AND EXTERIOR NOISE STANDARDS

Categories	Land Use Categories	Interior[1]	Exterior[2]
Residential	Single-family, duplex, multi-family	45 dB CNEL[3]	65 dB CNEL
Institutional	Hospital, school classroom/playground	45 dB CNEL	65 dB CNEL
	Religious facility, library	45 dB CNEL	--
Open Space	Parks	--	65 dB CNEL

dB: decibel; CNEL: Community Noise Equivalent Level.

Notes:
1. Interior areas, to include but not limited to bedrooms, bathrooms, kitchens, living rooms, dining rooms, private offices, and conference rooms.
2. Exterior areas shall mean the following: private yards of single-family homes, park picnic areas, school playgrounds, and common areas. Private open space, such as atriums on balconies, shall be excluded from exterior noise requirements provided sufficient common area is included within the Project.
3. Interior noise level requirements assume a closed-window condition. Mechanical ventilation system or other means of natural ventilation shall be provided per Chapter 12 of the Uniform Building Code, as necessary.

Source: City of Santa Ana 2022g.

City of Santa Ana Santa Ana Municipal Code

Chapter 18 Article VI, Noise Control, sets standards related to noise in the City. Below are excerpts of Municipal Codes that are relevant to the Project.

Sec. 18-312. – Exterior noise standards.

(a) The following noise standards (Table 4-21), unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

TABLE 4-21
CITY OF SANTA ANA NOISE ORDINANCE STANDARDS
FOR RESIDENTIAL PROPERTY*

Time Period	Noise Level dBA	
	Exterior	Interior
7:00 a.m. – 10:00 p.m.	55	55
10:00 p.m. – 7:00 am	50	45
dBA: A-weighted decibels *Applicable to property within a designated Noise Zone 1. The entire City of Santa Ana is designed as Noise Zone 1 per Sec. 18-311 of the Municipal Code.		

(b) It shall be unlawful for any person at any location within the City of Santa Ana to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, to exceed:

(1) The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or

(2) The noise standard plus five (5) dB(A) for a cumulative period of more than fifteen (15) minutes in any hour; or

(3) The noise standard plus ten (10) dB(A) for a cumulative period of more than five (5) minutes in any hour; or

(4) The noise standard plus fifteen (15) dB(A) for a cumulative period of more than one minute in any hour; or

(5) The noise standard plus twenty (20) dB(A) for any period of time.

Sec. 18-314. –- Special provisions.

Section 18-314 of Chapter 18, Article VI of the City's Municipal Code states that the following activities shall be exempted from the provisions of the article:

(e) Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m.

and 7 a.m. on weekdays, including Saturday, or any time on Sunday or federal holiday (City of Santa Ana).

Therefore, the City's Municipal Code does not set specific noise level limits on construction-related activities.

Some local jurisdictions in California have adopted construction noise criteria defined by the FTA in order to assess the significance of noise impacts from construction activities. Therefore, for a quantitative assessment of Project construction noise impacts, the FTA construction noise criteria have been used in this analysis.

Vibration

Federal

The FTA has adopted standards associated with human annoyance for determining the groundborne vibration impacts on the following three off-site land-use categories (FTA 2018):

- Vibration Category 1 – High Sensitivity;
- Vibration Category 2 – Residential; and
- Vibration Category 3 – Institutional.

The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but that still potentially involve activities that could be disturbed by vibration. The vibration thresholds associated with human annoyance for these three land-use categories are shown in Table 4-22, Indoor Ground-Borne Vibration Impact Criteria for General Vibration Assessment.

TABLE 4-22
INDOOR GROUND-BORNE VIBRATION (GBV) IMPACT CRITERIA
FOR GENERAL VIBRATION ASSESSMENT

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch/sec)		
	Frequent Events	**Occasional Events**	**Infrequent Events**
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB*	65 VdB*	65 VdB*
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Frequent Events: More than 70 events per day; Occasional Events: 30 to 70 events per day;
Infrequent Events: Less than 30 events per day

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

*Note: Sensitive land uses constitute uses that contain vibration sensitive equipment or uses in which vibration would interfere with interior operations.

Source: FTA 2018

State

California Department of Transportation Vibration Standards

There are no applicable City standards for vibration-induced annoyance or structural damage due to vibration from construction activity and the City defers to other authoritative sources for evaluating these impacts. Groundborne vibration levels resulting from construction activities at the Project site were estimated using the California Department of Transportation (Caltrans) vibration damage potential guideline thresholds; shown in Table 4-23, Vibration Damage Threshold Criteria. Based on the guidance in Table 4-23, the vibration level of 0.3 in/sec PPV for older residential structures exposed to continuous/frequent intermittent sources is considered the most applicable threshold for a potentially significant vibration damage impact from the Project.

TABLE 4-23
VIBRATION DAMAGE THRESHOLD CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

PPV: peak particle velocity; in/sec: inch(es) per second

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. Construction of the Project would involve continuous/frequent intermittent sources.

Source: Caltrans 2020.

Impact Analysis

Would the Project result in:

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

Less than Significant Impact with Mitigation Incorporated.

The analysis in this section is divided into the following categories: on- and off-site construction noise, operational noise, and long-term off-site noise generated by Project traffic.

Construction Noise

On-Site Construction Equipment Noise

The development of the proposed Project would entail construction activities which include noise generated from the demolition of the existing on-site structures and pavement, grading, building construction, paving, and application of architectural coating. The analysis of construction noise involved the modeling of typical and highest construction noise levels using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) Version 1.1, which allows for quantification of noise levels emanating from individual machinery. Shielding effects of the existing property line walls between the

Project site and adjoining land uses were also taken into account. Calculated noise levels represent the noise levels that would typically occur during construction and were calculated using the distance between the closest noise sensitive uses/receptors and the center of the work activity during each phase of construction. The degree to which noise-sensitive receptors are affected by noise from construction activities depends heavily on their proximity.

Noise from Project construction would occur within the allowable hours (7 a.m. to 8 p.m. except Sunday and holidays) for construction activities per Santa Ana Municipal Code Section 18-314(i) – Activities with special provisions. Project construction noise impacts were evaluated at the nearest sensitive residential locations based on their corresponding daytime threshold for construction noise established by the FTA. Estimated noise levels attributable to construction of the proposed Project are shown in Table 4-24, Average Construction Noise Levels at Adjacent Receptors, and calculations are included in Appendix E, Construction Noise and Vibration Calculations.

TABLE 4-24
AVERAGE CONSTRUCTION NOISE LEVELS AT ADJACENT RECEPTORS

	Receptor 1: Nearest residences to the west		**Receptor 2: Nearest residences to the east**		**Receptor 3: Nearest mobile homes to the south**		**Receptor 4: Nearest residences to the north**	
Construction Phase	**Project L_{eq}* (dBA)**	**Exceeds Daytime L_{eq} Limit of 80 dBA?**	**Project L_{eq}* (dBA)**	**Exceeds Daytime L_{eq} Limit of 80 dBA?**	**Project L_{eq}* (dBA)**	**Exceeds Daytime L_{eq} Limit of 80 dBA?**	**Project L_{eq}* (dBA)**	**Exceeds Daytime L_{eq} Limit of 80 dBA?**
Demolition	**81**	**Yes**	**81**	**Yes**	61	No	74	No
Site Preparation	77	No	77	No	63	No	66	No
Grading - Temple	77	No	67	No	58	No	73	No
Grading - Residential	76	No	76	No	63	No	66	No
Building Construction Temple	77	No	67	No	59	No	72	No
Building Construction - Residential	72	No	**82**	**Yes**	72	No	74	No
Paving - Temple	75	No	67	No	56	No	72	No
Paving - Residential	**83**	**Yes**	70	No	72	No	72	No
Architectural Coating - Temple	67	No	58	No	49	No	63	No
Architectural Coating - Residential	63	No	73	No	61	No	64	No

L_{eq}: average noise energy level; dBA: A-weighted decibel

* Based on calculated Leq at distances from center of construction activity for each corresponding Project construction phase.

Source: RCNM. Construction noise calculations are provided in Appendix E.

Typical average hourly noise levels (L_{eq}) from Project-related construction activities would be 49 to 83 dBA at the nearest off-site receptors. It should be noted that the construction noise calculations conservatively assume simultaneous operation of all equipment during each construction phase. Relative to existing ambient noise levels around the Project site, the Project construction would result in increases of up to 3 to 42 dBA in average hourly noise levels at the nearest adjoining residential uses, and increases of 3 to 14 dBA in average hourly noise levels at the nearest residential receivers north of Hazard Avenue. Therefore, average Project construction noise level increases would be clearly noticeable at noise-sensitive areas surrounding the Project site. During the site preparation, grading, building construction, and architectural coating phases of Project construction, noise levels from on-site activities are anticipated to be below the FTA's 8-hour daytime construction threshold of 80 dBA L_{eq}. During the demolition phase and paving of the residential areas, adjoining residential uses located along the east and west sides of the Project site would experience construction noise levels that would exceed the FTA daytime noise limit of 80 dBA. Therefore, noise levels from Project construction are expected to result in significant impacts and mitigation would be required.

Off-Site Construction Traffic Noise

During Project construction, movement of construction worker vehicles, vendor and haul trucks would potentially result in increased traffic noise along Hazard Avenue in the vicinity of the Project site. Truck trips would be needed for delivery of construction equipment and materials as well as the export of the excavated soils. Noise generated from construction-related vehicle trips would be added to the ambient noise level generated by existing vehicle traffic.

During the demolition phase, it is anticipated that up to 26 worker vehicle trips and 10 truck movements (both ways) would be generated on a typical construction day. Similarly, during the site grading of either the temple area or residential areas, 20 worker vehicle movements and 10 to 14 haul truck movements would occur along Hazard Avenue. During the paving phase, up to 30 worker vehicle movements would happen on Hazard Avenue.

According to the City of Santa Ana's 2022 Traffic Volumes map, daily traffic volumes on Hazard Avenue range from 10,000 to 20,000 vehicles. For a conservative analysis, it is assumed that existing daily traffic volume on Hazard Avenue is 10,000 vehicles. Addition of the above Project construction traffic to this traffic volume on the roadway would only result in up to 0.1 dB increase in traffic noise at sensitive receptors along Hazard Avenue. Therefore, noise increases associated with Project construction traffic would be less than the 3-dBA traffic increase threshold due to the small number of construction vehicles associated with Project construction. Therefore, Project construction traffic would have less than significant noise impacts at off-site land uses in the vicinity of the Project.

Operational Noise

Operational noise sources associated with the proposed Project would include landscape maintenance equipment, vehicles travelling on local roads, HVAC equipment, trash collection, and noise associated with the operation of a temple. Future landscaping and trash

collection activities associated with the Project would be similar to such activities already occurring in the vicinity of the Project site and would not noticeably alter the noise environment.

On-Site Stationary Source Noise

HVAC units would be used for air conditioning and heating needs for the Project. The Project's stationary sources of noise are required to comply with the noise limits established under Article VI. – Noise Control of the Santa Ana's Municipal Code, as previously discussed. Section 18-316 – Air and Refrigeration limits noise produced by HVAC units to 8 dBA above the City's exterior and interior noise limits (see Table 4-21). The City's Municipal Code daytime and nighttime exterior noise standards for residential properties are 55 and 50 dBA, respectively. Therefore, the allowable noise level for HVAC noise at neighboring properties is 58 dBA during nighttime hours of 10:00 p.m. to 7:00 a.m.

Operational noise associated with the use of residential HVAC units within the Project site was evaluated using a reference residential HVAC unit noise source and placing the source at the back of each residential unit based on the Project site plan (see Exhibit 3). The reference HVAC unit data is included in Appendix E of this report. Noise levels from each HVAC unit were projected to a representative adjoining residential noise receptor location on the east side of the Project site. For a conservative analysis, it was assumed that HVAC units at all 12 future residential buildings within the Project site would operate simultaneously. Noise levels at the selected receptor location from individual HVAC units were summed logarithmically to obtain the overall HVAC noise exposure.

The predicted overall Project HVAC noise level at the selected residential receptor is estimated to be 48 dBA. Therefore, onsite Project operations would not result in noise levels exceeding the City's nighttime noise level limit of 50 dBA L_{eq} at neighboring noise-sensitive areas. Compliance with the City's applicable noise limit would result in less than significant noise exposure impacts from HVAC noise at offsite uses.

Off-Site Roadway Traffic Noise

Project-related off-site noise sources (i.e., roadway traffic noise) have the potential to increase noise levels on Hazard Avenue proximate to the Project site. The City of Santa Ana's General Plan Update PEIR determines whether traffic related noise impacts would occur based on whether project-related off-site noise sources (i.e., roadway traffic noise) cause the ambient noise levels measured at the property line of affected noise-sensitive uses to increase by greater than 3 dBA increase for ambient noise environments of 60 to 64 dBA CNEL and greater than 5 dBA increase for ambient noise environments of less than 60 dBA CNEL (City of Santa Ana 2021d).

The Project is anticipated to generate 127 trips per day. Project ingress and egress would be provided along the south side of Hazard Avenue. Therefore, all 127 daily trips would travel along this roadway. Project trips were added to the estimated daily traffic volume of 10,000 vehicles along Hazard Avenue. The increase in traffic noise along Hazard Avenue from the

additional Project related ADT is estimated to be 0.1 dBA CNEL which is far less than the 3 dBA CNEL threshold adopted by the City.

In addition to everyday Project traffic, it is anticipated that annual special events at the proposed temple would attract approximately 30 attendees in February, 60 in August, 30 in September, and 60 in November. Addition of 60 daily vehicle trips to the 127 daily Project trips would still result in 0.1 dBA increase in traffic CNEL.

Therefore, the Project would not result in an increase in traffic noise levels and would result in less than significant noise impacts related to long-term traffic noise.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact with Mitigation Incorporated.

As indicated previously, the Caltrans vibration damage threshold of 0.3 PPV inch per second for older residential buildings was selected in the absence of a threshold established by the City. Construction induced vibration was modeled using data and methodology published by the FTA. The assessment of vibration induced damage was performed by assuming that equipment would be operating along the Site's property lines.

Vibration generated during the Project's construction would be minimal and limited to the duration of the construction phase. In addition, the Project would not require the use of unusual equipment or would require any pile driving or blasting. Table 4-25, Project Construction Vibration Damage Assessment, shows the PPV compared to building damage thresholds from construction generated vibration.

TABLE 4-25
PROJECT CONSTRUCTION VIBRATION DAMAGE ASSESSMENT

	Vibration Levels (PPV, in/sec)			
	West Residential	**East Residential**	**South Residential**	**North Residential**
Equipment	(PPV @ 10 ft)	(PPV @ 10 ft)	(PPV @ 50 ft)	(PPV @ 100 ft)
Vibratory Roller	0.830	0.830	0.074	0.026
Hoe Ram	0.352	0.352	0.031	0.011
Large Bulldozer	0.352	0.352	0.031	0.011
Caisson Drilling	0.352	0.352	0.031	0.011
Loaded Trucks	0.300	0.300	0.027	0.010
Jackhammer	0.138	0.138	0.012	0.0044
Small Bulldozer	0.012	0.012	0.0011	0.00038
Building Damage Criteria	**0.3**	**0.3**	**0.3**	**0.3**
Exceeds Building Damage Criteria?	**Yes**	**Yes**	**No**	**No**

PPV: peak particle velocity; in/sec: inches per second; Max: maximum; avg: average; ft: feet
Note: Calculations are attached in Appendix E.
Source: FTA 2018

As shown in the table above, Project construction would result in vibration levels that would exceed the building damage threshold selected for the surrounding receptors. Therefore, Project construction would potentially result in significant vibration impacts and mitigation would be required.

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

No Impact. Project site is not located within two miles of an airport or a private airstrip. The nearest airport is John Wayne Airport, which is located 5.6 miles southeast of the Project site. The Project site is located well outside the existing and projected 65-dBA CNEL noise contour of John Wayne Airport. Aircraft overflights do not significantly contribute to the noise environment at the Project site, and the Project would not expose people residing or working within the Project site to excessive aircraft noise levels. There would be no impact related to aircraft noise exposure at the Project site, and no mitigation is required.

Mitigation Measures

Project implementation would result in significant impacts related to noise and vibration during Project construction; therefore, the following mitigation measures are required.

MM NOI-1 Prior to commencement of the demolition phase of the Project construction, erect a temporary noise barrier along the west and east Project site boundaries and along the north side of the residential property located at 14532 Morse Drive. To be effective in reducing Project construction noise levels to less than significant impacts, the temporary noise barrier would have to be of a minimum height of 10 feet above grade, must be continuous without gaps, and made of massive enough materials to minimize transmission of sound waves through the material itself.

MM NOI-2 The Applicant shall require that all construction contractors restrict the operation of vibratory rollers and other vehicles with a weight of greater than 24 tons to beyond 25 feet from off-site buildings. Smaller construction equipment could be used within these distances.

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

Would the Project:

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)?

Less than Significant Impact. The proposed Project involves the demolition of three existing residential structures and associated improvements to accommodate the construction of 12 single-family homes and a religious temple structure, as well as associated site improvements. The proposed residences would each be two-stories in height, ranging from 1,576 SF to 2,538 SF in size, in addition to a 3,500-SF, two-story religious temple building. As such, residential and institutional uses would replace the existing residential uses on the site and, as discussed further below, would not contribute to substantial population growth in the City compared to existing conditions.

Based on the most current population statistics and data for the City of Santa Ana, published by the U.S. Census Bureau (CB), the City has approximately 3.89 persons per household (CB 2023). To estimate the approximate population generated by the Project, the number of proposed units (12) was multiplied by 3.89 persons per household. As a result, it is anticipated that the Project would generate approximately 46 residents. Given that the Project site currently contains three single-family homes, and using the same methodology described above to calculate the anticipated population generated by the Project, it is estimated that the Project site currently houses approximately 12 persons. Therefore, the Project would generate a net residential population of approximately 34 persons to the site and surrounding area.

Jobs that would be created during construction would be short-term and are typically filled by existing residents of the region. Therefore, the Project would not induce housing demand near the construction site due to the temporary nature of construction jobs. The Project would include a maximum of two caretakers on-site to oversee the proposed temple and tend to the operational activities between 10:00 AM to 2:00 PM, Monday through Friday. The

proposed temple would hold Sunday services between 11:00 AM to 2:00 PM, for a maximum for 16 attendees. As with the temporary construction workers, long-term operation employees are anticipated to be filled by existing residents of the region. Based on the 2024 RTP/SCS, the City of Santa Ana included 167,400 employees in 2019 and anticipated growth to 172,100 employees by 2045 (SCAG 2024b). As such, the anticipated 2 long-term employees generated by the Project would be within anticipated growth for the City as projected by SCAG, and would not constitute a significant increase. The temporary construction crew and long-term employees generated by the Project would not create a significant change in demand for goods and services that may induce business investment, growth, or development in the area.

The proposed residential uses associated with the Project would generate a total of approximately 46 residents in the City. Based on the 2024 RTP/SCS, the City of Santa Ana had a total of 76,600 households in 2019 and anticipated growth to 88,600 in 2050. As such, the anticipated permanent population generated by the Project would not contribute to a substantial increase in population

Additionally, although the Project would involve the construction of a new private two-way street to provide site access from Hazard Avenue, the proposed Project would not include extension of roads or infrastructure such that would encourage development levels beyond what is already planned elsewhere in the City or indirectly induce growth. Therefore, the Project would not result in substantial unplanned population growth, directly or indirectly. The impacts would be less than significant, and no mitigation is required.

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

Less than Significant Impact. The Project site is currently developed with three two-story single-family residential homes, ranging in size from 1,340 SF to 1,580 SF, and associated asphalt concrete driveways and parking areas. The existing residences are currently occupied; therefore, construction of the Project would displace all residents located at 4006, 4010, and 4018 Hazard Avenue. However, based on the average persons-per-household rate of 3.89, the existing residents would, at maximum, house 12 persons (CB 2023). Displacement of approximately 12 persons would not constitute a substantial number and would not necessitate the construction of replacement housing elsewhere. In addition, based on a vacancy rate for Santa Ana of 3.2 percent (DOF 2024), there would be sufficient replacement residences that are equal to or better than the displacement property available for rent of purchase. Furthermore, the Project would replace three existing single-family residences with 12 new single-family residences, resulting in a net increase of 9 single-family homes. Therefore, the Project would not result in significant impacts related to displacement of housing and associated residents, and no replacement housing is required. No mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to population and housing; therefore, no mitigation measures are required.

4.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of 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

Would the Project:

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?

Less than Significant Impact. Fire protection and emergency response services in the City of Santa Ana are provided by the OCFA. OCFA provides fire suppression, emergency medical response, hazardous materials response, and related public safety services throughout the City, operating 10 fire stations within the City with access to an additional 67 stations in its service area. These stations are well distributed, at an approximate of 1.5 mile service radius throughout the City and the overlapping responsibility of fire companies allows adequate response to emergencies. The OCFA's adopted response-time performance goal for the first arriving response unit for core incidents is 7 minutes and 30 seconds for urban areas (OCFA 2014). The closest fire station to the Project site is OCFA–Santa Ana Fire Station #78, located at 501 North Newhope Street, approximately 0.4 miles southwest of the Project site.

The Project would demolish three existing single-family residences to accommodate the construction of 12 new single-family homes and a 3,500-sf temple. As described in more detail in Section 4.14, Population and Housing, the Project is expected to generate approximately 46 residents (a net increase of 36 persons) and 2 employees, which may result in an increased demand for fire protection services. While the Project would

incrementally increase the demand for fire protection services due to the net increase in residential units and the addition of a small-scale religious facility, this increase is not anticipated to substantially affect OCFA's ability to maintain existing response times or performance objects. The proposed uses are not considered high-risk occupancies as defined by the California Building Code (refer to CBC, Chapter 3) and the California Fire Code (CFC) (refer to CFC, Chapter 2). All proposed structures would be required to comply with all applicable codes, ordinances, and regulations (including those imposed in the SAMC, CBC and CFC) regarding fire prevention and suppression measures. As required, the Project would pay all applicable OCFA development impact fees and Project plans would be reviewed and approved by the City and OCFA to ensure compliance with emergency access, fire hydrant placement and sprinkler systems, and construction standards that support fire protection and emergency response. This would additionally minimize Project demand for fire protection services. Furthermore, payment of OCFA development impact fees would be required prior to No new fire stations or substantial alterations to existing facilities would be required to serve the Project; therefore, no physical impacts associated with the provision of fire protection services would occur. Impacts related to fire protection services would be less than significant, and no mitigation is required.

ii) Police protection?

Less than Significant Impact. Police protection services for the Project site are provided by the Santa Ana Police Department (SAPD). SAPD includes multiple departments, including the Field Operations Bureau, comprised of the patrol, operations, and traffic divisions. SAPD operates out of their main headquarters located at 60 Civic Center Plaza, approximately 2.8 miles east of the Project site, as well as their West End substation located at 3750 West McFadden Avenue, approximately 1.1 miles south of the Project site, and provides patrol, investigations, traffic enforcement, and community policing services throughout the City. SAPD maintains service objectives related to response times and staffing levels based on Citywide demand, call volume, and geographic coverage. (SAPD 2025)

The Project would replace three existing single-family residences with 12 new single-family homes and a 3,500-sf religious facility, generating approximately 46 residents (a net addition of 34 residents) and two employees to the Project site. The resulting increase in residential population and site activity would be minor in the context of existing urban development in the City and is consistent with long-term population and development growth evaluated in the City's General Plan Public Services Element, which includes law enforcement, at a Citywide scale. (City of Santa Ana 2022j)

While the Project would incrementally increase demand for police protection services, it would not, by itself, generate the need for new or physically altered police facilities and it is anticipated that SAPD has the capacity to continue serving the Project site and surrounding area using existing facilities and resources. Furthermore, the Project would be constructed in accordance with applicable City design standards, including features that support crime prevention such as lighting, visibility, and controlled access. The Project would also be subject to review by SAPD as part of the City's development review process to ensure public safety considerations are addressed. As such, the Project would not require the construction of new or altered police protection facilities to maintain an adequate level of service to the

Project area, and no physical impacts would result. A less than significant impact related to police protection services would occur, and no mitigation is required.

iii) Schools?

Less than Significant Impact. The Project site is located within the service area of the Garden Grove Unified School District (GGUSD), which provides public education services for grades K – 12 in most of the City of Garden Grove and portions of six surrounding cities, including the City of Santa Ana. Future students residing at the Project site would be served by Hazard Elementary School (4218 W. Hazard Avenue), Irvine Intermediate School (10552 Hazard Avenue, Garden Grove), and Los Amigos High School (16566 Newhope Street, Fountain Valley). (GGUSD 2025)

As the Project involves the construction of 12 single-family residences anticipated to generate approximately 46 residents (a net addition of 9 single-family residences and approximately 34 residents), the Project may incrementally increase the number of students enrolled in local GGUSD schools; however, this increase would be minimal in the context of overall district enrollment and would not, in itself, necessitate new or physically expanded school facilities. Additionally, pursuant to Assembly Bill (AB) 2926 and Senate Bill (SB) 50, school districts in California are legally authorized to collect statutory school impact fees on new residential development and, in some cases, commercial and industrial development. These fees are intended to offset the cost of school facility construction or expansion resulting from new development. The Project would be required to pay these impact fees to GGUSD prior to issuance of building permits, in accordance with state law.

Per Section 65996 of the California Government Code, payment of these statutory fees are generally considered full mitigation for new development projects. Therefore, even with the minor increase in potential student generation, the Project would not result in the need for new or physically altered school facilities that could cause significant environmental impacts. A less than significant impact related to schools would occur, and no mitigation is required.

iv) Parks?

Less than Significant Impact. Parks and recreational facilities in the City are owned, operated, and maintained by the City's Parks, Recreation and Community Services Agency. The City's park system includes neighborhood and community parks, recreational centers, trails, and open space areas. Park planning and development are guided by the City's General Plan, including the Open Space Element, which identifies goals for park access, service ratios, and long-term recreational needs. The 2022 General Plan sets a long-range goal to provide three acres of parkland for every 1,000 residents in the future. (City of Santa Ana 2022b)

According to the City of Santa Ana Parks Master Plan (PMP), the City of Santa Ana manages 54 parks, nine joint-use school sites, and approximately 13 miles of off-street trails for recreation use. These sites support a variety of indoor and outdoor facilities and programs. The City strives to provide parks within a 10-minute walking or biking distance of all residents (approximately 0.25 to 0.5 mile). As a 10-year investment strategy and action plan,

the PMP provides detailed guidance to take the first step towards the General Plan's goal: increasing the City's parkland to 1.5 acres per 1,000 residents, or 1.85 acres per 1,000 residents taking into account new trail corridors and potential new joint-use sites. (City of Santa Ana 2022b)

As the Project would generate approximately 46 residents (a net addition of approximately 34 residents), a corresponding incremental demand for parks and related facilities may occur. In addition to the proposed residential and institutional uses, the Project would develop a 55,566-sf open space area, including a community garden, representing approximately 69 percent of the net buildable site area. As described in greater detail in Section 4.16, Recreation, the level of population growth associated with the Project is minor in the context of Citywide growth projections and would not, on its own, result in the need for new or physically expanded park facilities.

Additionally, the proposed on-site open space area would provide supplemental open space and recreational uses for future residents and temple visitors. Moreover, per SAMC Section 35-110, the City requires payment of park impact fees for all new residential development adding net units within the City for the purpose of preserving an appropriate balance between demand by residents for the use and availability of park and recreational facilities and mitigating impacts from proposed residential development that may increase demand on such facilities. The Project would be required to pay such fees prior to issuance of a building permit, which would ensure that the incremental demand for City parks resulting from Project implementation is addressed adequately. As such, the Project would not require the construction of new, or alteration of existing, park facilities and no physical impacts would result. Therefore, a less than significant impact related to parks would occur, and no mitigation is required.

v) Other public facilities?

Less than Significant Impact. Library services in the City of Santa Ana are provided by the Santa Ana Public Library (SAPL), which operates branches, including the Main Library located at 26 Civic Center Plaza, and the Newhope Library located at 122 North Newhope Street. As of current, the Main Library is currently closed to the public for renovation and will reopen Spring of 2026. SAPL offers access to books, digital media, technology, educational programming, and community services to residents of all ages. Library planning is coordinated through the City's long-range planning efforts and reflects citywide population growth projections. Although (City of Santa Ana 2025b)

The nearest library branch to the Project site is the Newhope Library, approximately 0.5-mi southwest of the Project site. As the Project would generate approximately 46 new residents (a net addition of approximately 34 residents), the Project may result in a minor increase in demand for library services in the City. However, as previously discussed, this level of growth is minimal in the context of the City's broader development patterns and would not represent a substantial or unanticipated increase in population. The City's General Plan, including its Public Services Element, anticipates population growth and includes strategies to maintain adequate public facilities over time (City of Santa Ana 2022j). The demand

generated by the Project would be within the scope of anticipated Citywide population growth and would not trigger the need for new or expanded library facilities. Therefore, a less than significant impact related to libraries would occur, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to public services; therefore, no mitigation measures are required

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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

Would the Project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact. As stated above in Section 4.15, Public Services, the City of Santa Ana owns and maintains a variety of parks, joint-use school sites, and off-street trails for recreation use, which support a variety of indoor and outdoor facilities and programs. While the General Plan Open Space Element has a long-term goal of three acres of parkland per 1,000 residents, the PMP goal aims to increase the City's parkland to 1.5 acres of parkland per 1,000 residents, or 1.85 acres per 1,000 residents taking into account new trail corridors and potential new joint-use sites. According to the City's PMP, the City continues to pursue park improvements, strategic acquisitions, and enhanced maintenance to meet recreational needs and service quality over time. (City of Santa Ana 2022b)

The nearest parks and recreational facilities to the Project site include: Rosita Park and Salgado Recreation Center (706 North Newhope Street), approximately 0.4-mi west of the Project site; Ceasar Chavez Campesino Park (3311 West 5th Street), located approximately 0.6-mi southeast of the Project site; Santa Anita Park (9300 South Figueroa Street), located approximately 0.7-mi south of the Project site; and Heritage Park (4812 West Camile Street), located approximately 1.0-mi southwest of the Project site. These parks, totaling 26.7-acres, include a variety of recreational facilities such as playground, picnic tables, fitness courts, recreation/community centers, and sports facilities and multi-purpose fields. (City of Santa Ana 2022b)

As discussed, the Project would include a 55,566-sf open space area, including a community garden, which constitutes approximately 69 percent of the net buildable site area, providing informal recreational and leisure space for future Project residents and temple visitors. Although it is anticipated that the Project would increase the use of existing parks and recreational facilities in the City, it would not place substantial new demand on recreation

facilities such that physical deterioration of existing parks would occur or be accelerated. Furthermore, the inclusion of ample on-site open space would serve as a primary recreational resource for future occupants, lessening potential demand on City parks and recreational facilities. In addition, and as discussed in Section 4.15, Public Services, the Project would be required to pay park impact fees pursuant to SAMC Section 35-110, which would be placed in the City's Park Acquisition and Development Fund and used to support the acquisition, improvement, and maintenance of public parks and facilities. Payment of such fees would ensure that any incremental increase in the use of park and recreational facilities resulting from the Project would be accounted for through the City's existing funding and planning programs. Therefore, a less than significant impact would occur, and no mitigation is required.

b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Less than Significant Impact. As discussed above, the proposed private open space and community garden component, representing approximately 69 percent of the net buildable site area, is intended to provide passive recreational and open space needs of future Project residents and visitors and is integrated into the Project site design.

The Project does not involve the development of any public recreational facilities, nor would it require or trigger the expansion of off-site recreational facilities. The inclusion of a substantial on-site open space area is anticipated to accommodate the informal recreational needs of future Project occupants and reduce potential pressure on existing City parks and recreational facilities. This open space area would be privately maintained and contained entirely within the Project site already subject to environmental review as part of this IS/MND. The components of developing the on-site open space area, such as landscaping, grading, and circulation, are already addressed in the Project's overall impact analysis (i.e., sections relating to aesthetics, air quality, biological resources, and noise) contain in this IS/MND.

The inclusion of extensive on-site open space is anticipated to reduce potential demand for City parkland or recreational facilities. Additionally, the required payment of park impact fees under SAMC Section 35-110 ensures that any minimal, indirect demand on City recreational facilities is offset in accordance with adopted Citywide planning and funding programs. As such, the Project would not result in the development or expansion of recreational facilities that may cause adverse physical environmental effects. A less than significant impact would occur, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to recreation; therefore, no mitigation measures are required.

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) Would the project conflict or be inconsistent with CEQA Guidelines section 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?	☐	☐	☒	☐

Introduction

A Traffic Memorandum, dated March 12, 2025, was prepared for the Project by Psomas and is included as Appendix F to this IS/MND (Psomas 2025).

Impact Analysis

Would the Project:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The Project is primarily guided by the County of Orange Circulation Element (County of Orange 2020), the City of Santa Ana General Plan Mobility Element (City of Santa Ana 2022f), including the City of Santa Ana Master Plan of Bikeways (Figure M-2 of the Mobility Element), which discusses existing transit, roadways, bicycle, and pedestrian facilities within the City and County.

Transit services near the Project site are provided by the Orange County Transportation Authority (OCTA), with bus service along Harbor Boulevard via Route 43 to the east of the Project site. Future Project residents would continue to utilize the existing public transit system within the Project vicinity. West Hazard Avenue, along the Project frontage, is identified in the City's Mobility Element as a Secondary Arterial street, which are defined as streets with four travel lanes and a center median, typically containing pedestrian sidewalks and bicycle lanes (City of Santa Ana 2022f). Currently, West Hazard Avenue has one lane in each direction, a two-way left-turn (TWLT) lane, and Class 3 bicycle facilities. The Project would not impact or modify these existing facilities along West Hazard Avenue.

The Project would construct a private two-way street connecting to West Hazard Avenue and would include sidewalks to facilitate pedestrian circulation. Project parking, including bicycle parking, would also be provided consistent with City standards. All circulation

improvements would be reviewed and approved by the City to ensure compliance with applicable design standards.

As the Project would maintain existing roadway, bicycle, and transit facilities and would provide on-site circulation improvements consistent with the County Circulation Element and City Mobility Element and Master Plan of Bikeways, it would not conflict with any adopted program, plan, ordinance, or policy addressing the circulation system. Impacts would be less than significant, and no mitigation is required.

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

Less than Significant Impact. As stated in the VMT Screening Evaluation (Appendix F), the Governor's Office of Planning and Research (OPR) published its Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory). Based on OPR's Technical Advisory, the City of Santa Ana has prepared their City of Santa Ana Traffic Impact Study Guidelines. The City's Guidelines list standardized screening methods for project level VMT analysis that can be used to identify when a proposed land use development project is anticipated to result in a less than significant impact thereby eliminating the need to conduct a full VMT analysis. The City of Santa Ana VMT screening types, as described within the City Guidelines, including Transit Priority Area Screening, Low VMT Area Screening, and Project Type Screening. A land use project need only to meet one of the above screening thresholds to result in a less than significant impact.

According to the Project's Traffic Memorandum (Appendix F), with the demolition of existing uses on the site, the Project is expected to generate a net increase of 127 daily trips, with an increase of 9 trips (3 inbound and 6 outbound) in the morning peak hour and 12 trips (8 inbound and 4 outbound) in the evening peak hour. The addition of Project trips would not trigger the City of Santa Ana's significance criteria.

Under the Project Type Screening, the City Guidelines describe that projects located within Transit Priority Areas (TPA) are presumed to have less than significant VMT impacts. As the Project is located within a TPA as mapped by the City, the Project meets this screening criteria. Additionally, the City guidelines state that projects located in Traffic Analysis Zones (TAZ) with VMT per service population less than 15 percent of the Orange County average are presumed to have a less-than-significant impact on VMT. Based on VMT maps provided by the City, the Project is located within a low-VMT generating TAZ and meets this screening criteria (refer to Appendix F). Additionally, the Project has been reviewed for consistency with SCAG's RTP/SCS. The household and employment growth between 2019 and 2050, per SCAG's adopted Connect SoCal 2024, indicates growth that is consistent with the proposed Project land use type and intensity. (Psomas 2025)

Therefore, the Project satisfies two of the City's established screening criteria. The Project is located within a TPA and a Low-VMT Generating TAZ. Moreover, the Project is consistent in land use with RTP/SCS assumptions. As a result, the Project is presumed to have a less-than significant VMT impact and is exempt from further VMT analysis. Therefore, there would be a less than significant impact, and no mitigation measures are required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?

Less than Significant Impact. The Project involves demolition of three existing residential structures to accommodate 12 new single-family homes and a 3,500-SF religious temple. A new private two-way street would connect to West Hazard Avenue and terminate in a cul-de-sac that provides adequate fire-truck turnaround consistent with the Fire Code (SAMC Chapter 14). The Project driveway would allow full-movement access to West Hazard Avenue, with westbound left turns accommodated by the existing two-way left-turn lane. Sidewalks would be provided along the frontage and internal circulation routes, ensuring safe pedestrian access. Adequate parking would be provided for the proposed uses in accordance with City standards.

The Project does not introduce sharp curves, dangerous intersections, or other geometric features that would increase hazards. In addition, the proposed residential and religious uses are compatible with surrounding residential and institutional uses (church and elementary school). Accordingly, the Project would not substantially increase hazards due to geometric design features or incompatible uses. A less than significant impact would occur, and no mitigation is required.

d) Result in inadequate emergency access?

Less than Significant Impact. Construction activities for the Project, including staging and worker parking would occur on site. All construction staging areas would be prohibited to occur on the street or within the public right-of-way. The Project would likely close lanes and temporarily alter traffic patterns along West Hazard Avenue during construction. However, the Project would not completely close West Hazard Avenue at any point. The Project would comply with all conditions set forth in the required Project specific TCP, which would be reviewed and approved by the City prior to initiation of construction activities. Therefore, with implementation of the required TCP, the temporary closure of a few lanes along West Hazard Avenue would not result in a significant interference of emergency access during construction.

Per the City's permitted hours for construction, activities will occur for a minimum of eight hours per day, six days per week, and would access the site via West Hazard Avenue. The Project would be subject to review by the Building Division and OCFA to ensure compliance with building and fire codes. The Project would not work within the public right-of-way without undergoing proper review through the Public Works department, which would require a Street Work Permit. Emergency access to and from the site would be maintained at all times throughout Project construction Therefore, the Project would have less than significant impacts regarding interference with emergency response or evacuation plans during construction, and no mitigation is required.

In the long-term, the Project would provide primary vehicular ingress and egress points to and from the Project site via a two-way private street. Project plans showing access and circulation details would be subject to the review and approval of the City and OCFA to ensure adequate emergency access is provided at all times during operation. Additionally,

the Project would not affect emergency response or emergency evacuation of adjacent land uses. Therefore, the Project would not result in inadequate emergency access during operation. A less than significant impact would occur, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to transportation; therefore, no mitigation measures are required.

4.18 TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation	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:				
1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☒	☐
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying 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.	☐	☒	☐	☐

Introduction

This section evaluates the Project's potential to have adverse effects on Tribal Cultural Resources. The analysis in this section is based on the results of the archaeological records searches conducted by Psomas at the SCCIC and the results of tribal consultation that took place between the City of Santa Ana and California Native American tribes for the Project pursuant to AB 52. Supporting documentation for the Project's tribal consultation process can be found in Appendix G of this IS/MND. Additionally, an inquiry was made to the NAHC by Psomas for a Sacred Lands File (SLF) search regarding the possibility of Native American cultural resources and/or sacred places in the Project vicinity that are not documented on other databases (Appendix B). The NAHC SLF results were negative.

The City of Santa Ana sent notification of the Project to the California Native American tribes included on the list provided by the NAHC on July 22, 2025, inviting them to engage in government-to-government consultation pursuant to AB 52. The following tribes were notified of the Project as part of the AB 52 process:

- Cahuilla Band of Indians
- Gabrieleno Band of Mission Indians - Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino /Tongva Nation
- Gabrielino Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe
- Juaneno Band of Mission Indians Acjachemen Nation – Belardes

- Juaneno Band of Mission Indians Acjachemen Nation 84A
- Pala Band of Mission Indians
- Santa Rosa Band of Cahuilla Indians; and
- Soboba Band of Luiseno Indians.

The City concluded consultation on October 9, 2025. Further details related to AB 52 consultation are provided below.

Impact Analysis

Would the Project:

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:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Less than Significant Impact. As discussed in Section 4.5, Cultural Resources, the SCCIC record search and literature review did not identify any previously recorded precontact or tribal cultural resources within the Project site. Furthermore, the SLF search was negative and did not identify the Project site as sensitive for known sacred lands/sites. As such, there are no known tribal cultural resources within the Project site.

Additionally, the Project site is generally underlain by Quaternary-aged young Holocene alluvial soils, and the native sediment has been disturbed. Therefore, the Project is not anticipated to result in significant impacts to tribal cultural resources that are listed or may be 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). No mitigation is required.

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying 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.

Less than Significant with Mitigation Incorporated. Because Native American tribes frequently have knowledge concerning important undocumented cultural resources, the lead agency (City of Santa Ana) submitted Project notification letters on July 22, 2025 to initiate tribal consultation, consistent with the requirements of AB 52. Consultation was

closed on October 9, 2025. As described above, the City sent notification letters to each tribal representative on the NAHC Native American contact list for Orange County, notifying them of the Project and inviting them to participate in meaningful consultation.

The City received responses from a total of three tribes: the Gabrieleno Band of Mission Indians – Kizh Nation (Kizh Nation) (July 22, 2025); the Pala Band of Mission Indians (July 23, 2025); and the Juaneno Band of Mission Indians, Acjachemen Nation-Belardes (August 6, 2025). Both the Kizh Nation and the Juaneno Band of Mission Indians, Acjachemen Nation-Belardes requested formal consultation on the Project, while the Pala Band of Mission Indians declined consultation. While the Pala Band of Mission Indians declined AB 52 consultation on the Project, it is noted that the Project is located within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA) or is situated in close proximity to the Reservation.

Consultation between the City and Kizh Nation (Andrew Salas) was conducted on October 2, 2025, and closed on October 9, 2025, with an understanding that the agreed upon mitigation measures would be implemented for the Project. Although a significant impact on known tribal cultural resources has not been identified through consultation with the Kizh Nation, the City would voluntarily implement the actions described in MMs TCR-1, MM TCR-2, and MM TCR-3 which recognize the Kizh Nations' concerns during construction activities.

Consultation between the City and the Juaneno Band of Mission Indians, Acjachemen Nation-Belardes (Joyce Perry) was conducted on September 18, 2025, and was closed on October 9, 2025. No agreed-upon mitigation measures resulted from consultation, as no substantial evidence identifying tribal cultural resources or potential Project-specific impacts was provided. As part of the consultation process, the City provided follow-up information to the Juaneño Band of Mission Indians, Acjachemen Nation–Belardes on September 22, 2025, including records search results from the Natural History Museum of Los Angeles County (NHM), the South Central Coastal Information Center (SCCIC), and the Native American Heritage Commission (NAHC) Sacred Lands File search. The City did not receive additional comments, information, or substantial evidence in response to this follow-up. Based on consultation and the available record search information, no known tribal cultural resources have been identified within the Project site, and a significant impact to tribal cultural resources has not been identified. However, MM TCR-1, MM TCR-2, and MM TCR-3, have been included in this IS/MND to facilitate implementation of the voluntary actions. As such, impacts related to tribal cultural resources would be less than significant with mitigation incorporated.

Mitigation Measures

MM TCR-1 A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as

public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

MM TCR-2 Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

MM TCR-3 A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

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 storm water 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 statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact Analysis

Would the Project:

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

Less than Significant Impact.

Potable and Non-Potable Water Services

Potable and non-potable (irrigation) water services on the Project site are currently provided by the City's Public Works Agency. The Project proposes to demolish the existing onsite uses, which consist of three single-family residences and associated hardscape and landscape features, in order to construct 12 new single-family residences and a 3,500-square-foot temple. To accommodate the proposed development, the Project would install new domestic, irrigation, and fire service lines with metered connections to the proposed residences and temple. An 8-inch private domestic water line would be installed within the proposed private street and connected to the City's existing 4-inch and 8-inch ductile iron pipe (D.I.) water lines in Hazard Avenue. For the temple, a new 2-inch domestic water service, 2-inch recycled water service for irrigation, and a minimum 6-inch dedicated fire

service line will be installed. For the residences, a 1-inch recycled water service for irrigation and a 1-inch or 1½-inch fire sprinkler service line will be installed.

The majority of the proposed water infrastructure would be installed within previously disturbed or developed areas, including the existing building footprints and street. Minor portions of the work may extend into previously undeveloped areas, such as grass-covered open space; however, these activities would be limited in scope and size and would be designed to avoid or minimize disturbance. Any minor relocation of existing utility lines necessary to accommodate the new infrastructure would also be localized and consistent with typical urban infill development. Potential impacts associated with construction of the Project, including all associated utility infrastructure, such as temporary noise, dust, or vegetation impacts, have been addressed throughout the environmental analyses contained in this IS/MND, and no separate or significant impacts would result specifically from the installation of proposed water infrastructure.

Payment of standard water connection fees, ongoing user fees, and development impact fees under SAMC Section 39-2 would ensure that the Project's demand on existing water facilities is appropriately offset. All private water lines would be designed and constructed in accordance with the latest editions of the Standard Specifications for Public Works Construction, American Water Works Association Standards, and California Waterworks Standards per SAMC Section 39-3.

As a result, the Project would not require or result in the need for new or expanded public water treatment or distribution facilities, and no significant environmental impacts would occur as a result of the proposed on-site water infrastructure. Impacts related to the construction or relocation of water facilities would be less than significant, and no additional mitigation measures beyond those already identified within this IS/MND are required.

Wastewater Treatment

Wastewater generated on the Project site is collected by the City's local wastewater collection system, maintained by the City's Public Works Agency, and conveyed to the Orange County Sanitation District (OCSD) for regional treatment

To serve the proposed uses, the Project would install a new 8-inch private sewer line within the proposed private street, along with associated sewer laterals and terminal cleanouts, which would connect to the City's existing 8-inch vitrified clay pipe (VCP) sewer main along W. Hazard Avenue. The majority of this infrastructure would be installed within areas previously disturbed by past development associated with the existing on-site uses and surrounding street infrastructure. The Project may require the minor relocation of existing utility infrastructure to accommodate the installation of proposed utilities, which would be conducted in compliance with City requirements and would not represent a significant impact. Additionally, the installation of Project utility lines may extend within previously undisturbed areas; however, such work would be limited in scale, localized, and comparable to standard utility installation associated with infill development.

Any temporary construction impacts, such as those associated with air quality, dust, noise, and traffic, have been evaluated throughout the environmental analyses contained in this IS/MND, and no separate or significant impacts would occur specifically as a result of the proposed wastewater infrastructure. The Project would not require construction or expansion of regional wastewater treatment facilities, nor would it necessitate relocation of any existing treatment infrastructure.

The Project would be required to pay all applicable City sewer connection fees, ongoing user fees, development impact fees pursuant to SAMC Section 39-2, and all OCSD fees. All private sewer improvements would be designed and constructed in accordance with the latest editions of the Standard Specifications for Public Works Construction, American Water Works Association Standards, and California Waterworks Standards as required by SAMC Section 39-3.

For the reasons listed above, the Project would not result in significant impacts associated with the construction of new or expanded wastewater treatment facilities, nor would it require the relocation of existing wastewater treatment facilities. Impacts would be less than significant, and no mitigation is required.

Storm Drainage

As discussed in detail in Section 4.10, Hydrology and Water Quality, the Project would install a new storm drain pipe and a series of curb and gutters, on-site catch basins, and an underground infiltration basin to capture and retain stormwater on-site before discharging to the existing curb and gutter on Hazard Avenue. The Project's potential environmental effects for construction of the stormwater drainage improvements are analyzed in this IS/MND. Construction of the new storm drain improvements would be subject to compliance with all applicable local, State, and federal laws, ordinances, and regulations. Project construction would not encroach into the public right-of-way without undergoing proper review through the Public Works Agency, which would require an encroachment permit .Compliance with relevant laws, ordinances, and regulations would ensure the Project's impacts associated with the proposed storm drain improvements are reduced to less than significant levels. Therefore, impacts related to stormwater facilities would be less than significant, and no mitigation is required.

Dry Utilities

Natural gas, electricity, and telecommunication services are provided to the Project site by the Southern California Gas Company (SoCalGas), Southern California Edison (SCE), Spectrum, and AT&T, respectively. The Projects estimated energy use during construction and operations is provided in Tables 4-10 and 4-11, respectively, in Section 4.6, Energy. The Project would require the extension of an existing 3-inch SoCalGas gas service line within West Hazard Avenue to connect to proposed Project residences and temple uses. The extension and installation of utility service connections would occur within previously disturbed areas of the Project site, although minor limited work in landscaped or grass areas may be necessary. All work associated with utility extensions and connections would be conducted in accordance with applicable industry standards and City requirements. Existing

overhead utility lines and power poles along the site frontage on Hazard Avenue would be converted to underground utilities per SAMC Section 34-82. Construction would not encroach into the public right-of-way without review and issuance of an encroachment permit or Street Work Permit through the City's Public Works Department. Payment of standard utility connection fees and ongoing user fees would ensure that existing utility services can accommodate the proposed development.

As a result, the Project would not result in significant impacts related to natural gas, electricity, or telecommunications infrastructure. Impacts associated with installation, relocation, or minor extension of utilities would be less than significant, and no mitigation measures are required.

Summary

For the reasons listed above, the Project would not result in significant environmental impacts associated with the construction, expansion, or relocation of utilities. Impacts would be less than significant, and no additional mitigation measures beyond those already identified within this IS/MND related to temporary construction impacts would be required.

b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple years?

Less than Significant Impact. The Project would require water for uses typical of residential and institutional developments, including indoor use and outdoor landscaping and maintenance uses. As the Project would replace three existing single-family homes with 12 single-family homes and a 3,500-SF temple the Project would result in a net increase in water demand. The Project is estimated to result in an indoor water demand of approximately 1,507 gallons per day (gpd) associated with residential and temple uses, which equates to 550,433 gallons per year or 1.70 acre-feet per year (AFY). Outdoor water demand generated by the Project is expected to be approximately 1,971 gpd associated with on-site landscaping and maintenance activities, which equates to 720,156 gallons per year or 2.21 AFY[1]. The total indoor and outdoor water demand expected to be generated by the Project is approximately 3.91 AFY.

As previously mentioned, the Project site is within the City's water service area, which obtains water supply from a combination of local groundwater and imported water managed by the OCWD and Metropolitan Water District (MWD) (City of Santa Ana 2021b). According to the City's UWMP, which considered current and future demographics, future water use efficiency measures, and long-term weather availability in its demand projections, adequate water supplies are available to meet existing and projected water demands during normal, single dry, and multiple dry year scenarios through 2045, including growth anticipated under the City's General Plan (City of Santa Ana 2021b).

The incremental demand generated by the proposed Project is within the forecasted growth assumptions and supply capacity accounted for in the UWMP. The Project's estimated water

[1] Anticipated water demand generated by the Project was calculated as part of CalEEMod data provided in Appendix A to this IS/MND.

demand of 3.91 AFY would represent less than one percent of the City's total water demand of 33,882 AYF for 2025 and 33,578 AFY for 2045 (City of Santa Ana 2021b). To optimize outdoor water usage, the Project would install a drip irrigation system and drought-resistant plants. Additionally, the Project would be required to comply with water efficiency standards in the 2022 California Building Energy Efficiency Standards and 2022 California Green Building Standards Code. Therefore, the City has sufficient water supplies available to serve the Project without requiring new or expanded entitlements. Impacts related to water supply availability would be less than significant, and no mitigation is required.

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?

Less than Significant Impact. As previously mentioned, wastewater from the City's sanitary sewer system is treated by the OCSD. OCSD provides wastewater treatment services for approximately 2.6 million people within a 479-square-mile service area. Wastewater from the Project site would ultimately be treated at OCSD's Treatment Plant No. 1 in Fountain Valley, which has a permitted treatment capacity of 182 mgd. Average daily flows range from approximately 120 to 130 mgd, leaving an estimated residual treatment capacity of about 52 mgd.

Based on a residential wastewater generation factor of 369 gallons per day per unit and a commercial wastewater generation factor of 87 gallons per employee per day, the Project would generate approximately 4,372 gallons of wastewater per year (MWDOC 2016). As such, the Project would represent less than one percent of the remaining daily capacity (52 mgd) of Treatment Plant No. 1. The Project's uses would contribute a very minimal amount of wastewater when compared to the wastewater capacity of OCSD's Treatment Plant No. 1. Therefore, the Project would not exceed the capacity of the wastewater treatment facilities. Impacts would be less than significant, and no mitigation is required.

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?

Less than Significant Impact. Waste Management of Orange County provides commercial waste collection for the City, including the Project site. Waste Management operates two yards, located in the cities of Santa Ana and Irvine, and two transfer stations, located in the cities of Orange and Irvine. These facilities accept trash and recyclables from local waste haulers, businesses such as landscapers or construction firms, and local residents.

There are two primary landfill sites within the City, including Frank R. Bowerman Sanitary Landfill, located at 11002 Bee Canyon Road in Irvine, which has a permitted daily capacity of 11,500 tons per day, average daily disposal of 8,583 tons per day, a residual capacity of 2,917 tons per day, and estimated 2053 closure year. The other primary landfill is the Olinda Alpha Sanitary Landfill, located at 1942 North Valencia Avenue in Brea, which is currently operating at capacity (City of Santa Ana 2021c). Although not currently known which landfill

the site would utilize, for purposes of this analysis, the Project would be most likely to utilize the Frank R. Bowerman Sanitary Landfill.

Project construction is not anticipated to generate significant quantities of solid waste with the potential to affect the capacity of regional landfills. Further, all construction activities would be subject to conformance with relevant federal, State, and local requirements related to solid waste disposal. Specifically, the Project would be required to demonstrate compliance with the California Integrated Waste Management Act of 1989 (AB 939), which requires all California cities to "reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible." AB 939 requires that at least 50 percent of waste produced is recycled, reduced, or composted. The Project would also be required to demonstrate compliance with the 2022 California Green Building Standards Code (CALGreen Code), which includes design and construction measures that act to reduce construction-related waste through material conservation and other construction-related efficiency measures. Compliance with these regulations would ensure the Project's construction-related solid waste impacts would be less than significant, and no mitigation is required.

During operations, the Project is expected to result in a solid waste generation rate of 27.79 tons per year. The Project's nominal solid waste generation represents less than one percent of the total residual capacity of 2,917 tons per day from the Frank R. Bowerman Sanitary Landfill. As such, the Project is not anticipated to 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. Impacts in this regard would be less than significant, and no mitigation is required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. As stated above, the proposed Project would comply with all federal, State, and local statutes and regulations related to solid waste, including the California Integrated Waste Management Act and City recycling programs. Specifically, the Project would be subject to AB 939, which requires that at least 50 percent of waste produced is recycled, reduced, or composted, and would be required to comply with Section 4.408 of the 2022 CALGreen Code, which requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. Development would also comply with the requirements of AB 341 that mandates recycling for commercial and multifamily residential land uses. Additionally, if the Project generates organic waste in amounts over a certain threshold, it would be mandated to recycle organic matter in accordance with AB 1826 (City of Santa Ana 2021c). Therefore, the Project would comply with all federal, State and local management and reduction statuses and regulations related to solid waste. Impacts would be less than significant, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to utilities and service systems; therefore, no mitigation measures are required.

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

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed Project is not located within or near a State responsibility area (SRA) or a Fire Hazard Severity Zone (FHSZ), including a VHFHSZ, within a local responsibility area (LRA), as defined by CAL FIRE (CAL FIRE 2025). During construction activities, all construction staging areas would occur on-site and would be prohibited to occur on the street or within the public right-of-way. The Project would likely close lanes and temporarily alter traffic patterns along Hazard Avenue during construction. However, the Project would not completely close Hazard Avenue at any point. The Project would comply with all conditions set forth in the required Project-specific TCP, which would be reviewed and approved by the City prior to initiation of construction activities. Therefore, with implementation of the required TCP, the temporary closure of a few lanes along Hazard Avenue would not result in a significant interference of emergency access during construction.

During operations, the Project would provide primary vehicular ingress and egress to and from the Project site via a proposed two-way private street, which connects to West Hazard Avenue. The proposed private street terminates in a cul-de-sac and provides adequate fire truck turnaround in compliance with the Fire Code, incorporated as Chapter 14 of the SAMC. Furthermore, because Checklist Response Thresholds 4.20(a) through 4.20(d) apply only to those projects that are "located in or near state responsibility areas or lands classified as

very high fire hazard severity zones", no impacts related to these thresholds would occur, and no mitigation is required.

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?

No Impact. The Project site is in a highly urbanized area of the City, and there are no large, undeveloped areas and/or steep slopes on or near the site that would exacerbate fire risks such that would expose the Project and its occupants to wildfire-related hazards. The site and the surrounding areas are not located in designated VHFHSZ, as identified by CAL FIRE. Rather, the site is within an area defined as having no fire hazard severity. Therefore, the Project is not expected to exacerbate wildfire risks and create pollutants associated with wildfire or uncontrolled spread of wildfire. Additionally, because Checklist Response Thresholds 4.20(a) through 4.20(d) apply only to those projects that are "located in or near state responsibility areas or lands classified as very high fire hazard severity zones", no impacts related to these thresholds would occur, and no mitigation is required.

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?

No Impact. As previously described, the proposed Project is not within a designated VHFHSZ as defined by CAL FIRE. As discussed in Section 3.0, Project Description, the site is located in a highly urbanized area and surrounded by developed land on all sides. All proposed structures would be constructed to meet current building and fire codes. Implementation of the proposed Project and maintenance of associated infrastructure would not exacerbate fire risk such that would result in a significant temporary or ongoing impact. Additionally, because Checklist Response Thresholds 4.20(a) through 4.20(d) apply only to those projects that are "located in or near state responsibility areas or lands classified as very high fire hazard severity zones", no impacts related to these thresholds would occur, and no mitigation is required.

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?

No Impact. As previously described, the proposed Project is not within a designated VHFHSZ as defined by CAL FIRE. The Project is in a highly urbanized area that is in a generally flat topographical area away from downslope or landslide areas. Specifically, implementation of the Project would not 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. Additionally, because Checklist Response Thresholds 4.20(a) through 4.20(d) apply only to those projects that are "located in or near state responsibility areas or lands classified as very high fire hazard severity zones", no impacts related to these thresholds would occur, and no mitigation is required.

Mitigation Measures

Project implementation would not result in significant impacts related to wildfire; therefore, no mitigation measures are required.

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:

Would the Project:

a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation Incorporated. There are no sensitive biological resources, habitats, or species on the Project site that would be affected by the Project. As indicated in Section 4.4, Biological Resources, of this IS/MND, given the current developed condition and the existing trees and shrubs on the site, migratory birds may nest on the vegetation on-site. However, compliance with the MBTA would avoid impacts to active bird nests during construction of the Project. Impacts on migratory birds would be less than significant.

As discussed in Section 4.5, Cultural Resources, potential impacts to unknown cultural resources and human remains from implementation of the Project would be less than significant with implementation of RR CUL-1 and with implementation of MM CUL-1. Therefore, with the incorporation of identified RRs and MMs, the Project does not have the potential to 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 mitigation incorporated.

Further, as discussed in Section 4.18, Tribal Cultural Resources, potential impacts to tribal cultural resources would be less than significant with incorporation of the voluntary and agreed upon mitigation measures by the City and Kizh Nation. Although a significant impact on known tribal cultural resources has not been identified, the City would voluntarily implement MMs TCR-1, TCR 2, and TCR-3, which recognize the Kizh Nations' concerns during construction activities; would require the presence of a Native American monitor to observe ground disturbing activity; and provide the discovery protocol upon unanticipated discovery of a TCR for non-funerary/ceremonial and for funerary or ceremonial object. Therefore, with incorporation of MMs TCR 1, TCR-2 and TCR-3, the Project does not have the potential to 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 mitigation incorporated.

b) Have impacts that are individually limited, but cumulatively considerable? ('Cumulatively considerable' means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)

Less than Significant Impact. The proposed Project would result in potentially significant project-level impacts involving cultural resources and geology and soils. However, feasible mitigation measures have been identified that would reduce these impacts to less than significant levels. All reasonably foreseeable future development in the City would be subject to the same land use and environmental regulations that have been described throughout this document. Furthermore, all development projects are guided by the policies identified in the City's General Plan and by the regulations established in the SAMC. Therefore, compliance with applicable land use and environmental regulations would ensure that environmental effects associated with the proposed Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts. Cumulative impacts would therefore be less than significant with mitigation incorporated. No further mitigation is required.

c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. As detailed throughout this IS/MND, the proposed Project would not exceed any significance thresholds or result in significant impacts in the environmental categories typically associated with indirect or direct effects to human beings, such as aesthetics, air quality, hazards and hazardous materials, noise, public services, or transportation. All such impacts would be considered less than significant or less than significant with mitigation incorporated. As such, impacts would be less than significant, and no mitigation is required.

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Appendix A

CalEEMod Data

Bella terra Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	Bella terra
Construction Start Date	1/5/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	18
Location	4018 Hazard Ave, Santa Ana, CA 92703, USA
County	Orange
City	Santa Ana
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5836
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.35

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Place of Worship	3.2	1000sqft	0.40	3,200	55,566	—	—	—

Single Family Housing	12	Dwelling Unit	1.7	23,400	0.00	—	36	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14	13	15	0.03	0.58	2.1	2.6	0.54	0.96	1.5	0.10	1.3	3,093
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.2	10	12	0.02	0.36	0.09	0.45	0.33	0.02	0.35	0.03	0.01	2,339
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.93	6.9	8.5	0.02	0.23	0.15	0.39	0.22	0.06	0.27	0.02	0.13	1,658
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.17	1.3	1.5	< 0.005	0.04	0.03	0.07	0.04	0.01	0.05	< 0.005	0.02	274

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	1.5	13	15	0.03	0.58	2.1	2.6	0.54	0.94	1.5	0.08	1.2	3,002
2027	8.9	13	15	0.03	0.55	2.1	2.6	0.50	0.96	1.5	0.10	1.3	3,093
2028	14	9.3	12	0.02	0.29	0.20	0.40	0.26	0.05	0.28	0.03	0.54	2,337
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.2	10	12	0.02	0.36	0.09	0.45	0.33	0.02	0.35	0.03	0.01	2,339
2027	1.1	9.8	12	0.02	0.32	0.09	0.41	0.30	0.02	0.32	0.03	0.01	2,336
2028	1.1	9.3	12	0.02	0.29	0.09	0.37	0.26	0.02	0.28	0.03	0.01	2,334
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.52	4.5	5.3	0.01	0.17	0.14	0.30	0.15	0.05	0.21	0.02	0.10	1,036
2027	0.93	6.9	8.5	0.02	0.23	0.15	0.39	0.22	0.06	0.27	0.02	0.13	1,658
2028	0.61	2.1	2.7	0.01	0.06	0.02	0.09	0.06	0.01	0.07	0.01	0.03	529
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.10	0.82	0.96	< 0.005	0.03	0.02	0.06	0.03	0.01	0.04	< 0.005	0.02	171
2027	0.17	1.3	1.5	< 0.005	0.04	0.03	0.07	0.04	0.01	0.05	< 0.005	0.02	274
2028	0.11	0.38	0.50	< 0.005	0.01	< 0.005	0.02	0.01	< 0.005	0.01	< 0.005	0.01	88

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.4	0.65	6.4	0.01	0.02	1.3	1.3	0.02	0.33	0.35	0.06	5.0	1,860
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.3	0.68	5.3	0.01	0.02	1.3	1.3	0.02	0.33	0.35	0.06	0.31	1,800

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.2	0.54	4.4	0.01	0.02	0.91	0.93	0.02	0.23	0.25	0.05	1.7	1,416
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.22	0.10	0.81	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.05	0.01	0.28	234

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.73	0.49	5.5	0.01	0.01	1.3	1.3	0.01	0.33	0.34	0.06	4.9	1,431
Area	0.70	0.01	0.82	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	2.4
Energy	0.01	0.15	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	358
Water	—	—	—	—	—	—	—	—	—	—	< 0.005	—	16
Waste	—	—	—	—	—	—	—	—	—	—	0.00	—	52
Refrig.	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Total	1.4	0.65	6.4	0.01	0.02	1.3	1.3	0.02	0.33	0.35	0.06	5.0	1,860
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.72	0.53	5.2	0.01	0.01	1.3	1.3	0.01	0.33	0.34	0.06	0.13	1,374
Area	0.62	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.15	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	358
Water	—	—	—	—	—	—	—	—	—	—	< 0.005	—	16
Waste	—	—	—	—	—	—	—	—	—	—	0.00	—	52
Refrig.	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Total	1.3	0.68	5.3	0.01	0.02	1.3	1.3	0.02	0.33	0.35	0.06	0.31	1,800

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.52	0.38	3.8	0.01	0.01	0.91	0.92	0.01	0.23	0.24	0.04	1.5	988
Area	0.67	0.01	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	1.6
Energy	0.01	0.15	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	358
Water	—	—	—	—	—	—	—	—	—	—	< 0.005	—	16
Waste	—	—	—	—	—	—	—	—	—	—	0.00	—	52
Refrig.	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Total	1.2	0.54	4.4	0.01	0.02	0.91	0.93	0.02	0.23	0.25	0.05	1.7	1,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.09	0.07	0.69	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	0.01	0.25	164
Area	0.12	< 0.005	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	0.27
Energy	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	59
Water	—	—	—	—	—	—	—	—	—	—	< 0.005	—	2.6
Waste	—	—	—	—	—	—	—	—	—	—	0.00	—	8.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.22	0.10	0.81	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.05	0.01	0.28	234

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.4	13	15	0.02	0.51	—	0.51	0.47	—	0.47	0.02	—	2,503

Demolition	—	—	—	—	—	0.25	0.25	—	0.04	0.04	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.39	0.44	< 0.005	0.02	—	0.02	0.01	—	0.01	< 0.005	—	75
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	12
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.66	0.00	0.00	0.16	0.16	0.00	0.04	0.04	0.01	0.57	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.38	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	0.05	0.64	334
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.01	4.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.7

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.1	9.8	11	0.03	0.42	—	0.42	0.39	—	0.39	0.02	—	2,725
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.13	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	37
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	6.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.40	0.00	0.00	0.10	0.10	0.00	0.02	0.02	< 0.005	0.34	99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	1.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading - Temple (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.4	13	14	0.02	0.58	—	0.58	0.53	—	0.53	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	1.8	1.8	—	0.89	0.89	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.56	0.62	< 0.005	0.03	—	0.03	0.02	—	0.02	< 0.005	—	108
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	18
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.53	0.00	0.00	0.13	0.13	0.00	0.03	0.03	< 0.005	0.45	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.38	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	0.05	0.65	338
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	< 0.005	0.01	5.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.92
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.4

3.7. Grading - Residential (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.4	12	14	0.02	0.54	—	0.54	0.50	—	0.50	0.02	—	2,464
Dust From Material Movement	—	—	—	—	—	1.8	1.8	—	0.89	0.89	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.53	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	< 0.005	—	108
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	18
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.49	0.00	0.00	0.13	0.13	0.00	0.03	0.03	< 0.005	0.41	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.56	0.25	< 0.005	0.01	0.13	0.13	0.01	0.04	0.04	0.08	0.90	499
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	< 0.005	0.01	5.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.02	22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.6

3.9. Building Construction - Temple (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.2	10	12	0.02	0.36	—	0.36	0.33	—	0.33	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.2	10	12	0.02	0.36	—	0.36	0.33	—	0.33	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.4	3.9	0.01	0.12	—	0.12	0.11	—	0.11	0.01	—	735
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.61	0.71	< 0.005	0.02	—	0.02	0.02	—	0.02	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.30	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.26	75
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	0.15	59
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.26	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.01	71
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	< 0.005	59
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	< 0.005	0.04	24
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.02	20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.01	4.0

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction - Temple (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.1	9.7	12	0.02	0.32	—	0.32	0.30	—	0.30	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.1	9.7	12	0.02	0.32	—	0.32	0.30	—	0.30	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.6	3.1	0.01	0.08	—	0.08	0.08	—	0.08	< 0.005	—	583
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.47	0.56	< 0.005	0.02	—	0.02	0.01	—	0.01	< 0.005	—	97
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.23	74
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	0.13	58
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.01	70
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	< 0.005	58
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	< 0.005	0.03	19
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	15
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	3.1
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction - Residential (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.1	9.7	12	0.02	0.32	—	0.32	0.30	—	0.30	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.1	9.7	12	0.02	0.32	—	0.32	0.30	—	0.30	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	3.7	4.4	0.01	0.12	—	0.12	0.11	—	0.11	0.01	—	834
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.67	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	< 0.005	—	138
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.23	74
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	0.13	58
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.01	70
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	< 0.005	58
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.03	0.03	0.00	0.01	0.01	< 0.005	0.04	27
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.02	22

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	< 0.005	0.01	4.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Building Construction - Residential (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.1	9.2	12	0.02	0.28	—	0.28	0.26	—	0.26	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.1	9.2	12	0.02	0.28	—	0.28	0.26	—	0.26	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.0	2.5	0.01	0.06	—	0.06	0.06	—	0.06	< 0.005	—	480
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.37	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	79
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.26	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.21	72
Vendor	< 0.005	0.05	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	0.12	57
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.07	0.07	0.00	0.02	0.02	< 0.005	0.01	69
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.01	< 0.005	57
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	< 0.005	0.02	15
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	2.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Paving - Temple (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.65	5.7	8.2	0.01	0.23	—	0.23	0.21	—	0.21	0.01	—	1,248
Paving	0.29	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	17
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	2.8
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.74	0.00	0.00	0.20	0.20	0.00	0.05	0.05	0.01	0.61	195
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	2.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Paving - Residential (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	5.5	8.2	0.01	0.20	—	0.20	0.19	—	0.19	0.01	—	1,248
Architectural Coatings	13	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	17
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	2.8
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.70	0.00	0.00	0.20	0.20	0.00	0.05	0.05	< 0.005	0.54	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	2.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.21. Architectural Coating - Temple (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.1	< 0.005	0.02	—	0.02	0.02	—	0.02	< 0.005	—	134
Architectural Coatings	8.8	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	1.8
Architectural Coatings	0.12	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	0.30
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	< 0.005	0.08	26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.23. Architectural Coating - Residential (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.81	1.1	< 0.005	0.02	—	0.02	0.01	—	0.01	< 0.005	—	134
Architectural Coatings	13	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	1.8
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	0.30
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.03	0.03	0.00	0.01	0.01	< 0.005	0.07	25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.29	0.20	2.3	0.01	< 0.005	0.56	0.56	< 0.005	0.14	0.15	0.02	2.1	613
Single Family Housing	0.43	0.28	3.2	0.01	< 0.005	0.74	0.75	< 0.005	0.19	0.19	0.03	2.8	819
Total	0.73	0.49	5.5	0.01	0.01	1.3	1.3	0.01	0.33	0.34	0.06	4.9	1,431
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.29	0.22	2.2	0.01	< 0.005	0.56	0.56	< 0.005	0.14	0.15	0.02	0.05	588
Single Family Housing	0.43	0.31	3.0	0.01	< 0.005	0.74	0.75	< 0.005	0.19	0.19	0.03	0.07	786
Total	0.72	0.53	5.2	0.01	0.01	1.3	1.3	0.01	0.33	0.34	0.06	0.13	1,374
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.02	0.01	0.14	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	< 0.005	0.05	35
Single Family Housing	0.08	0.06	0.55	< 0.005	< 0.005	0.13	0.13	< 0.005	0.03	0.03	0.01	0.19	129
Total	0.09	0.07	0.69	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	0.01	0.25	164

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	< 0.005	—	45
Single Family Housing	—	—	—	—	—	—	—	—	—	—	< 0.005	—	121
Total	—	—	—	—	—	—	—	—	—	—	< 0.005	—	166
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	< 0.005	—	45
Single Family Housing	—	—	—	—	—	—	—	—	—	—	< 0.005	—	121
Total	—	—	—	—	—	—	—	—	—	—	< 0.005	—	166
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	< 0.005	—	7.4
Single Family Housing	—	—	—	—	—	—	—	—	—	—	< 0.005	—	20
Total	—	—	—	—	—	—	—	—	—	—	< 0.005	—	27

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	44
Single Family Housing	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	148
Total	0.01	0.15	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	192
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	44
Single Family Housing	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	148
Total	0.01	0.15	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	< 0.005	—	192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	7.3
Single Family Housing	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	24
Total	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	32

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.57	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.01	0.82	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	2.4
Total	0.70	0.01	0.82	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	2.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.57	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.62	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.10	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	0.27
Total	0.12	< 0.005	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	0.27

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	< 0.005	—	7.4
Single Family Housing	—	—	—	—	—	—	—	—	—	—	< 0.005	—	8.2
Total	—	—	—	—	—	—	—	—	—	—	< 0.005	—	16
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	< 0.005	—	7.4
Single Family Housing	—	—	—	—	—	—	—	—	—	—	< 0.005	—	8.2
Total	—	—	—	—	—	—	—	—	—	—	< 0.005	—	16
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	< 0.005	—	1.2
Single Family Housing	—	—	—	—	—	—	—	—	—	—	< 0.005	—	1.4
Total	—	—	—	—	—	—	—	—	—	—	< 0.005	—	2.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	0.00	—	34
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.00	—	18
Total	—	—	—	—	—	—	—	—	—	—	0.00	—	52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	0.00	—	34
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.00	—	18
Total	—	—	—	—	—	—	—	—	—	—	0.00	—	52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	0.00	—	5.7
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.00	—	3.0
Total	—	—	—	—	—	—	—	—	—	—	0.00	—	8.7

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.17	0.17
Total	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.17	0.17
Total	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/1/2026	6/15/2026	5.0	11	—
Site Preparation	Site Preparation	6/16/2026	6/22/2026	5.0	5.0	—
Grading - Temple	Grading	6/23/2026	7/14/2026	5.0	16	—
Grading - Residential	Grading	5/29/2027	6/21/2027	5.0	16	—
Building Construction - Temple	Building Construction	7/15/2026	5/15/2027	5.0	218	—
Building Construction - Residential	Building Construction	6/22/2027	4/20/2028	5.0	218	—
Paving - Temple	Paving	5/16/2027	5/23/2027	5.0	5.0	—
Paving - Residential	Architectural Coating	4/21/2028	4/27/2028	5.0	5.0	—

Architectural Coating - Temple	Architectural Coating	5/24/2027	5/28/2027	5.0	5.0	—
Architectural Coating - Residential	Architectural Coating	4/28/2028	5/4/2028	5.0	5.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.0	8.0	84	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.0	33	0.73
Site Preparation	Graders	Diesel	Average	1.00	8.0	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.0	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.0	84	0.37
Grading - Temple	Graders	Diesel	Average	1.00	8.0	148	0.41
Grading - Temple	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Grading - Temple	Tractors/Loaders/Backhoes	Diesel	Average	2.0	7.0	84	0.37
Grading - Residential	Graders	Diesel	Average	1.00	8.0	148	0.41
Grading - Residential	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Grading - Residential	Tractors/Loaders/Backhoes	Diesel	Average	2.0	7.0	84	0.37
Building Construction - Temple	Cranes	Diesel	Average	1.00	8.0	367	0.29
Building Construction - Temple	Forklifts	Diesel	Average	2.0	7.0	82	0.20
Building Construction - Temple	Generator Sets	Diesel	Average	1.00	8.0	14	0.74

Building Construction - Temple	Tractors/Loaders/Back	Diesel	Average	1.00	6.0	84	0.37
Building Construction - Temple	Welders	Diesel	Average	3.0	8.0	46	0.45
Building Construction - Residential	Cranes	Diesel	Average	1.00	8.0	367	0.29
Building Construction - Residential	Forklifts	Diesel	Average	2.0	7.0	82	0.20
Building Construction - Residential	Generator Sets	Diesel	Average	1.00	8.0	14	0.74
Building Construction - Residential	Tractors/Loaders/Back hoes	Diesel	Average	1.00	6.0	84	0.37
Building Construction - Residential	Welders	Diesel	Average	3.0	8.0	46	0.45
Paving - Temple	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.0	84	0.37
Paving - Temple	Pavers	Diesel	Average	1.00	8.0	81	0.42
Paving - Temple	Paving Equipment	Diesel	Average	1.00	8.0	89	0.36
Paving - Temple	Rollers	Diesel	Average	2.0	8.0	36	0.38
Paving - Temple	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving - Residential	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.0	84	0.37
Paving - Residential	Pavers	Diesel	Average	1.00	8.0	81	0.42
Paving - Residential	Paving Equipment	Diesel	Average	1.00	8.0	89	0.36
Paving - Residential	Rollers	Diesel	Average	2.0	8.0	36	0.38
Paving - Residential	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Architectural Coating - Temple	Air Compressors	Diesel	Average	1.00	6.0	37	0.48
Architectural Coating - Residential	Air Compressors	Diesel	Average	1.00	6.0	37	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	13	19	LDA,LDT1,LDT2
Demolition	Vendor	—	10	HHDT,MHDT
Demolition	Hauling	4.6	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	7.5	19	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading - Temple	Worker	10.0	19	LDA,LDT1,LDT2
Grading - Temple	Vendor	—	10	HHDT,MHDT
Grading - Temple	Hauling	4.7	20	HHDT
Grading - Temple	Onsite truck	—	—	HHDT
Grading - Residential	Worker	10.0	19	LDA,LDT1,LDT2
Grading - Residential	Vendor	—	10	HHDT,MHDT
Grading - Residential	Hauling	7.1	20	HHDT
Grading - Residential	Onsite truck	—	—	HHDT
Building Construction - Temple	Worker	5.7	19	LDA,LDT1,LDT2
Building Construction - Temple	Vendor	1.8	10	HHDT,MHDT
Building Construction - Temple	Hauling	0.00	20	HHDT
Building Construction - Temple	Onsite truck	—	—	HHDT
Building Construction - Residential	Worker	5.7	19	LDA,LDT1,LDT2
Building Construction - Residential	Vendor	1.8	10	HHDT,MHDT
Building Construction - Residential	Hauling	0.00	20	HHDT
Building Construction - Residential	Onsite truck	—	—	HHDT

Paving - Temple	Worker	15	19	LDA,LDT1,LDT2
Paving - Temple	Vendor	—	10	HHDT,MHDT
Paving - Temple	Hauling	0.00	20	HHDT
Paving - Temple	Onsite truck	—	—	HHDT
Paving - Residential	Worker	15	19	LDA,LDT1,LDT2
Paving - Residential	Vendor	—	10	HHDT,MHDT
Paving - Residential	Hauling	0.00	20	HHDT
Paving - Residential	Onsite truck	—	—	HHDT
Architectural Coating - Temple	Worker	2.0	19	LDA,LDT1,LDT2
Architectural Coating - Temple	Vendor	—	10	HHDT,MHDT
Architectural Coating - Temple	Hauling	0.00	20	HHDT
Architectural Coating - Temple	Onsite truck	—	—	HHDT
Architectural Coating - Residential	Worker	2.0	19	LDA,LDT1,LDT2
Architectural Coating - Residential	Vendor	—	10	HHDT,MHDT
Architectural Coating - Residential	Hauling	0.00	20	HHDT
Architectural Coating - Residential	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating - Temple	11,846	3,949	1,200	400	—

Paving - Residential	17,769	5,923	1,800	600	—
Architectural Coating - Residential	17,769	5,923	1,800	600	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	4,390	0.00
Grading - Temple	600	—	31	0.00	0.00
Grading - Residential	900	—	16	0.00	0.00
Paving - Temple	0.00	0.00	0.00	0.00	0.60

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving - Temple	Place of Worship	0.04	0%
Paving - Temple	Single Family Housing	0.56	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005

2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Place of Worship	24	21	96	12,316	198	171	789	101,711
Single Family Housing	143	144	130	51,584	1,040	1,050	942	375,033

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Place of Worship	Wood Fireplaces	0	0
Place of Worship	Gas Fireplaces	0	0
Place of Worship	Propane Fireplaces	0	0
Place of Worship	Electric Fireplaces	0	0
Place of Worship	No Fireplaces	0	0
Place of Worship	Conventional Wood Stoves	0	0
Place of Worship	Catalytic Wood Stoves	0	0
Place of Worship	Non-Catalytic Wood Stoves	0	0
Place of Worship	Pellet Wood Stoves	0	0
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	0	0
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0

Single Family Housing	No Fireplaces	0	0
Single Family Housing	Conventional Wood Stoves	0	0
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

—	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
undefined	47,385	15,795	4,800	1,600	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Place of Worship	30,697	532	0.0330	0.0040	136,966
Single Family Housing	82,742	532	0.0330	0.0040	460,024

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)

Place of Worship	100,125	720,156
Single Family Housing	450,308	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Place of Worship	18	0.00
Single Family Housing	9.6	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.0	4.0	18
Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.5	7.5	20
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	10	annual days of extreme heat
Extreme Precipitation	3.9	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	48
AQ-PM	75

AQ-DPM	86
Drinking Water	46
Lead Risk Housing	75
Pesticides	0.00
Toxic Releases	87
Traffic	73
Effect Indicators	—
CleanUp Sites	43
Groundwater	38
Haz Waste Facilities/Generators	42
Impaired Water Bodies	0.00
Solid Waste	53
Sensitive Population	—
Asthma	70
Cardio-vascular	72
Low Birth Weights	29
Socioeconomic Factor Indicators	—
Education	88
Housing	95
Linguistic	97
Poverty	80
Unemployment	32

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	17.79802387

Employed	38.86821506
Median HI	27.74284614
Education	—
Bachelor's or higher	9.239060695
High school enrollment	100
Preschool enrollment	37.39253176
Transportation	—
Auto Access	35.49339151
Active commuting	46.27229565
Social	—
2-parent households	63.63403054
Voting	5.068651354
Neighborhood	—
Alcohol availability	26.5622995
Park access	81.35506224
Retail density	79.07096112
Supermarket access	68.13807263
Tree canopy	17.20775055
Housing	—
Homeownership	45.22006929
Housing habitability	16.55331708
Low-inc homeowner severe housing cost burden	19.58167586
Low-inc renter severe housing cost burden	43.39792121
Uncrowded housing	6.557166688
Health Outcomes	—
Insured adults	8.494803028
Arthritis	53.0
Asthma ER Admissions	42.6

High Blood Pressure	45.3
Cancer (excluding skin)	74.5
Asthma	43.1
Coronary Heart Disease	40.3
Chronic Obstructive Pulmonary Disease	31.1
Diagnosed Diabetes	17.6
Life Expectancy at Birth	47.8
Cognitively Disabled	50.3
Physically Disabled	80.2
Heart Attack ER Admissions	36.8
Mental Health Not Good	27.8
Chronic Kidney Disease	27.1
Obesity	53.5
Pedestrian Injuries	86.2
Physical Health Not Good	22.5
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	27.2
No Leisure Time for Physical Activity	10.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	31.0
Elderly	49.5
English Speaking	7.7
Foreign-born	95.9
Outdoor Workers	20.2

Climate Change Adaptive Capacity	—
Impervious Surface Cover	21.1
Traffic Density	61.2
Traffic Access	87.4
Other Indices	—
Hardship	89.2
Other Decision Support	—
2016 Voting	29.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	82
Healthy Places Index Score for Project Location (b)	22
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Total site landscape area represented under Place of Worship.
Construction: Construction Phases	based on applicant provided schedule; Architectural Coating used as surrogate for Residential Paving
Construction: Off-Road Equipment	Architectural Coating used as surrogate for residential paving; paving equipment added to AC phase accordingly.
Construction: Dust From Material Movement	Provided by Project Applicant
Construction: Trips and VMT	"Paving - residential" trips updated to reflect paving worker trips.
Construction: Paving	Based on site plan
Operations: Vehicle Data	Trip gen adjusted for consistency with TIA
Operations: Hearths	No fireplaces or wood stoves

Appendix B

Cultural Resources Records Search Results

Report List

3SAN050102

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01764	Cellular -	1998	Bonner, Wayne H.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 094-01, in the City of Santa Ana, California	Chambers Group, Inc.	
OR-01954		1996	Padon, Beth	Archaeological Archival Review and Survey of the Co 5 and Co 6 Flood Control Channels, Anaheim, Newport, and Seal Beach USGS 7.5' Quadrangles, Orange County, California	Petra Resources, Inc.	
OR-03520		2009	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate LA33321C (Rosita Park Lt. Standard), 4600 West Hazard Avenue, Santa Ana, Orange County, Califronia	Michael Brandman Associates	
OR-03776		2000	Padon, Beth	Historic Property Survey Report for Harbor Boulevard Smart Street Improvements, City of Garden Grove, Orange County, California.	Discovery Works, Inc.	30-157376, 30-176876, 30-176877, 30-176878, 30-176879, 30-176880, 30-176881, 30-176882, 30-176883, 30-176884, 30-176885, 30-176886, 30-176887, 30-176888, 30-176889, 30-176890, 30-176891, 30-176892, 30-176893, 30-176894, 30-176895, 30-176896, 30-176897, 30-176898, 30-176899, 30-176900, 30-176901, 30-176902, 30-176903, 30-176904, 30-176905, 30-176906, 30-176907, 30-176908, 30-176909, 30-176910, 30-176911, 30-176912, 30-176913, 30-176914, 30-176915, 30-176916, 30-176917, 30-176918, 30-176919, 30-176920, 30-176921, 30-176922, 30-176923, 30-176924, 30-176925, 30-176926, 30-176927, 30-176928, 30-176929, 30-176930, 30-176931, 30-176932, 30-176933, 30-176934, 30-176935, 30-176936, 30-176937, 30-176938, 30-176939, 30-176940, 30-176941, 30-176942, 30-176943
OR-03776A		2000	Mc Elory, Sheila	Historic Architectural Survey Report for Harbor Boulevard Smart Street Project For the City of Garden Grove, California	CIRCA	

Report List

3SAN050102

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-03889		2003	Dice, Michael	A Cultural Resources Assessment: The Newhope Street Resurfacing Project, Edinger Avenue to Westminster Avenue, City of Santa Ana, California	Michael Brandman Associates	
OR-04310		2013	Haas, Hannah, Hunt, Kevin, and Ramirez, Robert	Cultural Resources Study for the 803-815 N Harbor Boulevard Residential Project Santa Ana, Orange County, California	City of Santa Ana	30-176916, 30-176920, 30-176921, 30-176922, 30-176923, 30-176924, 30-176925, 30-176926, 30-176927, 30-176928, 30-176929, 30-176930, 30-176931, 30-176932, 30-177500

Resource List

3SAN050102

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-176916		OHP Property Number - 154114; Resource Name - 1509 N Harbor; Other - map #140; Other - zip 92703	Building	Historic	HP05		OR-03776, OR-04195, OR-04310
P-30-176917		OHP Property Number - 154113; Resource Name - 1513 N Harbor; Other - map #139; Other - zip 92703	Building	Historic	HP05		OR-03776, OR-04195
P-30-176918		OHP Property Number - 154112; Resource Name - 3802 W Westminster; Other - map #121	Building	Historic	HP06		OR-03776, OR-04195
P-30-176919		OHP Property Number - 154111; Resource Name - 1406 N Harbor; Other - map #116; Other - zip 92703	Building	Historic	HP06		OR-03776
P-30-176920		OHP Property Number - 154110; Resource Name - 1402 N Harbor; Other - map #115; Other - zip 92703	Building	Historic	HP06		OR-03776, OR-04310
P-30-176921		OHP Property Number - 154109; Resource Name - 1221 N Harbor; Other - map #107; Other - zip 92703	Building	Historic	HP02		OR-03776, OR-04310
P-30-176922		OHP Property Number - 154108; Resource Name - Frank's Lawnmowers; Other - zip 92703; Other - map 105	Building	Historic	HP06		OR-03776, OR-04310
P-30-176923		OHP Property Number - 154107; Resource Name - 913 N Harbor; Other - map #97; Other - zip 92703	Building	Historic	HP02		OR-03776, OR-04310
P-30-176924		OHP Property Number - 154106; Resource Name - US Airweld Inc; Other - map #90; Other - zip 92703	Building	Historic	HP06		OR-03776, OR-04310, OR-04388

Resource List

3SAN050102

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-176925		OHP Property Number - 154105; Resource Name - Botanica Nursery; Other - map #88; Other - zip 92703	Building	Historic	HP06		OR-03776, OR-04310, OR-04388
P-30-176926		OHP Property Number - 154104; Resource Name - Cozy Corner Drive-In; Other - map #85; Other - zip 92703	Building	Historic	HP06		OR-03776, OR-04310, OR-04388
P-30-176927		OHP Property Number - 154103; Resource Name - 214 N Figueroa St; Other - map #76; Other - zip 92703	Building	Historic	HP02		OR-03776, OR-04310, OR-04388
P-30-176928		OHP Property Number - 154102; Resource Name - 222 N Harbor; Other - map #75; Other - zip 92703	Building	Historic	HP02		OR-03776, OR-04310, OR-04388
P-30-176929		OHP Property Number - 154101; Resource Name - 226 N Harbor; Other - 74; Other - zip 92703	Building	Historic	HP02		OR-03776, OR-04310, OR-04388
P-30-176930		OHP Property Number - 154100; Resource Name - 322 N Harbor; Other - map #71; Other - zip 92703	Building	Historic	HP02		OR-03776, OR-04310, OR-04388
P-30-176931		OHP Property Number - 154099; Resource Name - Kings Kars; Other - map #64; Other - zip 92703	Building	Historic	HP06		OR-03776, OR-04310, OR-04388
P-30-176932		OHP Property Number - 154098; Resource Name - Khoa's Auto Service; Other - map #61; Other - zip 92703	Building	Historic	HP06		OR-03776, OR-04310, OR-04388
P-30-177500		Resource Name - Fredson Trailer / RV Supply	Building	Historic	HP06		OR-04310, OR-04388

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
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Vacant

ACTING EXECUTIVE SECRETARY
Steven Quinn

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

June 27, 2025

Charles Cisneros
Psomas

Via Email to: charles.cisneros@psomas.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, 3SAN050102 Project, Orange County

To Whom It May Concern:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Orange County
6/27/2025

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Cahuilla Band of Indians	F	Anthony Madrigal, Tribal Historic Preservation Officer	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		anthonymad2002@gmail.com	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
Cahuilla Band of Indians	F	Erica Schenk, Chairperson	52701 CA Highway 371 Anza, CA, 92539	(951) 590-0942	(951) 763-2808	chair@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	2/1/2024
Cahuilla Band of Indians	F	BobbyRay Esparza, Cultural Director	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		besparza@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
Gabrieleno Band of Mission Indians - Kizh Nation	N	Andrew Salas, Chairperson	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno Band of Mission Indians - Kizh Nation	N	Christina Swindall Martinez, Secretary	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	8/18/2023
Gabrieleno/Tongva San Gabriel Band of Mission Indians	N	Anthony Morales, Chairperson	P.O. Box 693 San Gabriel, CA, 91778	(626) 483-3564	(626) 286-1262	GTTribalcouncil@aol.com	Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	12/4/2023
Gabrielino Tongva Indians of California Tribal Council	N	Robert Dorame, Chairperson	P.O. Box 490 Bellflower, CA, 90707	(562) 761-6417	(562) 761-6417	gtongva@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino Tongva Indians of California Tribal Council	N	Christina Conley, Cultural Resource Administrator	P.O. Box 941078 Simi Valley, CA, 93094	(626) 407-8761		christina.marsden@alumni.usc.edu	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/16/2023
Gabrielino/Tongva Nation	N	Sandonne Goad, Chairperson	106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012	(951) 807-0479		sgoad@gabrielino-tongva.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	3/28/2023
Gabrielino-Tongva Tribe	N	Charles Alvarez, Chairperson	23454 Vanowen Street West Hills, CA, 91307	(310) 403-6048		Chavez1956metro@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	5/30/2023
Gabrielino-Tongva Tribe	N	Sam Dunlap, Cultural Resource Director	P.O. Box 3919 Seal Beach, CA, 90740	(909) 262-9351		tongvatcr@gmail.com	Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Santa Barbara,Ventura	5/30/2023
Juaneno Band of Mission Indians Acjachemen Nation - Belardes	N	Joyce Perry, Cultural Resource Director	4955 Paseo Segovia Irvine, CA, 92603	(949) 293-8522		kaamalam@gmail.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	3/17/2023
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Heidi Lucero, THPO/MLD	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(562) 879-2884		thpo@jbmian.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	2/4/2025
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Nathan Banda, Chairman	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(949) 426-8804		nbanda@jbmian.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	2/4/2025
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Shannon Wingfield, Secretary	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(949) 488-3484		webmaster@jbmian.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	2/4/2025
Pala Band of Mission Indians	F	Shasta Gaughen, Tribal Historic Preservation Officer	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3515		sgaughen@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pala Band of Mission Indians	F	Alexis Wallick, Assistant THPO	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3537		awallick@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pala Band of Mission Indians	F	Christopher Nejo, Legal Analyst/Researcher	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3564		cnejo@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Santa Rosa Band of Cahuilla Indians	F	Steven Estrada, Tribal Chairman	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	sestrada@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
Santa Rosa Band of Cahuilla Indians	F	Vanessa Minott, Tribal Administrator	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	vminott@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
Santa Rosa Band of Cahuilla Indians	F	Mercedes Estrada, Cultural Director	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	mestrada@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	5/21/2025
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654-4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654-4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

Record: PROJ-2025-003468
Report Type: AB52 GIS
Counties: Orange
NAHC Group: All

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed 3SAN050102 Project, Orange County

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

June 29, 2025

PSOMAS
Attn: Charles Cisneros

re: Expedited paleontological resources records search for the Project 3SAN050102

Dear Charles:

I have conducted a search of our paleontology collection records for the proposed development at the project 3SAN050102 area as outlined on the portion of the Anaheim USGS topographic quadrangle map that you sent to me via e-mail on June 23, 2025. We do not have fossil localities that have been recorded or georeferenced directly within the proposed project area, but we do have fossil localities nearby from similar sedimentary deposits that may occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM VP 1652	Rio Vista Avenue south of Lincoln Avenue	Alluvium (Pleistocene)	Sheep (*Ovis*)	Unknown (excavations for housing project)
LACM VP 65113	5092 Wintersburg Road; Huntington Beach	Unknown formation (Pleistocene)	Mammoth (*Mammuthus*), bison (*Bison*); uncatalogued invertebrates	6 - 20 feet bgs
LACM VP 7657 - 7659	Ellis Avenue & Patterson Lane, Huntington Beach	Unknown formation (Pleistocene; gray siltstone)	School shark (*Galeorhinus*), eagle ray *(Myliobatus*), goby (Lepidogobius, Leptocottus), midshipmen (Porichthys), croaker (Seriphus), flatfish (Citharichthys), cusk-eel (Otophidium), skate (Raja), angelshark (Squatina), sculpin (Cottidae)	150 - 350 feet bgs
LACM IP 4695	Bristol St. and Paularino Ave.	Palos Verdes Sand	Invertebrates - clam (*Saxidomus*), bryozoan (Bryozoa indet., *Conopeum*)	Unknown
LACM IP 21488	S of the Santa Ana River near Adams Ave	Unknown formation (Pleistocene; med to coarse limonitic stained sand)	Invertebrates (unspecified)	Unknown

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search is limited to the records of the NHMLA. It is not intended as a paleontological assessment of the project for the purposes of California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a paleontological assessment be conducted by a paleontologist meeting Federal (43 Code of Federal Regulations Part 49.110) or Society of Vertebrate Paleontology standards for compliance with applicable regulations, such as CEQA or NEPA.

Sincerely,



Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

Appendix C

Energy Calculations

Energy Use Summary

Construction Phase (gallons/construction period	Gasoline	Diesel
Construction Equipment	13,377	6,681
Worker Trips	2,289	6
Vendor Trips	453	5
Haul Trucks	1	693
Total	**16,120**	**7,384**

Operations Phase (gallons/year)		Gasoline	Diesel	Natural Gas (kBTU/yr)	Electricity (kWh/yr)
Place of Worship		9,778	1,323	136,966	30696.755392
Single Family Housing		1,439	195	460,024	82741.741068
	0	0	0	0	196,898
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
All Land Uses		**11,218**	**1,518**	**596,990**	**196,898**

Appendix D-1

Water Quality Management Plan

CITY OF SANTA ANA
Priority Project
Water Quality Management Plan (WQMP)

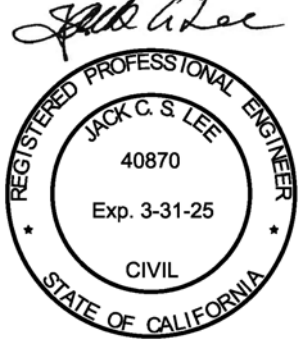
Project Name:

BELLA TERRA RESIDENCES

4006, 4010 & 4018 W. HAZARD AVENUE,
SANTA ANA, CA 92703
APN: 100-261-18, 100-261-19 AND 100-261-20

Prepared for:
VAN HUYNH
4010 W. HAZARD AVENUE,
SANTA ANA, CA 92702
TEL. NO.: (714) 453-8515

Prepared by:
CALLAND ENGINEERING, INC.
576 E. LAMBERT ROAD,
BREA, CA 92821
TEL. NO.: (714) 671-1050



DATE PREPARED: MAY 9, 2024

Project Owner's Certification			
Planning Application No. (If applicable)	TBD	Grading Permit No.	TBD
Tract/Parcel Map and Lot(s) No.	19332	Building Permit No.	TBD
Address of Project Site and APN (If no address, specify Tract/Parcel Map and Lot Numbers)			4006, 4010 & 4018 W. HAZARD AVE. APN: 100-261-18, 19 & 20

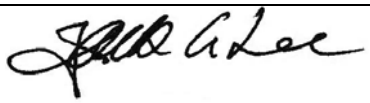
This Water Quality Management Plan (WQMP) has been prepared for VAN HUYNH by CALLAND ENGINEERING, INC.. The WQMP is intended to comply with the requirements of the County of Orange NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of the final plan , including the ongoing operation and maintenance of all best management practices (BMPs), and will ensure that the final plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for 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. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the Final WQMP. An appropriate number of approved and signed copies of the Final WQMP document shall be available on the subject site in perpetuity.

Owner: VAN HUYNH			
Title			
Company			
Address	4010 W. Hazard Avenue, Santa Ana, CA 92702		
Email			
Telephone #	(714) 453-8515		
I understand my responsibility to implement the provisions of this WQMP including the ongoing operation and maintenance of the best management practices (BMPs) described herein.			
Owner Signature		Date	

Preparer (Engineer):			
Title	Principal Engineer	PE Registration #	40870
Company	Calland Engineering, Inc.		
Address	576 E. Lambert Road, Brea, CA 92821		
Email	lee@callandeng.com		
Telephone #	(714) 671-1050		

I hereby certify that this Water Quality Management Plan is in compliance with, and meets the requirements set forth in, Order No. R8-2009-0030/NPDES No. CAS618030, of the Santa Ana Regional Water Quality Control Board.

Preparer Signature		Date	APRIL 1, 2024
Place Stamp Here			

Contents

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Section VI	**BMP Exhibit (Site Plan)**	**25**
Section VII	**Educational Materials**	**26**

ATTACHMENT A – GEOTECHNICAL REPORT

ATTACHMENT B – HYDROLOGY STUDY

Section I Permit(s) and Water Quality Conditions of Approval or Issuance

Provide discretionary or grading/building permit information and water quality conditions of approval, or permit issuance, applied to the project. If conditions are unknown, please request applicable conditions from staff. *Refer to Section 2.1 in the Technical Guidance Document (TGD) available on the OC Planning website (ocplanning.net).*

Project Infomation			
Permit/Application No. (If applicable)	TBD	Grading or Building Permit No. (If applicable)	TBD
Address of Project Site (or Tract Map and Lot Number if no address) and APN	4006, 4010 & 4018 W. HAZARD AVENUE, SANTA ANA, CA 92703 APN: 100-261-18, 100-261-19 and 100-261-20		
Water Quality Conditions of Approval or Issuance			
Water Quality Conditions of Approval or Issuance applied to this project. (Please list verbatim.)	CONDITIONS OF APPROVAL HAVE NOT YET BEEN APPLIED.		
Conceptual WQMP			
Was a Conceptual Water Quality Management Plan previously approved for this project?	This report is the Conceptual Water Quality Management Plan to be used as part of entitlement review per the California Environmental Quality Act (CEQA) to access impacts and mitigation.		

Watershed-Based Plan Conditions	
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	EAST GARDEN GROVE WINTERSBURG CHANNEL Arsenic Cadmium Chlorpyrifos Chromium Copper Indicator Bacteria Lead Malathion Mercury Nickel Selenium Silver Temperature, water Zinc pH Ammonia (Unionized) 303(D) list

Section II Project Description

II.1 Project Description

Provide a detailed project description including:

- Project areas;
- Land uses;
- Land cover;
- Design elements;
- A general description not broken down by drainage management areas (DMAs).

Include attributes relevant to determining applicable source controls. *Refer to Section 2.2 in the Technical Guidance Document (TGD) for information that must be included in the project description.*

Description of Proposed Project				
Development Category (From Model WQMP, Table 7.11-2; or -3):	New Development – Priority Project			
Project Area (ft^2): 435,311 (Disturbed Area only)	Number of Dwelling Units: 11		SIC Code:	
Project Area (Disturbed Area only)	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions	77,101 SF	79 %	19,779 SF	21 %
Post-Project Conditions	33,890 SF	35 %	63,010 SF	65 %
Drainage Patterns/Connections	The existing site drains to the southwest direction into the neighboring property. The neighboring properties in the general vicinity drains west into a storm drain system that drains into East Garden Grove Wintersburg Channel.			

Narrative Project Description: (Use as much space as necessary.)	The property is located in the south side of Hazard Avenue where an 11 single family residential subdivision and a church will be proposed on the property. The site is currently occupied by three single family residential house and lot. This project will construct 11 two-story single family residential house and a church on an area of 2.249 acre lot. The development will be founded on compacted engineered fill. The project will propose an underground infiltration basin as primary treatment device for the stormwater generated on-site. Most of the impervious area on the site will compose of the proposed building and the concrete driveway that will serve that building. Most of the site's pervious areas will be planted with drought tolerant plants and/or installed with pervious materials such as mulch and gravel/stone per landscape design. A HOA will be created for maintenance of the common area on the project site. No community facility is proposed for this project but there will be a private street that will be community controlled and maintained. The landscape areas will use drought tolerant plants and/or gravel/stone per landscape design. No community facility proposed for this project. The project will propose 11 Single family residential building on 11 separate lot and a church on a separate lot. The project will also propose a private street. The private street will be connecting into Hazard Avenue. The project will proposed underground infiltration basin mitigate the storm water produce on the project site before being draining into Hazard Avenue. For Hydrology analysis, the proposed project site is divided into two (2) sub-areas including the private Street. Sub-Area A-1 is approximately 1.873 acres and is the west side of the project site. The sub-area includes the landscape area, driveway, parking stall and the 11 single family residential house. The sub-area also include the northerly part of the two propose building. The sub-area drains to the south directon into a catch basin that intercept the storm water generated. An underground infiltration device will be proposed to mitigate the stormwater produce in this area. Sub-Area A-2 is approximately 0.376 acres and is on the west side of the project site. The sub-area will include the propose Church, parking and driveway. The sub-area drains southwesterly into Morse Drive. An underground infiltration device will be proposed to mitigate the stormwater produce in this area. A computation shown on this report and a separate Hydrology Report will show the justification for this proposed design.

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the Technical Guidance Document (TGD) for guidance.*

Pollutants of Concern			
Pollutant	Check One for each: E=Expected to be of concern N=Not Expected to be of concern		Additional Information and Comments
Suspended-Solid/ Sediment	E ☒	N ☐	From driveway and trash bin area
Nutrients	E ☒	N ☐	From pet waste and landscape area
Heavy Metals	E ☒	N ☐	From metal roof
Pathogens (Bacteria/Virus)	E ☒	N ☐	From pet waste and landscape area
Pesticides	E ☒	N ☐	From landscape area
Oil and Grease	E ☒	N ☐	From cars
Toxic Organic Compounds	E ☒	N ☐	From pesticides
Trash and Debris	E ☒	N ☐	From driveway and trash bin area

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are potentially susceptible to hydromodification impacts. *Refer to Section 2.2.3.1 in the Technical Guidance Document (TGD) for North Orange County or Section 2.2.3.2 for South Orange County.*

☒ No – Show map

☐ Yes – Describe applicable hydrologic conditions of concern below. *Refer to Section 2.2.3 in the Technical Guidance Document (TGD).*

See Attached OC Technical Guidance SUSCEPTIBILITY ANALYSIS ANAHEIM BAY – HUNTINGTON HARBOR MAP. The project site is not located within the Potential Areas of Erosion, Habitat & Physical Structure Susceptibility.

II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the Technical Guidance Document (TGD).*

The project will 11 single family residential building on 11 lots and a church on a separate lot. The project will also propose a private street on a common area lot. The project will propose underground infiltration basin to mitigate the stormwater generated on the project site before overflowing into the south and west direction.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the Technical Guidance Document (TGD).*

Van Huynh owns the parcel of lot within this project. The project proposed two commercial/industrial building and parking lot. The whole development will be managed and maintained by the management team of the property owner.

Section III Site Description

III.1 Physical Setting

Fill out table with relevant information. *Refer to Section 2.3.1 in the Technical Guidance Document (TGD).*

Name of Planned Community/Planning Area (if applicable)	Tract 19332
Location/Address	4006, 4010 & 4018 W. Hazard Avenue
	Santa Ana, CA 92703
General Plan Land Use Designation	SD-53
Zoning	SPECIFIC DEVELOPMENT
Acreage of Project Site	Total Area = 2.458 Acres
Predominant Soil Type	Soil Type A

III.2 Site Characteristics

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.2 in the Technical Guidance Document (TGD).*

Site Characteristics	
Precipitation Zone	0.77"
Topography	Flat lot with natural flow going to the south direction.
Drainage Patterns/Connections	The site is flat with drainage pattern going to the south and west direction.

Soil Type, Geology, and Infiltration Properties	Majority of the site is on category Soil Type A per OC Hydrology manual. The site soil is ideal for infiltration but the site would need to be check for water table elevation.
Hydrogeologic (Groundwater) Conditions	Groundwater is shallow in the project site and would need to be check and verified if possible to infiltrate to the soil.
Geotechnical Conditions (relevant to infiltration)	The site is flat and is ideal for infiltraion.
Off-Site Drainage	No off-site drainage anticipated on for this project site.
Utility and Infrastructure Information	All utility connection as coming off from main lines along Hazard Avenue. There is a sewer main line that cross the rear of the property.

III.3 Watershed Description

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.3 in the Technical Guidance Document (TGD).*

Receiving Waters	All utility connection as coming off from main lines along Hazard Avenue. There is a sewer main line that cross the rear of the property.
303(d) Listed Impairments	Ammonia (Unionuzed)
Applicable TMDLs	Arsenic, Cadmium, Chlorpyrifos, Chromium, Copper, Indicator Bacteria, Lead, Malathion, Mercury, Nickel, Selenium, Silver, Temperate water, Zinc, pH, Ammonia (Unionized)
Pollutants of Concern for the Project	Sedimentation/Siltation, Nutrients, Heavy Metals, Pathogens/Bacteria Indicator, Toxic Organic Compounds
Environmentally Sensitive and Special Biological Significant Areas	

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. (Please ask your assigned planner or plan checker regarding whether your project is part of an approved WIHMP or equivalent.)
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-*3.2.2 *of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?	YES ☐	NO ☒
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.		

Project Performance Criteria	
If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)	N/A
List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)	The project will mitigate the 85th percentile, 24-hour storm event by installing a underground infiltration basin. The project will also proposed a Flo-Gard Filter on the proposed catch basin as Pre-Treatment.
List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)	The propose underground infiltration basin will be designed to mitigate the 100% of stormwater flow produce as calculated in TGD appendix VI as shown on attached Worksheet D.
Calculate LID design storm capture Volume for Project.	V = C x d x A x 43,560 / 12 C = (0.75 x imp + 0.15) I = 0.77 in/hr A-1 = 1.873 Acres V = 0.61 x 0.77 x 1.873 x 43,560 / 12 = 3,193 CF A-2 = 0.376 Acres V = 0.80 x 0.77 x 0.376 x 43,560 / 12 = 827 CF Total Volume = 3,193 + 827 = 4,020 CF

Worksheet B: Simple Design Capture Volume Sizing Method

A-1

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.77	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	N/A	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	N/A	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	1.873	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.61	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.61	
4	Calculate runoff volume, V_{design}= *(C x* $d_{remainder}$ *x A x 43560 x (1/12))*	V_{design}=	3,193	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}$[1] (in/hr) (**Appendix VII**)	$K_{observed}$=		In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	S_{total}=		
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	K_{design}=		In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=		Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=		feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=		sq-ft

[1] $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet B: Simple Design Capture Volume Sizing Method

A-2

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.77	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	N/A	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	N/A	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	0.376	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.87	
3	Calculate runoff coefficient, $C = (0.75 \times imp) + 0.15$	C=	0.80	
4	Calculate runoff volume, $V_{design} = (C \times d_{remainder} \times A \times 43560 \times (1/12))$	V_{design}=	827	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}$[1] (in/hr) (Appendix VII)	$K_{observed}$=		In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	S_{total}=		
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	K_{design}=		In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=		Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=		feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=		sq-ft

[1] $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

IV.2. Site Design and Drainage

Describe site design and drainage including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP "BMP Exhibit."
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs.

Refer to Section 2.4.2 in the Technical Guidance Document (TGD).

The site has natural flat slope that drains to the south. The proposed construction is for 11 single family house on separate lot, a church on a separate lot and private street on a common lot. The project site will propose an underground infiltration basin located within the project site.

IV.3 LID BMP Selection and Project Conformance Analysis

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. *Refer to Section 2.4.2.3 in the Technical Guidance Document (TGD) for selecting LID BMPs and Section 2.4.3 in the Technical Guidance Document (TGD) for conducting conformance analysis with project performance criteria.*

IV.3.1 Hydrologic Source Controls (HSCs)

If required HSCs are included, fill out applicable check box forms. If the retention criteria are otherwise met with other LID BMPs, include a statement indicating HSCs not required.

Name	Included?
Localized on-lot infiltration	☐
Impervious area dispersion (e.g. roof top disconnection)	☐
Street trees (canopy interception)	☐
Residential rain barrels (not actively managed)	☐
Green roofs/Brown roofs	☐
Blue roofs	☐
Impervious area reduction (e.g. permeable pavers, site design)	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐

HCS would not require as the Infiltration Basin proposed will be able to retain the required volume on-site.

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met, state why.

Name	Included?
Bioretention without underdrains	☐
Rain gardens	☐
Porous landscaping	☐
Infiltration planters	☐
Retention swales	☐
Infiltration trenches	☐
Infiltration basins	☐
Drywells	☐
Subsurface infiltration galleries	☐
French drains	☐
Permeable asphalt	☐
Permeable concrete	☐
Permeable concrete pavers	☐
Other: ADS-PIPE Stormtech Chamber	☒
Other:	☐

Show calculations below to demonstrate if the LID Design Strom Capture Volume can be met with infiltration BMPs. If not, document how much can be met with infiltration and document why it is not feasible to meet the full volume with infiltration BMPs.

See attached print out of sizing calculation from ADS-PIPE Stormtech Chamber.

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, describe any evapotranspiration and/or rainwater harvesting BMPs included.

Name	Included?
All HSCs; *See Section IV.3.1*	☐
Surface-based infiltration BMPs	☐
Biotreatment BMPs	☐
Above-ground cisterns and basins	☐
Underground detention	☐
Other:	☐
Other:	☐
Other:	☐

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with evapotranspiration and/or rainwater harvesting BMPs in combination with infiltration BMPs. If not, document below how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with these BMP categories.

Evapotranspiration and Rainwater harvesting is not applied to this project because it would not be ideal for the size of the property.

IV.3.4 Biotreatment BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe biotreatment BMPs included. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

Name	Included?
Bioretention with underdrains	☐
Stormwater planter boxes with underdrains	☐
Rain gardens with underdrains	☐
Constructed wetlands	☐
Vegetated swales	☐
Vegetated filter strips	☐
Proprietary vegetated biotreatment systems	☐
Wet extended detention basin	☐
Dry extended detention basins	☐
Other:	☐
Other:	☐

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with infiltration, evapotranspiration, rainwater harvesting and/or biotreatment BMPs. If not, document how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with these BMP categories.

IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. *See Section 5 of the Technical Guidance Document (TGD).* Include sections for selection, suitability, sizing, and infeasibility, as applicable. Detail compliance with Prior Conditions of Approval (if applicable).

Hydromodification Control BMPs	
BMP Name	**BMP Description**

IV.3.6 Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate. *Refer to Section 7.II-2.4.3.2 of the Model WQMP.*

Regional/Sub-Regional LID BMPs
NONE

IV.3.7 Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. Describe treatment control BMPs including sections for selection, sizing, and infeasibility, as applicable.

Treatment Control BMPs	
BMP Name	**BMP Description**
Underground Infiltration Basin	ADS-PIPE Stormtech Chamber MC-3500
Catch Basin Insert	Contech Grate Inlet Filter

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
N1	Education for Property Owners, Tenants and Occupants	☒	☐	
N2	Activity Restrictions	☒	☐	
N3	Common Area Landscape Management	☒	☐	
N4	BMP Maintenance	☒	☐	
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	Not Applicable
N6	Local Industrial Permit Compliance	☐	☒	Not Applicable
N7	Spill Contingency Plan	☐	☒	Not Applicable
N8	Underground Storage Tank Compliance	☐	☒	Not Applicable
N9	Hazardous Materials Disclosure Compliance	☐	☒	Not Applicable
N10	Uniform Fire Code Implementation	☐	☒	Not Applicable
N11	Common Area Litter Control	☒	☐	
N12	Employee Training	☒	☐	
N13	Housekeeping of Loading Docks	☐	☒	Not Applicable
N14	Common Area Catch Basin Inspection	☒	☐	
N15	Street Sweeping Private Streets and Parking Lots	☒	☐	
N16	Retail Gasoline Outlets	☐	☒	Not Applicable

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if structural source controls were not used.

Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
S1	Provide storm drain system stenciling and signage	☒	☐	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☒	No outdoor storage proposed, Not Applicable
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☒	☐	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	
S5	Protect slopes and channels and provide energy dissipation	☐	☒	Not Applicable
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☒	☐	
S6	Dock areas	☒	☐	
S7	Maintenance bays	☐	☒	Not Applicable
S8	Vehicle wash areas	☐	☒	Not Applicable
S9	Outdoor processing areas	☐	☒	Not Applicable
S10	Equipment wash areas	☐	☒	Not Applicable
S11	Fueling areas	☐	☒	Not Applicable
S12	Hillside landscaping	☐	☒	Not Applicable
S13	Wash water control for food preparation areas	☐	☒	Not Applicable
S14	Community car wash racks	☐	☒	Not Applicable

IV.4 Alternative Compliance Plan (If Applicable)

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. *Refer to Section 7.II 3.0 in the WQMP.*

IV.4.1 Water Quality Credits

Determine if water quality credits are applicable for the project. *Refer to Section 3.1 of the Model WQMP for description of credits and Appendix VI of the Technical Guidance Document (TGD) for calculation methods for applying water quality credits.*

<table>
<tr><th colspan="5">Description of Proposed Project</th></tr>
<tr><td colspan="5">Project Types that Qualify for Water Quality Credits (Select all that apply):</td></tr>
<tr><td colspan="2">☐Redevelopment projects that reduce the overall impervious footprint of the project site.</td><td colspan="2">☐Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.</td><td>☐ Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).</td></tr>
<tr><td colspan="2">☐ Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).</td><td colspan="2">☐ Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned</td><td>☐ Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).</td></tr>
<tr><td>☐Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.</td><td>☐ Developments in a city center area.</td><td>☐ Developments in historic districts or historic preservation areas.</td><td>☐ Live-work developments, a variety of developments designed to support residential and vocational needs together – similar to criteria to mixed use development; would not be able to take credit for both categories.</td><td>☐In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.</td></tr>
<tr><td>Calculation of Water Quality Credits
(if applicable)</td><td colspan="4">No Credit applicable</td></tr>
</table>

IV.4.2 Alternative Compliance Plan Information

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. *Refer to Section 7.II 3.0 in the Model WQMP.*

Section V Inspection/Maintenance Responsibility for BMPs

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the funding mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.II 4.0 in the Model WQMP.*

BMP Inspection/Maintenance			
BMP	**Reponsible Party(s)**	**Inspection/ Maintenance Activities Required**	**Minimum Frequency of Activities**
TC-11 Infiltration Basin (ADS-PIPE Stormtech Chamber)	Owner/Management	Inspect, clean and repair for standing water, trash and debris & sediment accumulation. No Standing water longer than 48 hours to avoid vector issue. Contract specialist for required maintenance service as required by the manufacturer. Inspection and maintenance required per manufacturer's recommendation	Twice during rainy season, once before and once after rainy season
MP-52 Drain Insert Contech Grate Inlet Filter	Owner/Management	See attached Maintenance Guidelines	Twice a year and before & after storm event
TC-22 Extended Detention Basin Contech CMP Detention System	Owner/Management	Inspect twice a year before and end of rainy season. Clean as necessary. Follow manufacturer's recommended maintenance and operation manual	Twice a year and before & after storm event

The Current property owner of the site is Advantech North America – Southern California. If the property is sold, a written and recorded transfer of responsibility for maintenance of BMP will be included with the sale.

Section VI BMP Exhibit (Site Plan)

VI.1 BMP Exhibit (Site Plan)

Include a BMP Exhibit (Site Plan), at a size no less than 24" by 36," which includes the following minimum information:

- Insert in the title block (lower right hand corner) of BMP Exhibit: the WQMP Number (assigned by staff) and the grading/building or Planning Application permit numbers
- Project location (address, tract/lot number(s), etc.)
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Delineate the area being treated by each structural BMP
- GIS coordinates for LID and Treatment Control BMPs
- Drainage connections
- BMP details
- Preparer name and stamp

Please do not include any areas outside of the project area or any information not related to drainage or water quality. The approved BMP Exhibit (Site Plan) shall be submitted as a plan sheet on all grading and building plan sets submitted for plan check review and approval. The BMP Exhibit shall be at the same size as the rest of the plan sheets in the submittal and shall have an approval stamp and signature prior to plan check submittal.

VI.2 Submittal and Recordation of Water Quality Management Plan

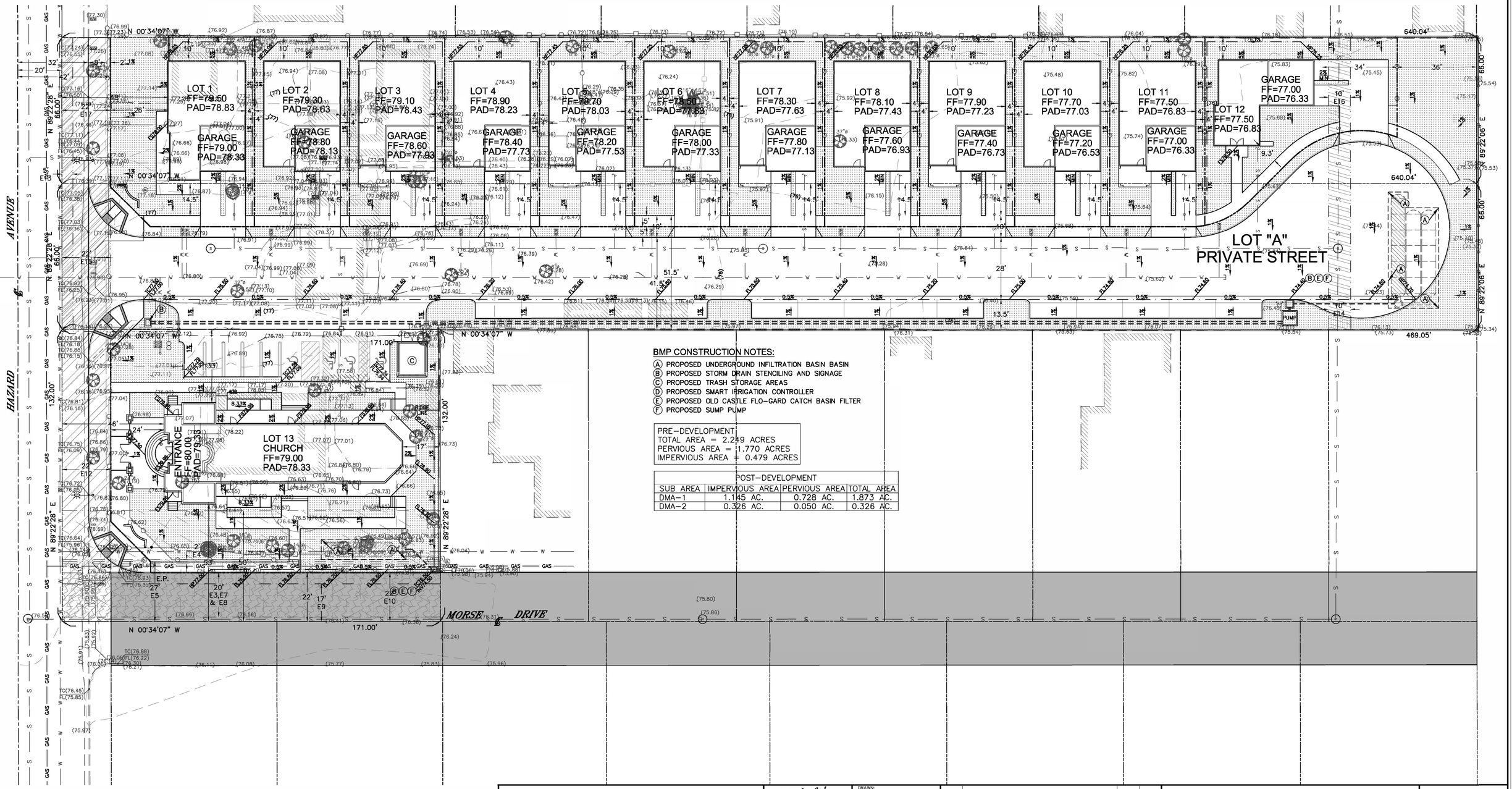
Following approval of the Final Project-Specific WQMP, three copies of the approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be submitted. In addition, these documents shall be submitted in a PDF format.

Each approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be recorded in the Orange County Clerk-Recorder's Office, prior to close-out of grading and/or building permit. Educational Materials are not required to be included.

STORMWATER MANAGEMENT SITE PLAN

0 20 40

SCALE: 1"=20'



BMP CONSTRUCTION NOTES:

- (A) PROPOSED UNDERGROUND INFILTRATION BASIN BASIN
- (B) PROPOSED STORM DRAIN STENCILING AND SIGNAGE
- (C) PROPOSED TRASH STORAGE AREAS
- (D) PROPOSED SMART IRRIGATION CONTROLLER
- (E) PROPOSED OLD CASTLE FLO-GARD CATCH BASIN FILTER
- (F) PROPOSED SUMP PUMP

PRE-DEVELOPMENT
TOTAL AREA = 2.249 ACRES
PERVIOUS AREA = 1.770 ACRES
IMPERVIOUS AREA = 0.479 ACRES

POST-DEVELOPMENT

SUB AREA	IMPERVIOUS AREA	PERVIOUS AREA	TOTAL AREA
DMA-1	1.145 AC.	0.728 AC.	1.873 AC.
DMA-2	0.326 AC.	0.050 AC.	0.326 AC.

CALLAND ENGINEERING & ASSOCIATES, INC.
574 E. LAMBERT ROAD, BREA, CA 92821
TEL: (714) 671-1050 FAX: (714) 671-1090

REGISTERED PROFESSIONAL ENGINEER
JACK C. S. LEE
40870
Exp. 3-31-25
CIVIL
STATE OF CALIFORNIA

DRAWN:	EYS
CHECKED:	
DATE:	01/08/2025
JOB NO.:	22-019-078
SCALE:	1"=20'
FILE NAME:	HAZARD_TENTATIVE

REV.	REVISION DESCRIPTION	BY	DATE

PROJECT LOCATION:

4006, 4010 & 4018 HAZARD AVENUE,
SANTA ANA, CA 92703

SHEET NO.

B-1

SHEET 1 OF 1 SHT.

Advanced Drainage Systems, Inc.

SiteAssist™
FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

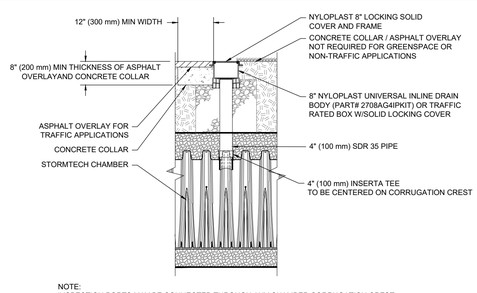
1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



3 SC-740 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

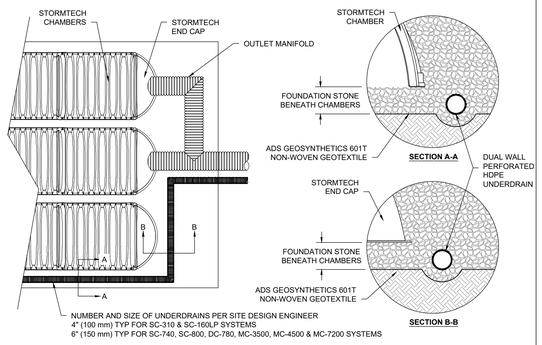
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

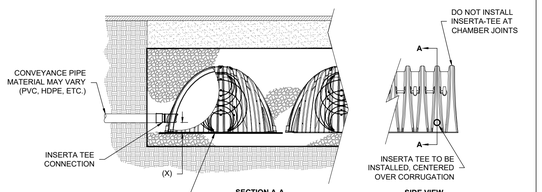
STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



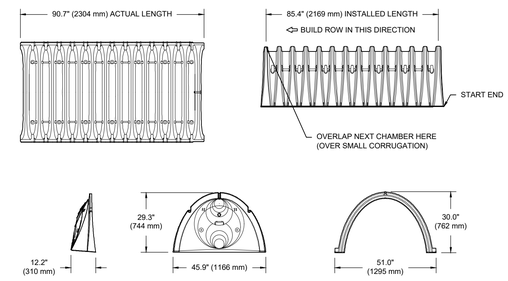
5 UNDERDRAIN DETAIL



NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

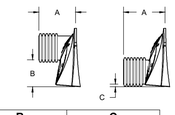
6 INSERTA-TEE SIDE INLET DETAIL



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.8 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740ECEZ*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740ECEZ THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

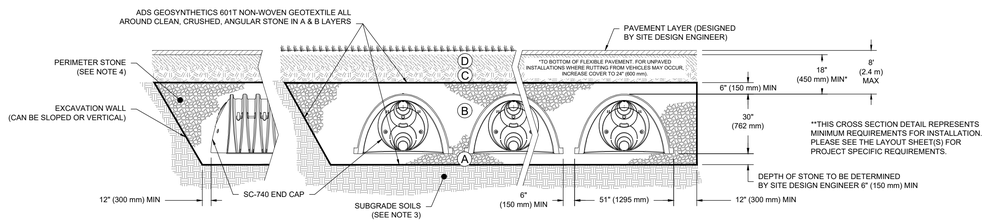
NOTE: ALL DIMENSIONS ARE NOMINAL

2 SC-740 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-740 CROSS SECTION DETAIL

DRAWN: JL | DATE: 01/10/24
REVIEWED: JLM | PROJECT NO:
REV: | NOT TO SCALE

SC-740 STANDARD DETAILS

StormTech® Chamber System
888-892-2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

Advanced Drainage Systems, Inc.

SHEET 1

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE SIGNED AND SEALED BY THE SITE DESIGN ENGINEER. THE SITE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION AND SEALING THE DOCUMENT. IT IS THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

Oldcastle Precast®

FLOGARD® CATCH BASIN INSERT FILTER

Catch basin insert designed to capture sediment, gross solids, trash and petroleum hydrocarbons from first-flush flows, even during the most extreme weather conditions

Example Types, Sizes and Capacities

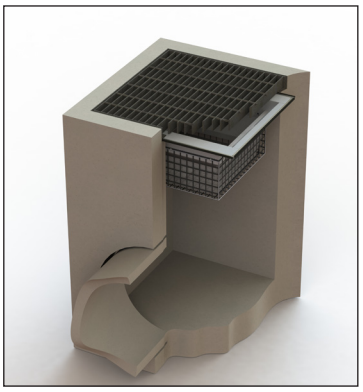
Additional sizes, including regional and custom options are available

FloGard Combination Inlet SPECIFIER CHART								
MODEL NO. STANDARD DEPTH	STANDARD & SHALLOW DEPTH (Data in these columns is the same for both STANDARD & SHALLOW versions)			STANDARD DEPTH -20 Inches-		MODEL NO. SHALLOW DEPTH	SHALLOW DEPTH -12 Inches-	
	INLET ID Inside Dimension (inch x inch)	GRADE OD Outside Dimension (inch x inch)	TOTAL BYPASS CAPACITY (cu. ft. / sec.)	SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)		SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)
FGP-1633FGO	16 X 33	18 X 36	7.0	2.5	1.7	FGP-1633FGO8	1.4	1.1
FGP-1836FGO	18 X 36	18 X 40	6.9	2.3	1.6	FGP-1836FGO8	1.3	.9
FGP-2234FGO	22 X 34	24 X 36	8.1	3.6	2.1	FGP-2234FGO8	2.1	1.4
FGP-2436FGO	24 X 36	24 X 40	8.0	3.4	2.0	FGP-2436FGO8	1.95	1.15



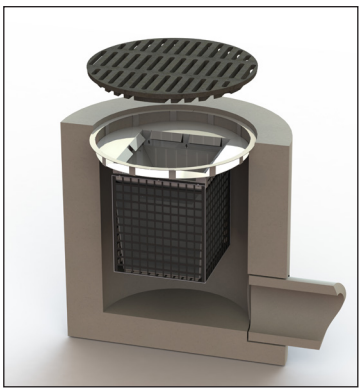
Combination Inlet

FloGard Flat Grated Inlet SPECIFIER CHART								
MODEL NO. STANDARD DEPTH	STANDARD & SHALLOW DEPTH (Data in these columns is the same for both STANDARD & SHALLOW versions)			STANDARD DEPTH -20 Inches-		MODEL NO. SHALLOW DEPTH	SHALLOW DEPTH -12 Inches-	
	INLET ID Inside Dimension (inch x inch)	GRADE OD Outside Dimension (inch x inch)	TOTAL BYPASS CAPACITY (cu. ft. / sec.)	SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)		SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)
FGP-12F	12 X 12	12 X 14	2.8	0.3	0.4	FGP-12F8	.15	.25
FGP-16F	16 X 16	16 X 19	4.7	0.8	0.7	FGP-16F8	.45	.4
FGP-18F	18 X 18	18 X 20	4.7	0.8	0.7	FGP-18F8	.45	.4
FGP-1836F	18 X 36	18 X 40	6.9	2.3	1.6	FGP-1836F8	1.3	.9
FGP-21F	22 X 22	22 X 24	6.1	2.2	1.5	FGP-21F8	1.25	.85
FGP-24F	24 X 24	24 X 27	6.1	2.2	1.5	FGP-24F8	1.25	.85
FGP-2436F	24 X 36	24 X 40	8.0	3.4	2.0	FGP-2436F8	1.95	1.15
FGP-2448F	24 X 48	24 X 48	9.3	4.4	2.4	FGP-2448F8	2.5	1.35
FGP-32F-TN	28 X 28	32 X 32	6.3	2.2	1.5	FGP-32F8-TN	1.25	.85
FGP-30F	30 X 30	30 X 34	8.1	3.6	2.0	FGP-30F8	2.05	1.15
FGP-36F	36 X 36	36 X 40	9.1	4.6	2.4	FGP-36F8	2.65	1.35
FGP-3648F	36 X 48	40 X 48	11.5	6.8	3.2	FGP-3648F8	3.9	1.85
FGP-48F	48 X 48	48 X 54	13.2	9.5	3.9	FGP-48F8	5.45	2.25
FGP-1633F	16 X 34	18 X 36	6.9	2.3	1.6	FGP-1633F8	1.3	.9
FGP-2234F	22 X 34	24 X 36	8.0	3.4	2.0	FGP-2234F8	1.95	1.15



Flat-Grated Inlet

FloGard Circular Grated Inlet SPECIFIER CHART					
MODEL NUMBER	INLET ID (inches)	GRADE OD (inches)	SOLIDS STORAGE CAPACITY (CU FT)	FILTERED FLOW (CSF)	TOTAL BYPASS CAPACITY (CFS)
FGP-RF15F	15	18	0.3	0.4	2.8
FGP-RF18F	18	20	0.8	0.7	4.7
FGP-RF20F	20	23	0.8	0.7	4.7
FGP-RF21F	21	23.5	0.8	0.7	4.7
FGP-RF22F	22	24	0.8	0.7	4.7
FGP-RF24F	24	26	0.8	0.7	4.7
FGP-RF30F	30	32	2.2	1.5	6.1
FGP-RF36F	36	39	3.6	2.0	8.1



Circular Frame Catch Basin

INLET FILTRATION

Call us today **(800) 579-8819** or visit our website for detailed product information, drawings and design tools at **www.oldcastlestormwater.com**

TENTATIVE TRACT MAP NO. 19332

IN CITY OF SANTA ANA, COUNTY OF ORANGE
STATE OF CALIFORNIA

A PORTION OF NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 5 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, SAN BERNARDINO BASE AND MERIDIAN, IN THE CITY OF SANTA ANA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 12 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 100-261-18, 100-261-19 & 100-261-20

FOR SUBDIVISION PURPOSES

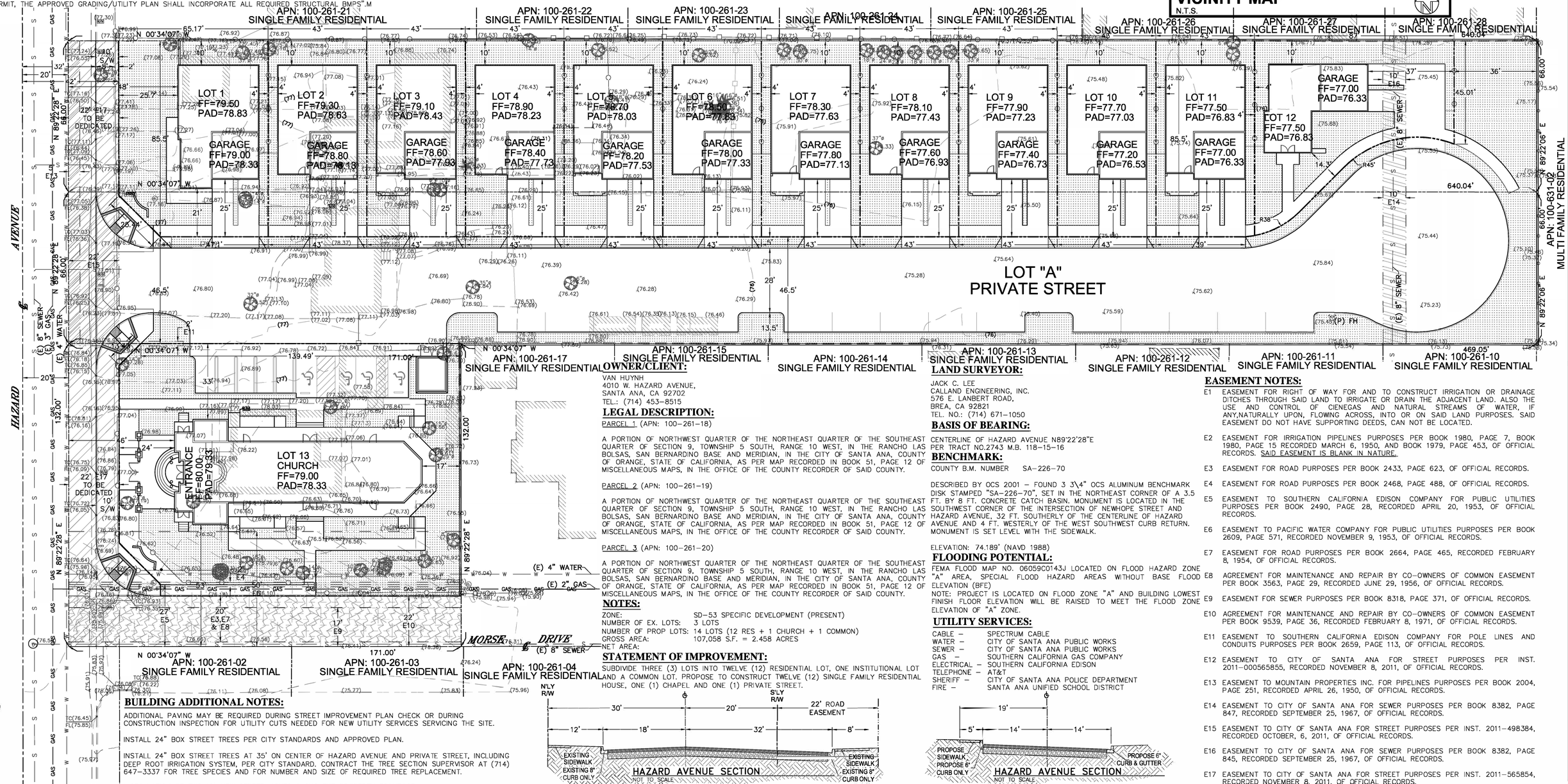
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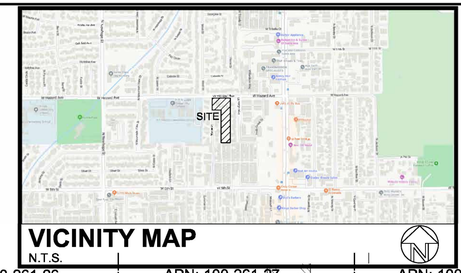
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...PROP. BLOCK WALL
...PROP. STRUCTURE
S/W.....SIDEWALK
...STREET LIGHT
...CENTERLINE
...PROPERTY LINE
(9)...CONSTRUCTION NOTE
...SANDBAG

T.C.....TOP OF CURB
E.P.....EDGE OF PAVEMENT
F.L.....FLOW LINE
F.G.....FINISH GRADE
F.S.....FINISH SURFACE
F.F.....FLOOR FINISH
H.P.....HIGH POINT
P.P.....POWER POLE
D/W.....DRIVEWAY
W.M.....WATER METER
INV.....INVERT ELEVATION
T.G.....TOP OF GRATE
C.F.....CURB FACE

WQMP NOTES:

THE BMP'S, SHOWN ON THE APPROVED SITE PLAN ARE ONLY PRELIMINARY AND WILL BE REVISED OR MODIFIED AS NECESSARY UPON COMPLETION OF THE WQMP. PRIOR TO THE ISSUANCE OF THE GRADING PERMIT, THE APPROVED GRADING/UTILITY PLAN SHALL INCORPORATE ALL REQUIRED STRUCTURAL BMPS".M





VICINITY MAP
N.T.S.

0 20 40
SCALE: 1"=20'

BUILDING ADDITIONAL NOTES:

ADDITIONAL PAVING MAY BE REQUIRED DURING STREET IMPROVEMENT PLAN CHECK OR DURING CONSTRUCTION INSPECTION FOR UTILITY CUTS NEEDED FOR NEW UTILITY SERVICES SERVICING THE SITE.

INSTALL 24" BOX STREET TREES PER CITY STANDARDS AND APPROVED PLAN.

INSTALL 24" BOX STREET TREES AT 35' ON CENTER OF HAZARD AVENUE AND PRIVATE STREET, INCLUDING DEEP ROOT IRRIGATION SYSTEM, PER CITY STANDARD. CONTRACT THE TREE SECTION SUPERVISOR AT (714) 647-3337 FOR TREE SPECIES AND FOR NUMBER AND SIZE OF REQUIRED TREE REPLACEMENT.

INSTALLATION OF TWO (2) NEW STREET LIGHTS ALONG THE PROPERTY FRONTAGE.

ALL UTILITY SERVICES ALONG THE PROPERTY FRONTAGE ON "PRIVATE" STREET AND HAZARD STREET TO BE UNDERGROUND (SANTA ANA MUNICIPAL CODE, SECTION 34-82).

LOT SIZE (SQUARE FEET)														
TOTAL	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9	LOT 10	LOT 11	LOT 12	LOT 13	LOT A
107,058	5,158.50	3,461.50	3,461.50	3,461.50	3,461.50	3,461.50	3,461.50	3,461.50	3,461.50	3,461.50	3,460	4,501	16,093	46692

OWNER/CLIENT:

VAN HUYNH
4010 W. HAZARD AVENUE,
SANTA ANA, CA 92702
TEL.: (714) 453-8515

LEGAL DESCRIPTION:

PARCEL 1 (APN: 100-261-18)

A PORTION OF NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 5 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, SAN BERNARDINO BASE AND MERIDIAN, IN THE CITY OF SANTA ANA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 12 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 2 (APN: 100-261-19)

A PORTION OF NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 5 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, SAN BERNARDINO BASE AND MERIDIAN, IN THE CITY OF SANTA ANA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 12 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 3 (APN: 100-261-20)

A PORTION OF NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 5 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, SAN BERNARDINO BASE AND MERIDIAN, IN THE CITY OF SANTA ANA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 12 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

NOTES:

ZONE: SD-53 SPECIFIC DEVELOPMENT (PRESENT)
NUMBER OF EX. LOTS: 3 LOTS
NUMBER OF PROP LOTS: 14 LOTS (12 RES + 1 CHURCH + 1 COMMON)
GROSS AREA: 107,058 S.F. = 2.458 ACRES
NET AREA:

STATEMENT OF IMPROVEMENT:

SUBDIVIDE THREE (3) LOTS INTO TWELVE (12) RESIDENTIAL LOT, ONE INSTITUTIONAL LOT AND A COMMON LOT. PROPOSE TO CONSTRUCT TWELVE (12) SINGLE FAMILY RESIDENTIAL HOUSE, ONE (1) CHAPEL AND ONE (1) PRIVATE STREET.

HAZARD AVENUE SECTION
NOT TO SCALE

HAZARD AVENUE SECTION
NOT TO SCALE

LAND SURVEYOR:

JACK C. LEE
CALLAND ENGINEERING, INC.
576 E. LANBERT ROAD,
BREA, CA 92821
TEL. NO.: (714) 671-1050

BASIS OF BEARING:

CENTERLINE OF HAZARD AVENUE N89°22'28"E PER TRACT NO.2743 M.B. 118-15-16

BENCHMARK:

COUNTY B.M. NUMBER SA-226-70

DESCRIBED BY OCS 2001 - FOUND 3 3\4" OCS ALUMINUM BENCHMARK DISK STAMPED "SA-226-70", SET IN THE NORTHEAST CORNER OF A 3.5 FT. BY 8 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED IN THE SOUTHWEST CORNER OF THE INTERSECTION OF NEWHOPE STREET AND HAZARD AVENUE, 32 FT. SOUTHERLY OF THE CENTERLINE OF HAZARD AVENUE AND 4 FT. WESTERLY OF THE WEST SOUTHWEST CURB RETURN. MONUMENT IS SET LEVEL WITH THE SIDEWALK.

ELEVATION: 74.189' (NAVD 1988)

FLOODING POTENTIAL:

FEMA FLOOD MAP NO. 06059C0143J LOCATED ON FLOOD HAZARD ZONE "A" AREA, SPECIAL FLOOD HAZARD AREAS WITHOUT BASE FLOOD ELEVATION (BFE)
NOTE: PROJECT IS LOCATED ON FLOOD ZONE "A" AND BUILDING LOWEST FINISH FLOOR ELEVATION WILL BE RAISED TO MEET THE FLOOD ZONE ELEVATION OF "A" ZONE.

UTILITY SERVICES:

CABLE - SPECTRUM CABLE
WATER - CITY OF SANTA ANA PUBLIC WORKS
SEWER - CITY OF SANTA ANA PUBLIC WORKS
GAS - SOUTHERN CALIFORNIA GAS COMPANY
ELECTRICAL - SOUTHERN CALIFORNIA EDISON
TELEPHONE - AT&T
SHERIFF - CITY OF SANTA ANA POLICE DEPARTMENT
FIRE - SANTA ANA UNIFIED SCHOOL DISTRICT

EASEMENT NOTES:

E1 EASEMENT FOR RIGHT OF WAY FOR AND TO CONSTRUCT IRRIGATION OR DRAINAGE DITCHES THROUGH SAID LAND TO IRRIGATE OR DRAIN THE ADJACENT LAND. ALSO THE USE AND CONTROL OF CIENEGAS AND NATURAL STREAMS OF WATER, IF ANY,NATURALLY UPON, FLOWING ACROSS, INTO OR ON SAID LAND PURPOSES. SAID EASEMENT DO NOT HAVE SUPPORTING DEEDS, CAN NOT BE LOCATED.

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CALLAND ENGINEERING & ASSOCIATES, INC.
574 E. LAMBERT ROAD, BREA, CA 92821
TEL: (714) 671-1050 FAX: (714) 671-1090

REGISTERED PROFESSIONAL ENGINEER
JACK C. S. LEE
40870
Exp. 3-31-25
CIVIL
STATE OF CALIFORNIA

DRAWN: EYS
CHECKED:
DATE: 01/08/2025
JOB NO.: 22-019-078
SCALE: 1"=20'
FILE NAME: HAZARD_TENTATIVE

REV.	REVISION DESCRIPTION	BY	DATE

PROJECT LOCATION:

4006, 4010 & 4018 W. HAZARD AVENUE,
SANTA ANA, CA 92703

SHEET NO.
C-1
SHEET 1 OF 2 SHT.

CONCEPTUAL GRADING PLAN

IN CITY OF SANTA ANA, COUNTY OF ORANGE
STATE OF CALIFORNIA

A PORTION OF NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 5 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, SAN BERNARDINO BASE AND MERIDIAN, IN THE CITY OF SANTA ANA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 12 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

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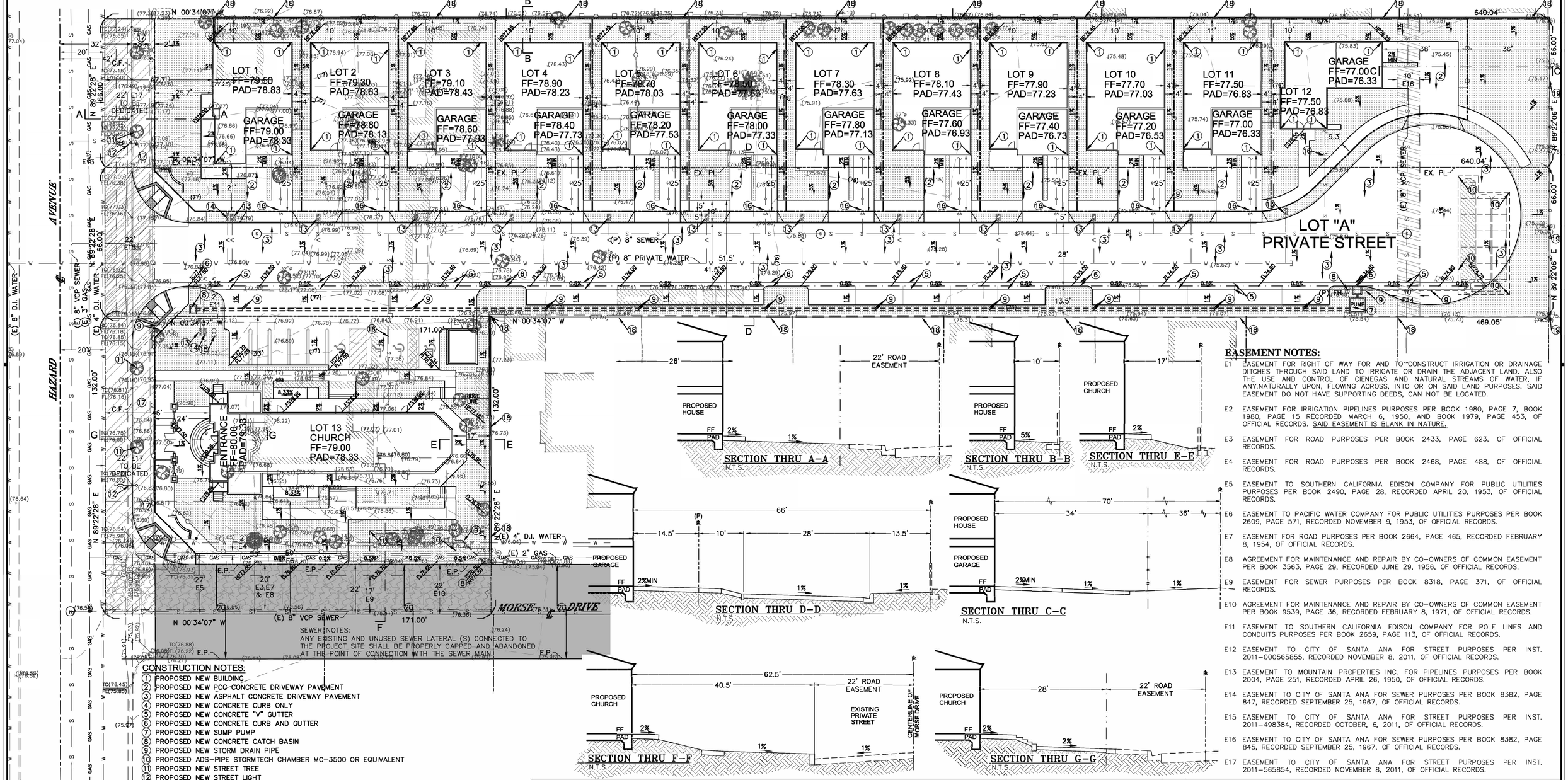
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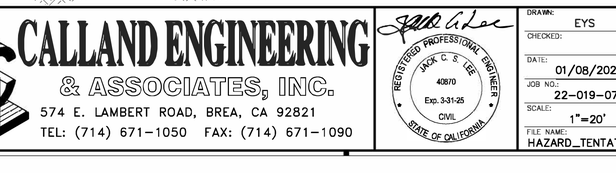
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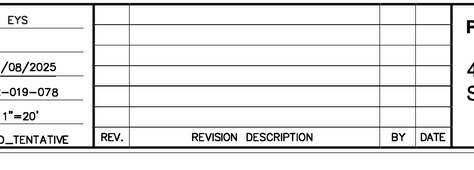
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9.....CONSTRUCTION NOTE
.....SANDBAG

T.C.....TOP OF CURB
E.P.....EDGE OF PAVEMENT
F.L.....FLOW LINE
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D/W.....DRIVEWAY
W.M.....WATER METER
INV.....INVERT ELEVATION
T.G.....TOP OF GRATE
C.F.....CURB FACE

SCALE: 1"=20'







CONSTRUCTION NOTES:

1. PROPOSED NEW BUILDING
2. PROPOSED NEW PCC CONCRETE DRIVEWAY PAVEMENT
3. PROPOSED NEW ASPHALT CONCRETE DRIVEWAY PAVEMENT
4. PROPOSED NEW CONCRETE CURB ONLY
5. PROPOSED NEW CONCRETE "V" GUTTER
6. PROPOSED NEW CONCRETE CURB AND GUTTER
7. PROPOSED NEW SUMP PUMP
8. PROPOSED NEW CONCRETE CATCH BASIN
9. PROPOSED NEW STORM DRAIN PIPE
10. PROPOSED ADS-PIPE STORMTECH CHAMBER MC-3500 OR EQUIVALENT
11. PROPOSED NEW STREET TREE
12. PROPOSED NEW STREET LIGHT
13. PROPOSED NEW DOMESTIC WATER SERVICE & METER
14. PROPOSED NEW IRRIGATION WATER SERVICE & METER WITH RP BACKFLOW DEVICE
15. PROPOSED NEW FIRE WATER SERVICE WITH DCDA BACKFLOW DEVICE
16. PROPOSED NEW 6" SEWER LATERAL AND TERMINAL CLEANOUT
17. PROPOSED NEW 10' WIDE CONCRETE SIDEWALK
18. PROPOSED NEW 6' HIGH CONCRETE BLOCK WALL
19. EXISTING CONCRETE BLOCK WALL TO REMAIN AND PROTECTED IN PLACE
20. REPAVE ENTIRE LENGTH OF EXISTING PRIVATE STREET (MORSE) FROM HAZARD AVENUE TO END OF PRIVATE STREET.

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FILE NAME:	HAZARD_TENTATIVE

REV.	REVISION DESCRIPTION	BY	DATE

PROJECT LOCATION:

4006, 4010 & 4018 HAZARD AVENUE,
SANTA ANA, CA 92703

SHEET NO.
C-2
SHEET 2 OF 2 SHT.

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. Please only attach the educational materials specifically applicable to this project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material (http://www.ocwatersheds.com)	**Check If Applicable**	**Business Material (http://www.ocwatersheds.com)**	**Check If Applicable**
The Ocean Begins at Your Front Door	☒	Tips for the Automotive Industry	☐
Tips for Car Wash Fund-raisers	☐	Tips for Using Concrete and Mortar	☐
Tips for the Home Mechanic	☐	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☐	Proper Maintenance Practices for Your Business	☒
Household Tips	☐	**Other Material**	**Check If Attached**
Proper Disposal of Household Hazardous Waste	☐		
Recycle at Your Local Used Oil Collection Center (North County)	☒		☐
Recycle at Your Local Used Oil Collection Center (Central County)	☐		☐
Recycle at Your Local Used Oil Collection Center (South County)	☐		☐
Tips for Maintaining a Septic Tank System	☐		☐
Responsible Pest Control	☒		☐
Sewer Spill	☒		☐
Tips for the Home Improvement Projects	☐		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☒		☐
Tips for Pet Care	☐		☐
Tips for Pool Maintenance	☐		☐
Tips for Residential Pool, Landscape and Hardscape Drains	☐		☐
Tips for Projects Using Paint	☒		☐

The Ocean Begins at Your Front Door



Follow these simple steps to help reduce water pollution:

Household Activities

- Do not rinse spills with water. Use dry cleanup methods such as applying cat litter or another absorbent material, sweep and dispose of in the trash. Take items such as used or excess batteries, oven cleaners, automotive fluids, painting products and cathode ray tubes, like TVs and computer monitors, to a Household Hazardous Waste Collection Center (HHWCC).
- For a HHWCC near you call (714) 834-6752 or visit www.oclandfills.com.
- Do not hose down your driveway, sidewalk or patio to the street, gutter or storm drain. Sweep up debris and dispose of it in the trash.

Automotive

- Take your vehicle to a commercial car wash whenever possible. If you wash your vehicle at home, choose soaps, cleaners, or detergents labeled non-toxic, phosphate- free or biodegradable. Vegetable and citrus-based products are typically safest for the environment.
- Do not allow washwater from vehicle washing to drain into the street, gutter or storm drain. Excess washwater should be disposed of in the sanitary sewer (through a sink or toilet) or onto an absorbent surface like your lawn.
- Monitor your vehicles for leaks and place a pan under leaks. Keep your vehicles well maintained to stop and prevent leaks.
- Never pour oil or antifreeze in the street, gutter or storm drain. Recycle these substances at a service station, a waste oil collection center or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit www.1800cleanup.org.

Pool Maintenance

- Pool and spa water must be dechlorinated and free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- When it is not raining, drain dechlorinated pool and spa water directly into the sanitary sewer.
- Some cities may have ordinances that do not allow pool water to be disposed of in the storm drain. Check with your city.

Landscape and Gardening

- Do not over-water. Water your lawn and garden by hand to control the amount of water you use or set irrigation systems to reflect seasonal water needs. If water flows off your yard onto your driveway or sidewalk, your system is over-watering. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.
- Follow directions on pesticides and fertilizer, (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Take unwanted pesticides to a HHWCC to be recycled. For locations and hours of HHWCC, call (714) 834-6752 or visit www.oclandfills.com.

Trash

- Place trash and litter that cannot be recycled in securely covered trash cans.
- Whenever possible, buy recycled products.
- Remember: Reduce, Reuse, Recycle.

Pet Care

- Always pick up after your pet. Flush waste down the toilet or dispose of it in the trash. Pet waste, if left outdoors, can wash into the street, gutter or storm drain.
- If possible, bathe your pets indoors. If you must bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from entering the street, gutter or storm drain.
- Follow directions for use of pet care products and dispose of any unused products at a HHWCC.

Common Pollutants

Home Maintenance

- Detergents, cleaners and solvents
- Oil and latex paint
- Swimming pool chemicals
- Outdoor trash and litter

Lawn and Garden

- Pet and animal waste
- Pesticides
- Clippings, leaves and soil
- Fertilizer

Automobile

- Oil and grease
- Radiator fluids and antifreeze
- Cleaning chemicals
- Brake pad dust

The Ocean Begins at Your Front Door



Never allow pollutants to enter the street, gutter or storm drain!

Did You Know?

- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact, the largest source of water pollution comes from city streets, neighborhoods, construction sites and parking lots. This type of pollution is sometimes called “non-point source” pollution.
- There are two types of non-point source pollution: stormwater and urban runoff pollution.
- Stormwater runoff results from rainfall. When rainstorms cause large volumes of water to rinse the urban landscape, picking up pollutants along the way.
- Urban runoff can happen any time of the year when excessive water use from irrigation, vehicle washing and other sources carries trash, lawn clippings and other urban pollutants into storm drains.

Where Does It Go?

- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers and cleaners – can be blown or washed into storm drains.
- A little water from a garden hose or rain can also send materials into storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in sanitary sewers (from sinks or toilets), water in storm drains is not treated before entering our waterways.

Sources of Non-Point Source Pollution

- Automotive leaks and spills.
- Improper disposal of used oil and other engine fluids.
- Metals found in vehicle exhaust, weathered paint, rust, metal plating and tires.
- Pesticides and fertilizers from lawns, gardens and farms.
- Improper disposal of cleaners, paint and paint removers.
- Soil erosion and dust debris from landscape and construction activities.
- Litter, lawn clippings, animal waste, and other organic matter.
- Oil stains on parking lots and paved surfaces.



The Effect on the Ocean



Non-point source pollution can have a serious impact on water quality in Orange County. Pollutants from the storm drain system can harm marine life as well as coastal and wetland habitats. They can also degrade recreation areas such as beaches, harbors and bays.

Stormwater quality management programs have been developed throughout Orange County to educate and encourage the public to protect water quality, monitor runoff in the storm drain system, investigate illegal dumping and maintain storm drains.

Support from Orange County residents and businesses is needed to improve water quality and reduce urban runoff pollution. Proper use and disposal of materials will help stop pollution before it reaches the storm drain and the ocean.



For More Information

Orange County Stormwater Program

California Environmental Protection Agency
www.calepa.ca.gov

- **Air Resources Board**
  www.arb.ca.gov
- **Department of Pesticide Regulation**
  www.cdpr.ca.gov
- **Department of Toxic Substances Control**
  www.dtsc.ca.gov
- **Integrated Waste Management Board**
  www.ciwmb.ca.gov
- **Office of Environmental Health Hazard Assessment**
  www.oehha.ca.gov
- **State Water Resources Control Board**
  www.waterboards.ca.gov

Earth 911 - Community-Specific Environmental Information 1-800-cleanup or visit www.1800cleanup.org

Health Care Agency's Ocean and Bay Water Closure and Posting Hotline
(714) 433-6400 or visit www.ocbeachinfo.com

Integrated Waste Management Dept. of Orange County (714) 834-6752 or visit www.oclandfills.com for information on household hazardous waste collection centers, recycling centers and solid waste collection

O.C. Agriculture Commissioner
(714) 447-7100 or visit www.ocagcomm.com

Stormwater Best Management Practice Handbook
Visit www.cabmphandbooks.com

UC Master Gardener Hotline
(714) 708-1646 or visit www.uccemg.com

The Orange County Stormwater Program has created and moderates an electronic mailing list to facilitate communications, take questions and exchange ideas among its users about issues and topics related to stormwater and urban runoff and the implementation of program elements. To join the list, please send an email to ocstormwaterinfo-join@list.ocwatersheds.com

Aliso Viejo	(949)	425-2535
Anaheim Public Works Operations	(714)	765-6860
Brea Engineering	(714)	990-7666
Buena Park Public Works	(714)	562-3655
Costa Mesa Public Services	(714)	754-5323
Cypress Public Works	(714)	229-6740
Dana Point Public Works	(949)	248-3584
Fountain Valley Public Works	(714)	593-4441
Fullerton Engineering Dept.	(714)	738-6853
Garden Grove Public Works	(714)	741-5956
Huntington Beach Public Works	(714)	536-5431
Irvine Public Works	(949)	724-6315
La Habra Public Services	(562)	905-9792
La Palma Public Works	(714)	690-3310
Laguna Beach Water Quality	(949)	497-0378
Laguna Hills Public Services	(949)	707-2650
Laguna Niguel Public Works	(949)	362-4337
Laguna Woods Public Works	(949)	639-0500
Lake Forest Public Works	(949)	461-3480
Los Alamitos Community Dev.	(562)	431-3538
Mission Viejo Public Works	(949)	470-3056
Newport Beach, Code & Water Quality Enforcement	(949)	644-3215
Orange Public Works	(714)	532-6480
Placentia Public Works	(714)	993-8245
Rancho Santa Margarita	(949)	635-1800
San Clemente Environmental Programs	(949)	361-6143
San Juan Capistrano Engineering	(949)	234-4413
Santa Ana Public Works	(714)	647-3380
Seal Beach Engineering	(562)	431-2527 x317
Stanton Public Works	(714)	379-9222 x204
Tustin Public Works/Engineering	(714)	573-3150
Villa Park Engineering	(714)	998-1500
Westminster Public Works/Engineering	(714)	898-3311 x446
Yorba Linda Engineering	(714)	961-7138
Orange County Stormwater Program	(877)	897-7455

Orange County 24-Hour
Water Pollution Problem Reporting Hotline
1-877-89-SPILL (1-877-897-7455)

On-line Water Pollution Problem Reporting Form
www.ocwatersheds.com

Printed on Recycled Paper



Did you know that just one quart of oil can pollute 250,000 gallons of water?

A clean ocean and healthy creeks, rivers, bays and beaches are important to Orange County. However, not properly disposing of used oil can lead to water pollution. If you pour or drain oil onto driveways, sidewalks or streets, it can be washed into the storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering the ocean. Help prevent water pollution by taking your used oil to a used oil collection center.

Included in this brochure is a list of locations that will accept up to five gallons of used motor oil at no cost. Many also accept used oil filters. Please contact the facility before delivering your used oil. This listing of companies is for your reference and does not constitute a recommendation or endorsement of the company.

Please note that used oil filters may not be disposed of with regular household trash. They must be taken to a household hazardous waste collection or recycling center in Anaheim, Huntington Beach, Irvine or San Juan Capistrano. For information about these centers, visit www.oclandfills.com.

Please do not mix your oil with other substances!

For more information, please call the Orange County Stormwater Program at 1-877-89-SPILL (1-877-897-7455) or visit www.watersheds.com.

For information about the proper disposal of household hazardous waste, call the Household Waste Hotline at (714) 834-6752 or visit www.oclandfills.com.

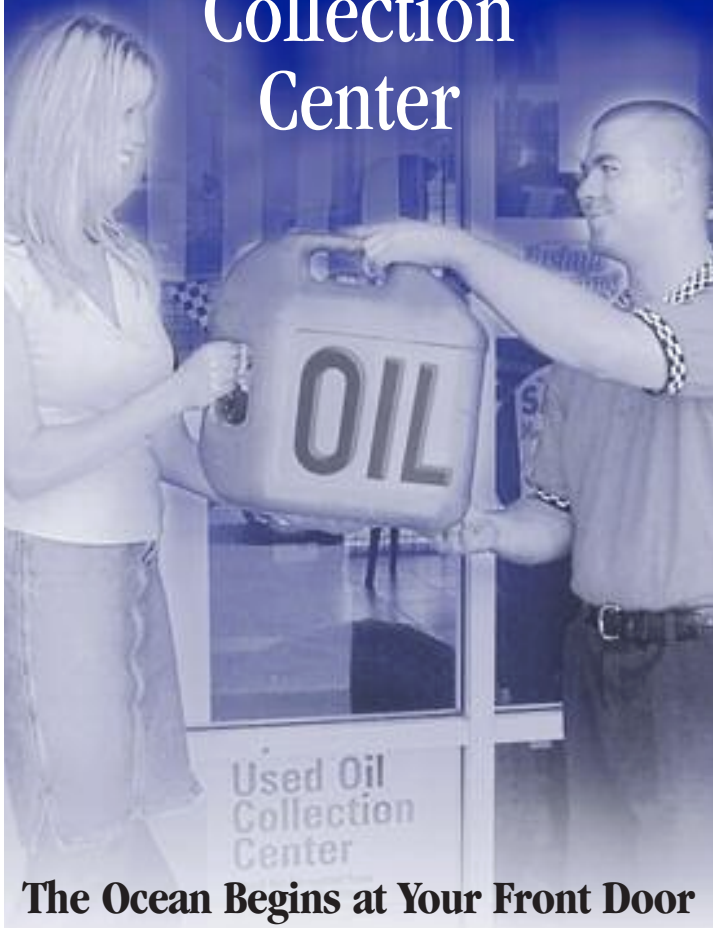
RECYCLE USED OIL

For additional information about the nearest oil recycling center, call the Used Oil Program at 1-800-CLEANUP or visit www.cleanup.org.

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Help Prevent Ocean Pollution:

Recycle at Your Local Used Oil Collection Center



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

NORTH COUNTY

Used Oil Collection Centers

Anaheim

All Seasons Tire and Auto Center, Inc.
817 S Brookhurst St., Anaheim, CA 92804
(714)772-6090( )
CIWMB#: 30-C-03177

AutoZone #3317
423 N Anaheim Blvd., Anaheim, CA 92805
(714)776-0787( )
CIWMB#: 30-C-05263

AutoZone #5226
2145 W Lincoln Ave., Anaheim, CA 92801
(714)533-6599( )
CIWMB#: 30-C-04604

Bedard Automotive
3601 E Miraloma Ave., Anaheim, CA 92806
(714)528-1380( )
CIWMB#: 30-C-02205

Classic Chevrolet
1001 Weir Canyon Rd., Anaheim, CA 92807
(714)283-5400( )
CIWMB#: 30-C-05223

Econo Lube N' Tune #4
3201 W Lincoln Ave., Anaheim, CA 92801
(714)821-0128( )
CIWMB#: 30-C-01485

EZ Lube Inc - Savi Ranch #43
985 N Weir Canyon Rd., Anaheim, CA 92807
(714)556-1312( )
CIWMB#: 30-C-06011

Firestone Store #71C7
1200 S Magnolia Ave., Anaheim, CA 92804
(949)598-5520( )
CIWMB#: 30-C-05743

Great Western Lube Express
125 N Brookhurst St., Anaheim, CA 92801
(714)254-1300( )
CIWMB#: 30-C-05542

HR Pro Auto Service Center
3180 W Lincoln Ave., Anaheim, CA 92801
(714)761-4343( )
CIWMB#: 30-C-05927

Ira Newman Automotive Services
1507 N State College Blvd., Anaheim, CA 92806
(714)635-2392( )
CIWMB#: 30-C-01482

Jiffy Lube #1028
2400 W Ball Rd., Anaheim, CA 92804
(714)761-5211( )
CIWMB#: 30-C-00870

Jiffy Lube #1903
2505 E Lincoln Ave., Anaheim, CA 92806
(714)772-4000( )
CIWMB#: 30-C-05511

Jiffy Lube #2340
2181 W Lincoln Ave., Anaheim, CA 92801
(714)533-1000( )
CIWMB#: 30-C-04647

Kragen Auto Parts #1303
1088 N State College Blvd., Anaheim, CA 92806
(714)956-7351( )
CIWMB#: 30-C-03438

Kragen Auto Parts #1399
2245 W Ball Rd., Anaheim, CA 92804
(714)490-1274( )
CIWMB#: 30-C-04094

Kragen Auto Parts #1565
2072 Lincoln Ave., Anaheim, CA 92806
(714)502-6992( )
CIWMB#: 30-C-04078

Kragen Auto Parts #1582
3420 W Lincoln Ave., Anaheim, CA 92801
(714)828-7977( )
CIWMB#: 30-C-04103

Pep Boys #613
10912 Katella Ave., Anaheim, CA 92804
(714)638-0863( )
CIWMB#: 30-C-01756

Pep Boys #663
3030 W Lincoln Anaheim, CA 92801
(714)826-4810( )
CIWMB#: 30-C-03417

Pep Boys #809
8205 E Santa Ana Cyn Rd., Anaheim, CA 92808
(714)974-0105( )
CIWMB#: 30-C-03443

Pick Your Part
1235 S Beach Blvd., Anaheim, CA 92804
(714)527-1645( )
CIWMB#: 30-C-03744

PK Auto Performance
3106 W. Lincoln Ave., Anaheim, CA 92801
(714)826-2141( )
CIWMB#: 30-C-05628

Quick Change Lube and Oil
2731 W Lincoln Ave., Anaheim, CA 92801
(714)821-4464( )
CIWMB#: 30-C-04363

Saturn of Anaheim
1380 S Auto Center Dr., Anaheim, CA 92806
(714)648-2444( )
CIWMB#: 30-C-06332

Sun Tech Auto Service
105 S State College Blvd., Anaheim, CA 92806
(714)956-1389( )
CIWMB#: 30-C-06455

Vonic Truck Services
515 S Rose St., Anaheim, CA 92805
(714)533-3333( )
CIWMB#: 30-C-01142

Anaheim Hills

Anaheim Hills Car Wash & Lube
5810 E La Palma Ave., Anaheim Hills, CA 92807
(714)777-6605( )
CIWMB#: 30-C-01387

Brea

Firestone Store #27A9
891 E Imperial Hwy., Brea, CA 92821
(714)529-8404( )
CIWMB#: 30-C-01221

Oil Can Henry's
230 N Brea Blvd., Brea, CA 92821
(714)990-1900( )
CIWMB#: 30-C-04273

Buena Park

Firestone Store #71F7
6011 Orangethorpe Buena Park, CA 90620
(714)670-7912( )
CIWMB#: 30-C-01218

Firestone Store #71T8
8600 Beach Blvd., Buena Park, CA 90620
(714)827-5300( )
CIWMB#: 30-C-02121

Kragen Auto Parts #1204
5303 Beach Blvd., Buena Park, CA 90621
(714)994-1320( )
CIWMB#: 30-C-02623

Cypress

AutoZone #5521
5471 Lincoln Ave., Cypress, CA 90630
(714)995-4644( )
CIWMB#: 30-C-00836

Big O Tires
6052 Cerritos Ave., Cypress, CA 90630
(714)826-6334( )
CIWMB#: 30-C-04245

Econo Lube N' Tune #213
5497 Cerritos Ave., Cypress, CA 90630
(714)761-0456( )
CIWMB#: 30-C-06240

Jiffy Lube #851
4942 Lincoln Ave., Cypress, CA 90630
(626)965-9689( )
CIWMB#: 30-C-06182

M & N Coastline Auto & Tire Service
4005 Ball Rd., Cypress, CA 90630
(714)826-1001( )
CIWMB#: 30-C-04387

Masterlube #103
5904 Lincoln Cypress, CA 90630
(714)826-2323( )
CIWMB#: 30-C-01071

Masterlube #104
5971 Ball Rd., Cypress, CA 90630
(714)220-1555( )
CIWMB#: 30-C-04682

Metric Motors of Cypress
6042 Cerritos Ave., Cypress, CA 90630
(714)821-4702( )
CIWMB#: 30-C-05157

Fullerton

AutoZone #2898
146 N. Raymond Ave., Fullerton, CA 92831
(714)870-9772( )
CIWMB#: 30-C-04488

AutoZone #5522
1801 Orangethorpe W. Fullerton, CA 92833
(714)870-8286( )
CIWMB#: 30-C-06062

AutoZone #5523
102 N Euclid Fullerton, CA 92832
(714)870-8286( )
CIWMB#: 30-C-04755

EZ Lube #17
4002 N Harbor Blvd., Fullerton, CA 92835
(714)871-9980( )
CIWMB#: 30-C-03741

Firestone Store #27EH
1933 N Placentia Ave., Fullerton, CA 92831
(714)993-7100( )
CIWMB#: 30-C-02122

Fox Service Center
1018 W Orangethorpe Fullerton, CA 92833
(714)879-1430( )
CIWMB#: 30-C-02318

Fullerton College Automotive Technology
321 E Chapman Ave., Fullerton, CA 92832
(714)992-7275( )
CIWMB#: 30-C-03165

Kragen Auto Parts #0731
2978 Yorba Linda Fullerton, CA 92831
(714)996-4780( )
CIWMB#: 30-C-02628

Kragen Auto Parts #4133
904 W Orangethorpe Ave., Fullerton, CA 92832
(714)526-3570( )
CIWMB#: 30-C-06256

Pep Boys #642
1530 S Harbor Blvd., Fullerton, CA 92832
(714)870-0700( )
CIWMB#: 30-C-01755

Sunnyside 76 Car Care Center
2701 N Brea Blvd., Fullerton, CA 92835
(714)256-0773( )
CIWMB#: 30-C-01381

Garden Grove

76 Pro Lube Plus
9001 Trask Ave., Garden Grove, CA 92844
(714)393-0590( )
CIWMB#: 30-C-05276

AutoZone #5527
13190 Harbor Blvd., Garden Grove, CA 92843
(714)636-5665( )
CIWMB#: 30-C-04760

David Murray Shell
12571 Vly View St., Garden Grove, CA 92845
(714)898-0170( )
CIWMB#: 30-C-00547

Express Lube & Wash
8100 Lampson Ave., Garden Grove, CA 92841
(909)316-8261( )
CIWMB#: 30-C-06544

Firestone Store #7180
10081 Chapman Ave., Garden Grove, CA 92840
(714)530-4630( )
CIWMB#: 30-C-01224

Firestone Store #71W3
13961 Brookhurst St., Garden Grove, CA 92843
(714)590-2741( )
CIWMB#: 30-C-03690

Jiffy Lube #1991
13970 Harbor Blvd., Garden Grove, CA 92843
(714)554-0610( )
CIWMB#: 30-C-05400

Kragen Auto Parts #1251
13933 N Harbor Blvd., Garden Grove, CA 92843
(714)554-3780( )
CIWMB#: 30-C-02663

Kragen Auto Parts #1555
9851 Chapman Ave., Garden Grove, CA 92841
(714)741-8030( )
CIWMB#: 30-C-04079

Nissan of Grarden Grove
9670 Trask Ave., Garden Grove, CA 92884
(714)537-0900( )
CIWMB#: 30-C-06553

Toyota of Garden Grove
9444 Trask Ave., Garden Grove, CA 92844
(714)895-5595( )
CIWMB#: 30-C-06555

La Habra

AutoZone #5532
1200 W Imperial Hwy., La Habra, CA 90631
(562)694-5337( )
CIWMB#: 30-C-04784

Burch Ford
201 N Harbor Blvd., La Habra, CA 90631
(562)691-3225( )
CIWMB#: 30-C-05179

Firestone Store #2736
1071 S Beach Blvd., La Habra, CA 90631
(562)691-1731( )
CIWMB#: 30-C-01169

Kragen Auto Parts #1569
1621 W Whittier Blvd., La Habra, CA 90631
(562)905-2538( )
CIWMB#: 30-C-04076

Pep Boys #997
125 W Imperial Hwy., La Habra, CA 90631
(714)447-0601( )
CIWMB#: 30-C-04026

SpeeDee Oil Change & Tune-Up
1580 W Imperial Hwy., La Habra, CA 90631
(562)697-3513( )

Los Alamitos

Jiffy Lube #1740
3311 Katella Ave., Los Alamitos, CA 90720
(562)596-1827( )
CIWMB#: 30-C-03529

Midway City

Bolsa Transmission
8331 Bolsa Ave., Midway City, CA 92655
(714)799-6158( )
CIWMB#: 30-C-05768

Placentia

Advanced Auto & Diesel
144 S Bradford Placentia, CA 92870
(714)996-8222( )
CIWMB#: 30-C-06242

Castner's Auto Service
214 S. Bradford Ave., Placentia, CA 92870
(714)528-1311( )
CIWMB#: 30-C-06452

Econo Lube N' Tune
100 W Chapman Ave., Placentia, CA 92870
(714)524-0424( )
CIWMB#: 30-C-06454

Fairway Ford
1350 E Yorba Linda Blvd., Placentia, CA 92870
(714)524-1200( )
CIWMB#: 30-C-01863

Seal Beach

M & N Coastline Auto & Tire Service
12239 Seal Beach Blvd., Seal Beach, CA 90740
(714)826-1001( )
CIWMB#: 30-C-04433

Seal Beach Chevron
12541 Seal Beach Blvd., Seal Beach, CA 90740
(949)495-0774(14)
CIWMB#: 30-C-06425

Stanton

AutoZone #2806
11320 Beach Blvd., Stanton, CA 90680
(714)895-7665( )
CIWMB#: 30-C-04563

Joe's Auto Clinic
11763 Beach Blvd., Stanton, CA 90680
(714)891-7715( )
CIWMB#: 30-C-03253

Kragen Auto Parts #1742
11951 Beach Blvd., Stanton, CA 90680
(714)799-7574( )
CIWMB#: 30-C-05231

Scher Tire #20
7000 Katella Ave., Stanton, CA 90680
(714)892-9924( )
CIWMB#: 30-C-05907

USA 10 Minute Oil Change
8100 Lampson Ave., Stanton, CA 92841
(714)373-4432( )
CIWMB#: 30-C-05909

Westminster

AutoZone #5543
6611 Westminster Blvd., Westminster, CA 92683
(714)898-2898( )
CIWMB#: 30-C-04964

AutoZone #5544
8481 Westminster Blvd., Westminster, CA 92683
(714)891-3511( )
CIWMB#: 30-C-04966

City of Westminster Corporate Yard
14381 Olive St., Westminster, CA 92683
(714)895-2876(292)
CIWMB#: 30-C-02008

Honda World
13600 Beach Blvd., Westminster, CA 92683
(714)890-8900( )
CIWMB#: 30-C-03639

Jiffy Lube #1579
6011 Westminster Blvd., Westminster, CA 92683
(714)899-2727( )
CIWMB#: 30-C-02745

John's Brake & Auto Repair
13050 Hoover St., Westminster, CA 92683
(714)379-2088( )
CIWMB#: 30-C-05617

Kragen Auto Parts #0762
6562 Westminster Blvd., Westminster, CA 92683
(714)898-0810( )
CIWMB#: 30-C-02590

Midway City Sanitary District
14451 Cedarwood St., Westminster, CA 92683
(714)893-3553( )
CIWMB#: 30-C-01626

Pep Boys #653
15221 Beach Blvd., Westminster, CA 92683
(714)893-8544( )
CIWMB#: 30-C-03415

Yorba Linda

AutoZone #5545
18528 Yorba Linda Blvd., Yorba Linda, CA 92886
(714)970-8933( )
CIWMB#: 30-C-04971

Econo Lube N' Tune
22270 La Palma Ave., Yorba Linda, CA 92887
(714)692-8394( )
CIWMB#: 30-C-06513

EZ Lube Inc. #41
17511 Yorba Linda Blvd., Yorba Linda, CA 92886
(714)556-1312( )
CIWMB#: 30-C-05739

Firestone Store #27T3
18500 Yorba Linda Blvd., Yorba Linda, CA 92886
(714)779-1966( )
CIWMB#: 30-C-01222

Jiffy Lube #1532
16751 Yorba Linda Blvd., Yorba Linda, CA 92886
(714)528-2800( )
CIWMB#: 30-C-03777

Mike Schultz Import Service
4832 Eureka Ave., Yorba Linda, CA 92886
(714)528-4411( )
CIWMB#: 30-C-04313

This information was provided by the County of Orange Integrated Waste Management Department and the California Integrated Waste Management Board (CIWMB).



Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as pest control can lead to water pollution if you're not careful. Pesticide treatments must be planned and applied properly to ensure that pesticides do not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump pesticides into the ocean, so don't let it enter the storm drains. Pesticides can cause significant damage to our environment if used improperly. If you are thinking of using a pesticide to control a pest, there are some important things to consider.

For more information,
please call
University of California Cooperative
Extension Master Gardeners at
(714) 708-1646
or visit these Web sites:
www.uccemg.org
www.ipm.ucdavis.edu

For instructions on collecting a specimen sample visit the Orange County Agriculture Commissioner's website at:
http://www.ocagcomm.com/ser_lab.asp

To report a spill, call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
at 1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

Information From:
Cheryl Wilen, Area IPM Advisor; Darren Haver, Watershed Management Advisor; Mary Louise Flint, IPM Education and Publication Director; Pamela M. Geisel, Environmental Horticulture Advisor; Carolyn L. Unruh, University of California Cooperative Extension staff writer. Photos courtesy of the UC Statewide IPM Program and Darren Haver.

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Printed on Recycled Paper

Help Prevent Ocean Pollution:

Responsible Pest Control



Tips for Pest Control

Key Steps to Follow:

Step 1: Correctly identify the pest (insect, weed, rodent, or disease) and verify that it is actually causing the problem.



Three life stages of the common lady beetle, a beneficial insect.

This is important because beneficial insects are often mistaken for pests and sprayed with pesticides needlessly.

Consult with a Certified Nursery Professional at a local nursery or garden center or send a sample of the pest to the Orange County Agricultural Commissioner's Office.

Determine if the pest is still present – even though you see damage, the pest may have left.

Step 2: Determine how many pests are present and causing damage.



Small pest populations may be controlled more safely using non-pesticide techniques. These include removing food sources, washing off leaves with a strong stream of water, blocking entry into the home using caulking and replacing problem plants with ones less susceptible to pests.

Integrated Pest Management (IPM) usually combines several least toxic pest control methods for long-term prevention and management of pest problems without harming you, your family, or the environment.

UC CE University of California Cooperative Extension

Step 3: If a pesticide must be used, choose the least toxic chemical.

Obtain information on the least toxic pesticides that are effective at controlling the target pest from the UC Statewide Integrated Pest Management (IPM) Program's Web site at www.ipm.ucdavis.edu.

Seek out the assistance of a Certified Nursery Professional at a local nursery or garden center when selecting a pesticide. Purchase the smallest amount of pesticide available.

Apply the pesticide to the pest during its most vulnerable life stage. This information can be found on the pesticide label.

Step 4: Wear appropriate protective clothing.

Follow pesticide labels regarding specific types of protective equipment you should wear. Protective clothing should always be washed separately from other clothing.

Step 5: Continuously monitor external conditions when applying pesticides such as weather, irrigation, and the presence of children and animals.

Never apply pesticides when rain is predicted within the next 48 hours. Also, do not water after applying pesticides unless the directions say it is necessary.

Apply pesticides when the air is still; breezy conditions may cause the spray or dust to drift away from your targeted area.

In case of an emergency call 911 and/or the regional poison control number at (714) 634-5988 or (800) 544-4404 (CA only).

For general questions you may also visit www.calpoison.org.

Step 6: In the event of accidental spills, sweep up or use an absorbent agent to remove any excess pesticides. Avoid the use of water.

Be prepared. Have a broom, dust pan, or dry absorbent material, such as cat litter, newspapers or paper towels, ready to assist in cleaning up spills.

Contain and clean up the spill right away. Place contaminated materials in a doubled plastic bag. All materials used to clean up the spill should be properly disposed of according to your local Household Hazardous Waste Disposal site.

Step 7: Properly store and dispose of unused pesticides.



Purchase Ready-To-Use (RTU) products to avoid storing large concentrated quantities of pesticides.

Store unused chemicals in a locked cabinet.

Unused pesticide chemicals may be disposed of at a Household Hazardous Waste Collection Center.

Empty pesticide containers should be triple rinsed prior to disposing of them in the trash.

Household Hazardous Waste Collection Center
(714) 834-6752
www.oclandfills.com

PROJECT Pollution PREVENTION

Sewage Spill Regulatory Requirements

Allowing sewage to discharge to a gutter or storm drain may subject you to penalties and/or out-of-pocket costs to reimburse cities or public agencies for clean-up efforts.

Here are the pertinent codes, fines, and agency contact information that apply.

Orange County Stormwater Program
24 Hour Water Pollution Reporting Hotline
(714) 567-6363

- County and city water quality ordinances prohibit discharges containing pollutants.

Orange County Health Care Agency Environmental Health
(714) 433-6419

California Health and Safety Code, Sections 5410-5416

- No person shall discharge raw or treated sewage or other waste in a manner that results in contamination, pollution or a nuisance.
- Any person who causes or permits a sewage discharge to any state waters:
  - must immediately notify the local health agency of the discharge.
  - shall reimburse the local health agency for services that protect the public's health and safety (water-contact receiving waters).
  - who fails to provide the required notice to the local health agency is guilty of a misdemeanor and shall be punished by a fine (between $500–$1,000) and/or imprisonment for less than one year.

Regional Water Quality Control Board
Santa Ana Region (951) 782-4130
San Diego Region (858) 467-2952

- Requires the prevention, mitigation, response to and reporting of sewage spills.

California Office of Emergency Services
(800) 852-7550

California Water Code, Article 4, Chapter 4, Sections 13268-13271
California Code of Regulations, Title 23, Division 3, Chapter 9.2, Article 2, Sections 2250-2260

- Any person who causes or permits sewage in excess of 1,000 gallons to be discharged to state waters **shall immediately notify the Office of Emergency Services.**
- Any person who fails to provide the notice required by this section is **guilty of a misdemeanor** and shall be punished by a fine (less than $20,000) and/or imprisonment for not more than one year.

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Sewage Spill
Reference Guide

Your Responsibilities as a Private Property Owner

Residences
Businesses
Homeowner/Condominium Associations
Federal and State Complexes
Military Facilities



Orange County Sanitation District

Health Care Agency
Environmental Health

PROJECT Pollution PREVENTION
www.ocwatersheds.com

This brochure was designed courtesy of the Orange County Sanitation District (OCSD). For additional information, call (714) 962-2411, or visit their website at www.ocsd.com

What is a Sewage Spill?

Sewage spills occur when the wastewater being transported via underground pipes overflows through a manhole, cleanout or broken pipe. Sewage spills can cause health hazards, damage to homes and businesses, and threaten the environment, local waterways and beaches.

Common Causes of Sewage Spills

Grease builds up inside and eventually blocks sewer pipes. Grease gets into the sewer from food establishments, household drains, as well as from poorly maintained commercial grease traps and interceptors.

Structure problems caused by tree roots in the lines, broken/cracked pipes, missing or broken cleanout caps or undersized sewers can cause blockages.

Infiltration and inflow (I/I) impacts pipe capacity and is caused when groundwater or rainwater enters the sewer system through pipe defects and illegal connections.

You Are Responsible for a Sewage Spill Caused by a Blockage or Break in Your Sewer Lines!

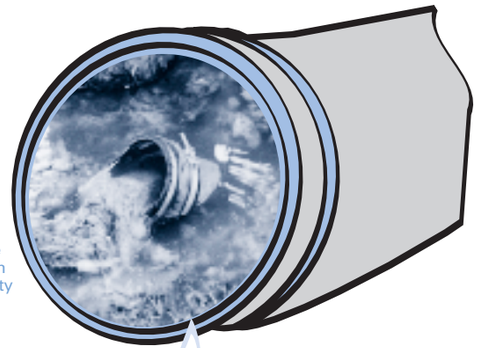
Time is of the essence in dealing with sewage spills. You are required to **immediately**:

Control and minimize the spill. Keep spills contained on private property and out of gutters, storm drains and public waterways by shutting off or not using the water.

Use sandbags, dirt and/or plastic sheeting to prevent sewage from entering the storm drain system.

Clear the sewer blockage. Always wear gloves and wash your hands. It is recommended that a plumbing professional be called for clearing blockages and making necessary repairs.

Always notify your city sewer/public works department or public sewer district of sewage spills. If the spill enters the storm drains also notify the Health Care Agency. In addition, if it exceeds 1,000 gallons notify the Office of Emergency Services. Refer to the numbers listed in this brochure.



Overflowing cleanout pipe located on private property

You Could Be Liable

Allowing sewage from your home, business or property to discharge to a gutter or storm drain may subject you to penalties and/or out-of-pocket costs to reimburse cities or public agencies for clean-up and enforcement efforts. See Regulatory Codes & Fines section for pertinent codes and fines that apply.

What to Look For

Sewage spills can be a very noticeable gushing of water from a manhole or a slow water leak that may take time to be noticed. Don't dismiss unaccounted-for wet areas.

Look for:

- Drain backups inside the building.
- Wet ground and water leaking around manhole lids onto your street.
- Leaking water from cleanouts or outside drains.
- Unusual odorous wet areas: sidewalks, external walls or ground/landscape around a building.

Caution

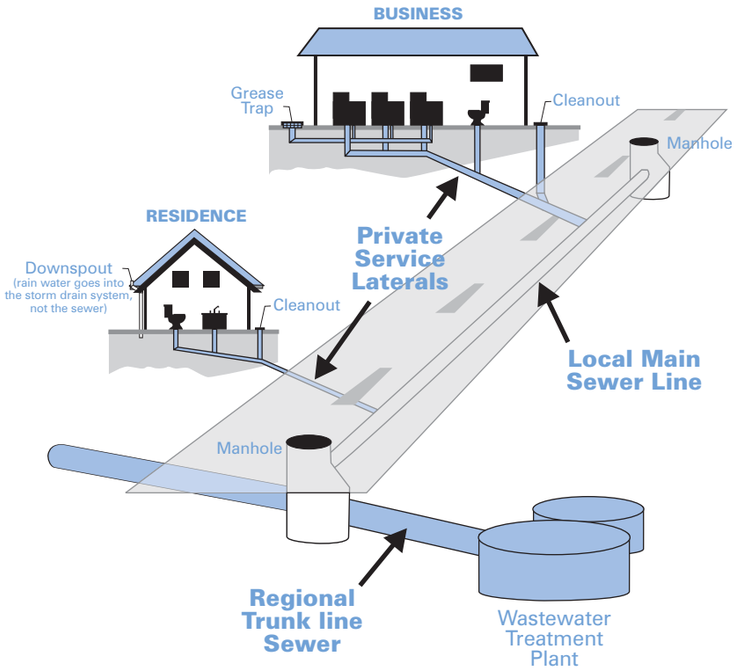
Keep people and pets away from the affected area. Untreated sewage has high levels of disease-causing viruses and bacteria. Call your local health care agency listed on the back for more information.

If You See a Sewage Spill Occurring, Notify Your City Sewer/Public Works Department or Public Sewer District IMMEDIATELY!

How a Sewer System Works

A property owner's sewer pipes are called service laterals and are connected to larger local main and regional trunk lines. Service laterals run from the connection at the home to the connection with the public sewer (including the area under the street). These laterals are the responsibility of the property owner and must be maintained by the property owner. Many city agencies have adopted ordinances requiring maintenance of service laterals. Check with your city sewer/local public works department for more information.

Operation and maintenance of **local and regional sewer lines** are the responsibility of the city sewer/public works departments and public sewer districts.



How You Can Prevent Sewage Spills

1. **Never put grease down garbage disposals, drains or toilets.**
2. **Perform periodic cleaning to eliminate grease, debris and roots in your service laterals.**
3. **Repair any structural problems in your sewer system and eliminate any rainwater infiltration/inflow leaks into your service laterals.**



Preventing Grease Blockages

The drain is not a dump! Recycle or dispose of grease properly and never pour grease down the drain.

Homeowners should mix fats, oils and grease with absorbent waste materials such as paper, coffee grounds, or kitty litter and place it in the trash. Wipe food scraps from plates and pans and dump them in the trash.

Restaurants and commercial food service establishments should always use "Kitchen Best Management Practices." These include:

- Collecting all cooking grease and liquid oil from pots, pans and fryers in covered grease containers for recycling.
- Scraping or dry-wiping excess food and grease from dishes, pots, pans and fryers into the trash.
- Installing drain screens on all kitchen drains.
- Having spill kits readily available for cleaning up spills.
- Properly maintaining grease traps or interceptors by having them serviced regularly. Check your local city codes.

Orange County Agency Responsibilites

- **City Sewer/Public Works Departments—** Responsible for protecting city property and streets, the local storm drain system, sewage collection system and other public areas.
- **Public Sewer/Sanitation District—** Responsible for collecting, treating and disposing of wastewater.
- **County of Orange Health Care Agency—** Responsible for protecting public health by closing ocean/bay waters and may close food-service businesses if a spill poses a threat to public health.
- **Regional Water Quality Control Boards—** Responsible for protecting State waters.
- **Orange County Stormwater Program—** Responsible for preventing harmful pollutants from being discharged or washed by stormwater runoff into the municipal storm drain system, creeks, bays and the ocean.

You Could Be Liable for Not Protecting the Environment

Local and state agencies have legal jurisdiction and enforcement authority to ensure that sewage spills are remedied.

They may respond and assist with containment, relieving pipe blockages, and/or clean-up of the sewage spill, especially if the spill is flowing into storm drains or onto public property.

A property owner may be charged for costs incurred by these agencies responding to spills from private properties.



Report Sewage Spills!

City Sewer/Public Works Departments

Aliso Viejo	(949) 425-2500
Anaheim	(714) 765-6860
Brea	(714) 990-7691
Buena Park	(714) 562-3655
Costa Mesa	(949) 645-8400
Cypress	(714) 229-6760
Dana Point	(949) 248-3562
Fountain Valley	(714) 593-4600
Fullerton	(714) 738-6897
Garden Grove	(714) 741-5375
Huntington Beach	(714) 536-5921
Irvine	(949) 453-5300
Laguna Beach	(949) 497-0765
Laguna Hills	(949) 707-2650
Laguna Niguel	(949) 362-4337
Laguna Woods	(949) 639-0500
La Habra	(562) 905-9792
Lake Forest	(949) 461-3480
La Palma	(714) 690-3310
Los Alamitos	(562) 431-3538
Mission Viejo	(949) 831-2500
Newport Beach	(949) 644-3011
Orange	(714) 532-6480
Orange County	(714) 567-6363
Placentia	(714) 993-8245
Rancho Santa Margarita	(949) 635-1800
San Clemente	(949) 366-1553
San Juan Capistrano	(949) 443-6363
Santa Ana	(714) 647-3380
Seal Beach	(562) 431-2527
Stanton	(714) 379-9222
Tustin	(714) 962-2411
Villa Park	(714) 998-1500
Westminster	(714) 893-3553
Yorba Linda	(714) 961-7170

Public Sewer/Water Districts

Costa Mesa Sanitary District	(714) 393-4433/ (949) 645-8400
El Toro Water District	(949) 837-0660
Emerald Bay Service District	(949) 494-8571
Garden Grove Sanitary District	(714) 741-5375
Irvine Ranch Water District	(949) 453-5300
Los Alamitos/Rossmoor Sewer District	(562) 431-2223
Midway City Sanitary District (Westminster)	(714) 893-3553
Moulton Niguel Water District	(949) 831-2500
Orange County Sanitation District	(714) 962-2411
Santa Margarita Water District	(949) 459-6420
South Coast Water District	(949) 499-4555
South Orange County Wastewater Authority	(949) 234-5400
Sunset Beach Sanitary District	(562) 493-9932
Trabuco Canyon Sanitary District	(949) 858-0277
Yorba Linda Water District	(714) 777-3018

Other Agencies

Orange County Health Care Agency	(714) 433-6419
Office of Emergency Services	(800) 852-7550



Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into storm drains that flow to the ocean. Overwatering lawns can also send materials into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never pour gardening products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

UCCE Master Gardener Hotline:
(714) 708-1646

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while landscaping or gardening. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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Help Prevent Ocean Pollution:

Tips for Landscape & Gardening



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Landscape & Gardening

Never allow gardening products or polluted water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.
- Plant native vegetation to reduce the amount of water, fertilizers, and pesticide applied to the landscape.



- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.



- Use slow-release fertilizers to minimize leaching, and use organic fertilizers.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.



- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting. For more information, visit **www.ipm.ucdavis.edu**.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. Locations are provided below.

Household Hazardous Waste Collection Centers

Anaheim:	1071 N. Blue Gum St.
Huntington Beach:	17121 Nichols St.
Irvine:	6411 Oak Canyon
San Juan Capistrano:	32250 La Pata Ave.

For more information, call (714) 834-6752 or visit www.oclandfills.com



Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as painting can lead to water pollution if you're not careful. Paint must be used, stored and disposed of properly to ensure that it does not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump paint into the ocean, so don't let it enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **(714) 567-6363**
or visit
www.ocwatersheds.com

To report a spill,
call the
Orange County 24-Hour Water Pollution Problem Reporting Hotline
at **(714) 567-6363**.

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while using, storing and disposing of paint. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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Help Prevent Ocean Pollution:

Tips for Projects Using Paint



Tips for Projects Using Paint

Paint can cause significant damage to our environment. Whether you hire a contractor or do it yourself, it is important to follow these simple tips when purchasing, using, cleaning, storing and disposing of paint.

Purchasing Paint

- Measure the room or object to be painted, then buy only the amount needed.
- Whenever possible, use water-based paint since it usually does not require hazardous solvents such as paint thinner for cleanup.

Painting

- Use only one brush or roller per color of paint to reduce the amount of water needed for cleaning.
- Place open paint containers or trays on a stable surface and in a position that is unlikely to spill.
- Always use a tarp under the area or object being painted to collect paint drips and contain spills.

Cleaning

- Never clean brushes or rinse paint containers in the street, gutter or storm drain.
- For oil-based products, use as much of the paint on the brushes as possible. Clean brushes with thinner. To reuse thinner, pour it through a fine filter (e.g. nylon, metal gauze or filter paper) to remove solids such as leftover traces of paint.
- For water-based products, use as much of the paint on the brushes as possible, then rinse in the sink.
- Collect all paint chips and dust. Chips and dust from marine paints or paints containing lead, mercury or tributyl tin are hazardous waste. Sweep up and dispose of at a Household Hazardous Waste Collection Center (HHWCC).

Storing Paint

- Store paint in a dry location away from the elements.
- Store leftover water-based paint, oil-based paint and solvents separately in original or clearly marked containers.
- Avoid storing paint cans directly on cement floors. The bottom of the can will rust much faster on cement.
- Place the lid on firmly and store the paint can upside-down to prevent air from entering. This will keep the paint usable longer. Oil-based paint is usable for up to 15 years. Water-based paint remains usable for up to 10 years.

Alternatives to Disposal

- Use excess paint to apply another coat, for touch-ups, or to paint a closet, garage, basement or attic.
- Give extra paint to friends or family. Extra paint can also be donated to a local theatre group, low-income housing program or school.
- Take extra paint to an exchange program such as the **"Stop & Swap"** that allows you to drop off or pick up partially used home care products free of charge. **"Stop & Swap"** programs are available at most HHWCCs.
- For HHWCC locations and hours, call **(714) 834-6752** or visit **www.oclandfills.com**.



Disposing of Paint

- Never put wet paint in the trash.

For water-based paint:

- If possible, brush the leftover paint on cardboard or newspaper. Otherwise, allow the paint to dry in the can with the lid off in a well-ventilated area protected from the elements, children and pets. Stirring the paint every few days will speed up the drying.
- Large quantities of extra paint should be taken to a HHWCC.
- Once dried, paint and painted surfaces may be disposed of in the trash. When setting a dried paint can out for trash collection, leave the lid off so the collector will see that the paint has dried.

For oil-based paint:

- Oil-based paint is a household hazardous waste. All leftover paint should be taken to a HHWCC.

Aerosol paint:

- Dispose of aerosol paint cans at a HHWCC.

Spills

- Never hose down pavement or other impermeable surfaces where paint has spilled.
- Clean up spills immediately by using an absorbent material such as cat litter. Cat litter used to clean water-based paint spills can be disposed of in the trash. When cleaning oil-based paint spills with cat litter, it must be taken to a HHWCC.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at **(714) 567-6363** or visit **www.ocwatersheds.com** to fill out an incident reporting form.

PROJECT Pollution PREVENTION



Preventing water pollution at your commercial/industrial site

A clean ocean and healthy creeks, rivers, bays and beaches are important to Orange County. However, many landscape and building maintenance activities can lead to water pollution if you're not careful. Paint, chemicals, plant clippings and other materials can be blown or washed into storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains and streets is not treated before entering our waterways.

You would never pour soap or fertilizers into the ocean, so why would you let them enter the storm drains? Follow the easy tips in this brochure to help prevent water pollution.

Some types of industrial facilities are required to obtain coverage under the State General Industrial Permit. For more information visit www.swrcb.ca.gov/stormwater/industrial.html.

For more information, please call the Orange County Stormwater Program at (714) 567-6363 or visit www.ocwatersheds.com.

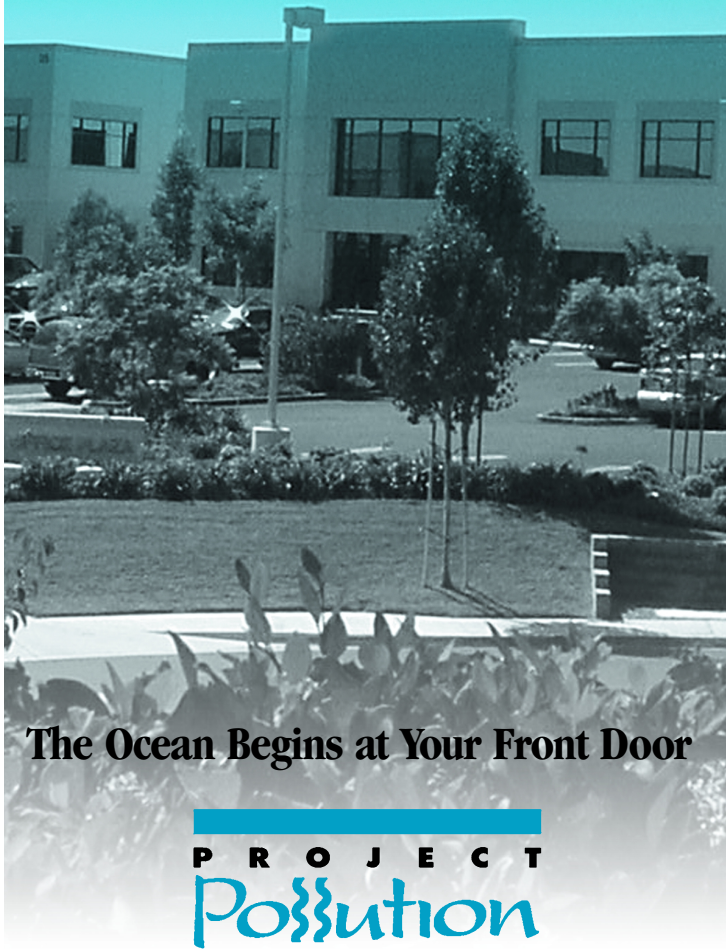
To report a spill, call the Orange County 24-Hour Water Pollution Reporting Hotline (714) 567-6363.

For emergencies dial 911.

RECYCLE USED OIL

Help Prevent Ocean Pollution:

Proper Maintenance Practices for Your Business



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Storm Drain Awareness and Maintenance Practices

Landscape Maintenance

- Compost grass clippings, leaves, sticks and other vegetation, or dispose at a permitted landfill or in green waste containers. Do not dispose of these materials in streets, waterways or storm drains.
- Irrigate slowly and inspect the system for leaks, overspraying and runoff. Adjust automatic timers to avoid over-watering.
- Follow label directions for the use and disposal of fertilizers, herbicides and pesticides.
- Do not apply pesticides, herbicides or fertilizers if rain is expected within 48 hours or if wind speeds are above 5 mph.
- Do not spray pesticides within 100 feet of waterways.
- Fertilizers should be worked into the soil rather than dumped onto the surface.
- If fertilizer is spilled on the pavement or sidewalk, sweep it up immediately and place it back in the container.

Building Maintenance

- Never allow wash water, sweepings or sediment to enter the storm drain.
- Sweep up dry spills and use cat litter, towels or similar materials to absorb wet spills. Dispose in the trash.
- If you must wash your building, sidewalk or parking lot, you **must** contain the water. Collect the water with a shop vac, and contact your city or sanitation agency for proper disposal information. Do not let water enter the street or storm drains.
- Use drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of materials in the trash.
- Use a ground cloth or oversized tub for mixing paint and cleaning tools.
- Use a damp mop or broom to clean floors.
- Cover dumpsters to block insects, animals, rainwater and sand. Keep the area around the dumpster clear of trash and debris. Do not overfill the dumpster.
- Call your trash hauler to replace leaking dumpsters.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain. Even materials that seem harmless—like latex paint or biodegradable cleaners—can damage the environment.

Never Dispose of Anything in the Storm Drain.

- Recycle paints, solvents, lumber and other materials.
- Store materials indoors or under cover and away from storm drains.
- Use chemicals that can be recycled. For more information about recycling and collection centers, visit www.oclandfills.com.
- Properly label materials. Familiarize employees with Material Safety Data Sheets.

ATTACHMENT A

ATTACHMENT B

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental, and Civil Engineering

HYDROLOGY STUDY
& DRAINAGE ANALYSIS

for

BELLA TERRA
4006, 4010 & 4010 W. HAZARD AVENUE
SANTA ANA, CA 92703

Prepared for:
VAN HUYNH
4010 W. HAZARD AVENUE,
SANTA ANA, CA 92703

Preparation Date
March 26, 2024

576 East Lambert Road, Brea, California 92821; Tel: 714-671-1050, fax: 714-671-1090

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- C. Post-development Condition 3
- D. Methodology 3
- E. Hydrology Summary 6

ATTACHMENT I – OC County Hydrology Map & Table
ATTACHMENT II – Rational Method Study Form

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ATTCHMENT IV – Existing Hydrology Map
ATTCHMENT IV – Proposed Hydrology Map

I. Rational Method Calculation

A. Project Description:
The project site is located at the south side of Hazard Avenue between Newhope Street and Harbor Boulevard, in the City of Santa Ana, County of Orange, and State of California. The project site is currently three (3) separate lot occupied by three single family residential house. The site has multiple easement within. The project site is currently a vacant lot is approximately 2.458 acres.

B. Pre-development Condition:
The lot size of the project site is approximately 2.458 acres. The whole site drains into the rear of the property to the south direction into the neighboring property. The site is very flat and creates some ponding area on the rear but ultimately flows to the south and west into neighboring property.

There are not off-site drain that drains to the project site.

C. Post-development Condition:
The project propose to construct eleven (11) residential subdivision and a separate lot for the propose church on the project site. The project site will be divided into two sub-areas. Sub Area A-1 will be the 11 lot subdivision and private street lot "A" that will drain southerly and will be collected into a sum pump. The stormwater will drain be pump into Hazard Avenue.

Sub-Area A-2 will be the lot occupied by the Church. This sub-area will drain westerly into Morse Street.1

D. Methodology:
The tributary drainage area boundaries were delineated utilizing topography from a survey of the Project site area. The proposed Project grading illustrated on the Proposed Condition Hydrology Map was used to determine the drainage patterns and boundaries for the onsite post-development condition.

General Assumptions and Guidelines
The assumptions and guidelines listed below were applied in the use of the Rational Method in preparing the hydrologic analysis.

• Hydrology methodology outlined by the Orange County (OC) Hydrology Manual dated 1986. The onsite hydrology was computed using the Rational Method outlined in the OC Hydrology Manual. The Rational Method is commonly used for determining peak discharge from relatively small drainage areas of less than 640 acres.

• The effects of infiltration caused by land use and soil surface characteristics were determined by following the procedure outlined in sections C.6.4, D.5 and D.6 of the OC Hydrology Manual. The OC Hydrology Manual 1986 Soils Map indicates that the Project study area consists of soil type C. Hydrologic soil ratings are based on a scale of A through D, where D is the least pervious, providing the greatest runoff. The type of vegetation, percent ground cover, and percentage of impervious surfaces also affect the infiltration rate. The

Single Family House, hardscape and Pool was used for the developed condition impervious area.

• The land use assumptions for the existing and post-development conditions were determined based on visual inspection of the areas during site visits and aerial photos of the area. A vacant lot with Fair Cover of vegetation on the undeveloped condition was used as a parameter for the predevelopment condition.

Rational Method

The Rational Method, an empirical computational procedure for developing peak runoff and discharge for storms of a specified recurrence interval in small watersheds, was used to compute peak flow rates for the Project watershed. The formula is:

$$Q=CIA$$

Where:

Q = Peak discharge, in cubic feet per second (cfs)
C = Runoff coefficient representing the ratio of runoff depth to rainfall depth
I = The time-averaged rainfall intensity for a storm duration equal to the time of concentration, in inches/hour (in/hr)
A = Drainage area, in acres (ac)

Rational Method Assumptions and Guidelines

The assumptions and guidelines listed below were applied in the use of the Rational Method.

• The basic assumption for the Rational Method is that the precipitation rate is constant and uniform over the entire watershed for the time duration such that runoff could travel from the most remote point in the watershed to the concentration point; after which time the rate of runoff does not increase. This is the time defined as the "time of concentration" (Tc). The rational method is based on the assumption that the peak flow rate is directly proportional to drainage area, rainfall intensity, and a runoff coefficient "A," which is related to land use and soil type.

• The runoff coefficient was calculated with using the OC County Hydrology Manual formula D.3 and D.4. The OC County Hydrology Manual formula uses rainfall intensity, infiltration rate, ratio of impervious area to total watershed area and the ratio of pervious area to total watershed area to calculate the runoff coefficient. A maximum effective pervious area loss rate of 0.40 inches/hour was used for the runoff calculation since the Project area consists of soil group C, found from the OC Hydrology Manual Maps. The Project watershed area was calculated in AutoCAD as 2.458 acres and the analysis covers the whole site. The pre-development impervious area consists of three (3) single family residential lot, while the post-development impervious area consists of 11 single family residential subdivision and a church. These impervious areas were calculated in AutoCAD from survey data and proposed construction drawings.

• Mean Precipitation Intensity Curve values were used for the Rational Method analysis based on OC Hydrology Manual Figure B-3 for non-mountainous areas. Non mountainous areas are defined in the OC Hydrology Manual as areas below 2,000 feet in elevation. The highest elevation in the Project Watershed is 78 feet. The times of concentration for the

predevelopment and post-development conditions were calculated using the OC Hydrology Manual Figure D-1.

Rational Method Calculation

The hydrologic calculations for the Project watershed were performed using OC County Hydrology Manual formula for Peak Flow Rate.

The Project watershed in the proposed condition, was subdivided into 3 subareas in an attempt to more accurately model the time of concentration. As previously stated, the subarea has overland flow on existing condition. The peak flow from the subarea was routed through the drainage pipe which discharges into the infiltration basin. The time of concentration from these two steps was used for the other subarea which drains into the detention basin.

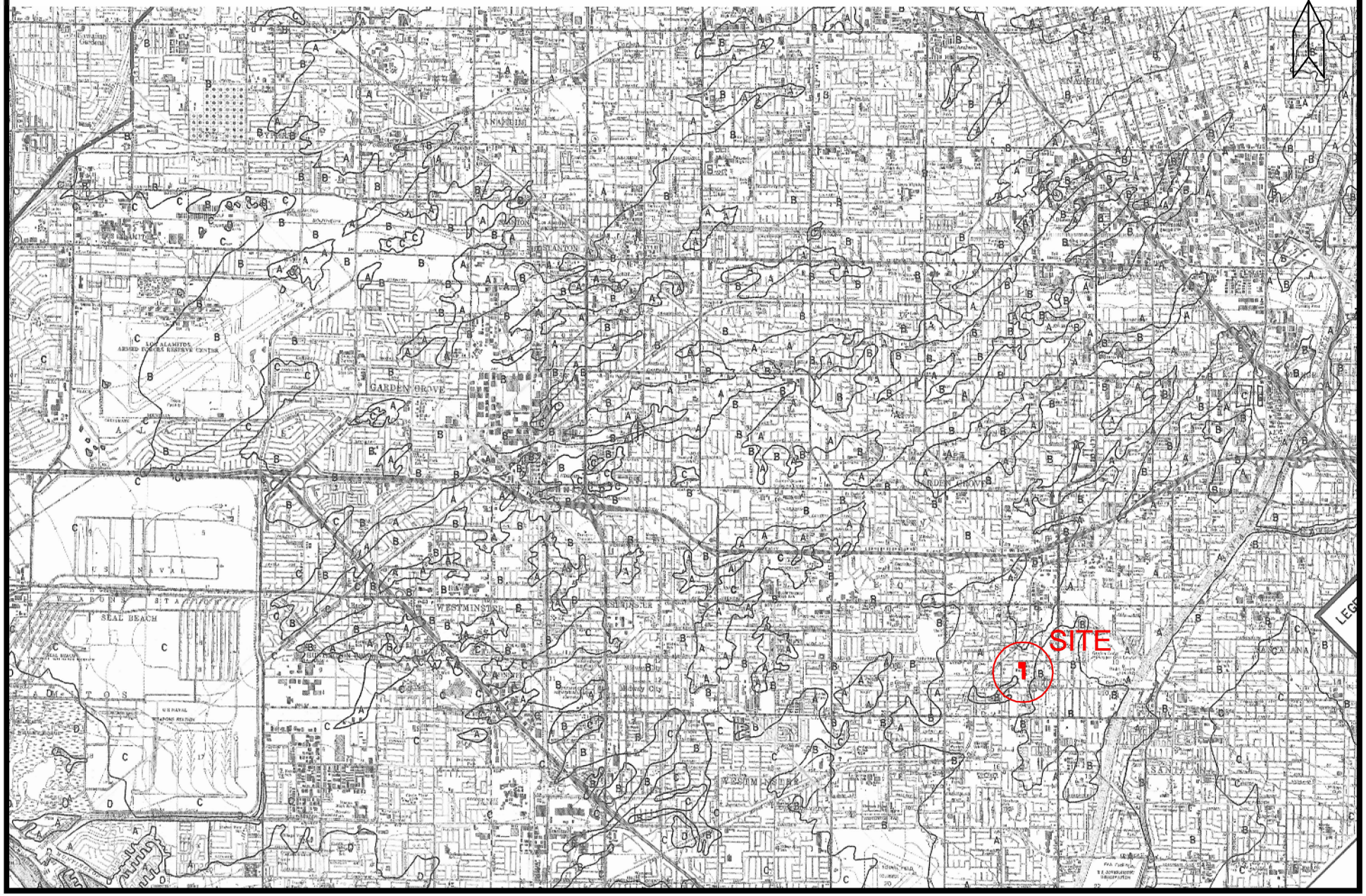
Small Area Unit Hydrograph Method Calculation

The time of concentration calculated from the rational method was used as an input parameter for the small area unit hydrograph method (SAUHM). Another important parameter used in the SAUHM is the low loss fraction, which is calculated from a curve number and infiltration rate. The curve number was obtained from Figure C-3 in the OC Hydrology Manual. The low loss fraction and Fm values were calculated with OC County Hydrology Manual. The small area unit hydrograph method was used to calculate the runoff volume from all disturbed area on the Project into the detention basin (see Appendix E1-E6).

Watershed Characteristics

The Project watershed covers approximately 2.458 acres. The existing conditions runoff flows from Hazard Avenue to the south into the neighboring property.
Following development, the Project will consist of eleven (11) single family residential subdivision and a church. Storm water will be routed from the single-family houses into the private street where it will be collected into a sump pump and will pump the stormwater into Hazard Avenue. The propose church will drain to the west into Morse Street.

ORANGE COUNTY SOIL MAP



EXISTING HYDROLOGY MAP

LEGEND

DRAINAGE SUBAREA

A-8 / 0.30 — SUBAREA / ACREAGE

0 50 100

SCALE: 1"=50'

EL=77.36

EL=77.01

EL=76.50

EL=75.34

A-1
1.873

A-2
0.376

A-3
4.854

L = 645'
NATURAL FLOW
S = 0.31%

210'
NATURAL FLOW
S = 0.34%

640.04'

171.00'

132.00'

489.05'

N 00°34'07" W

N 89°22'08" E

BIZARD AVENUE

PROPOSED HYDROLOGY MAP

LEGEND

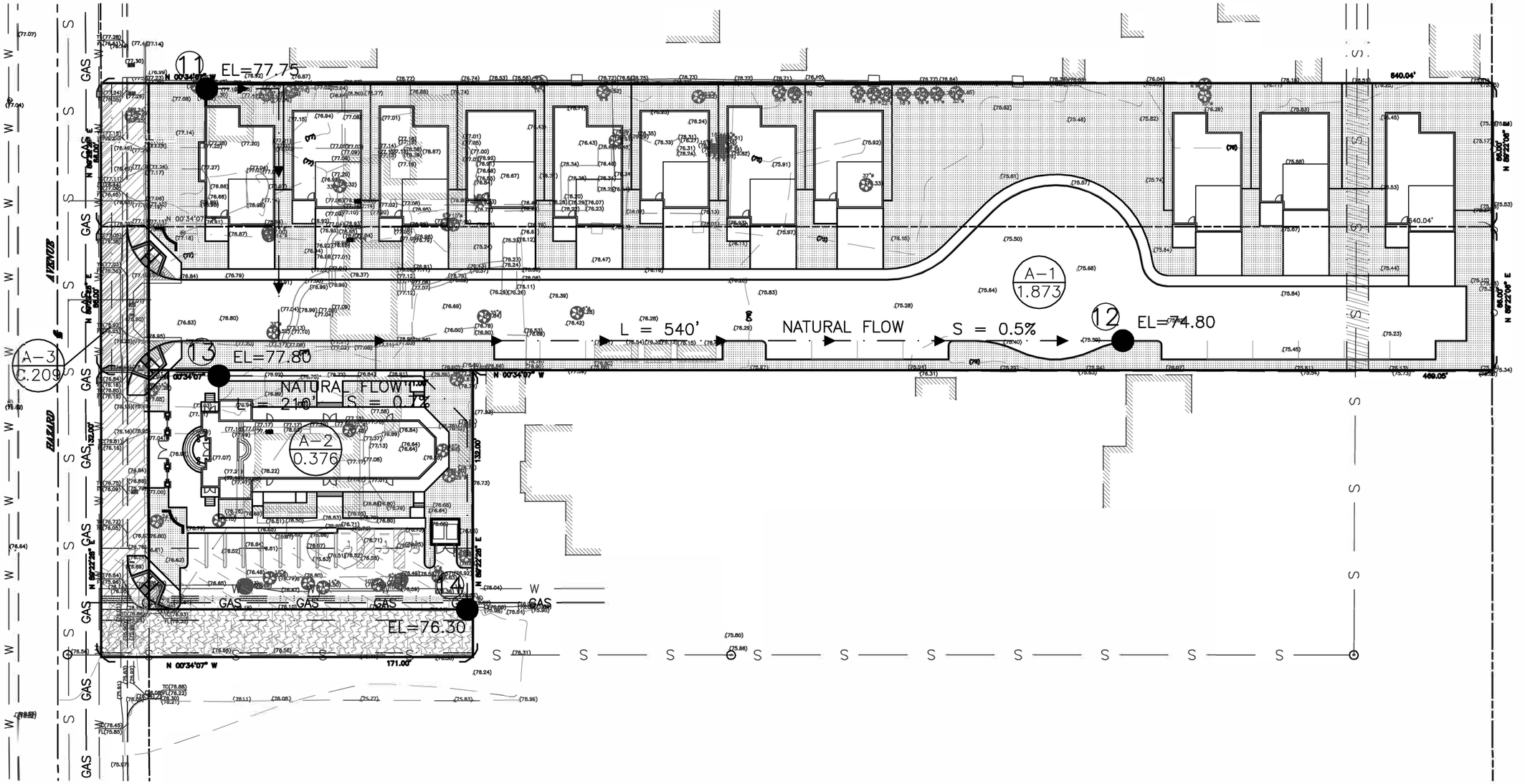
DRAINAGE SUBAREA

A-8 / 0.30 — SUBAREA / ACREAGE

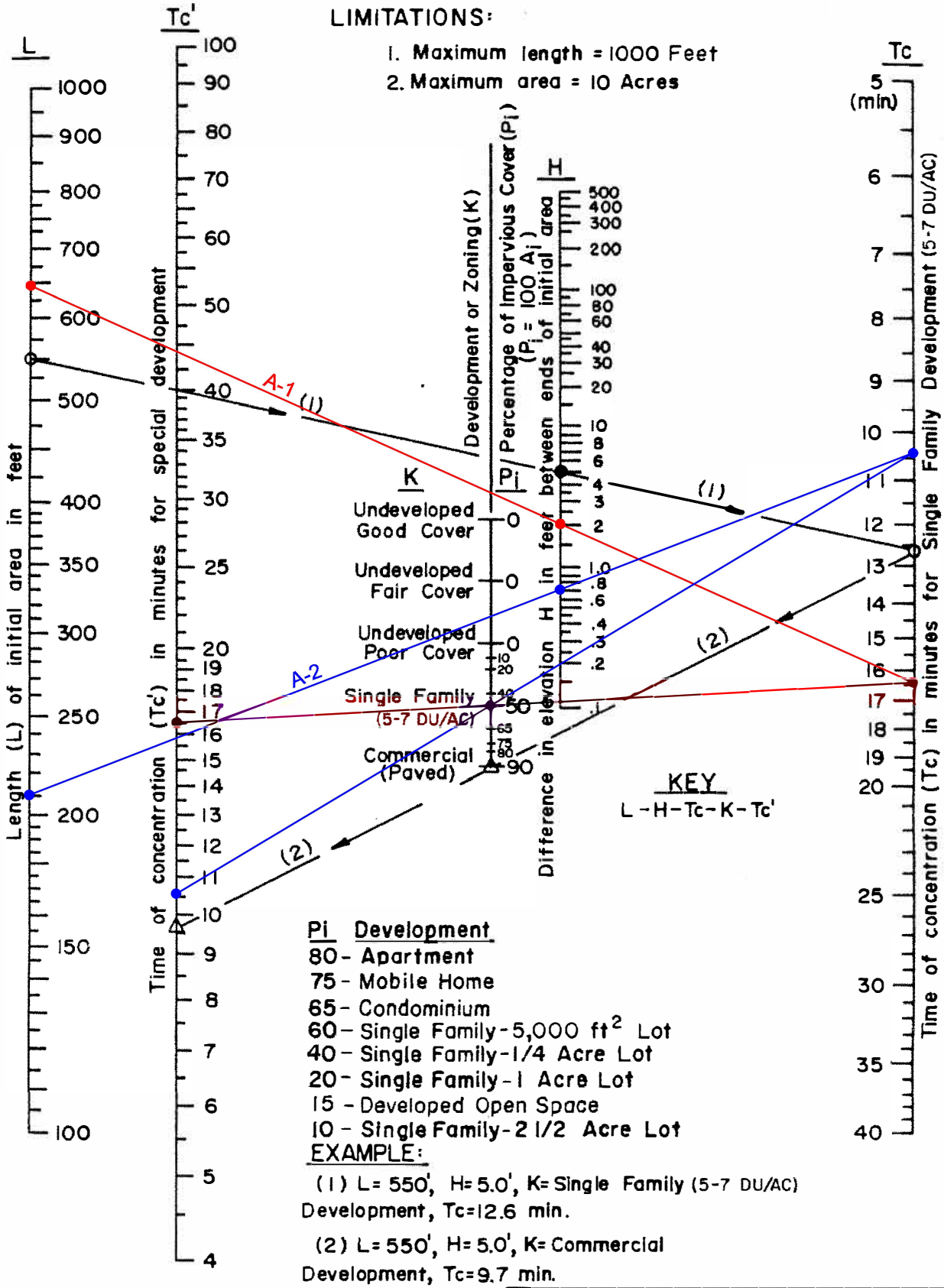
N

0 50 100

SCALE: 1"=50'



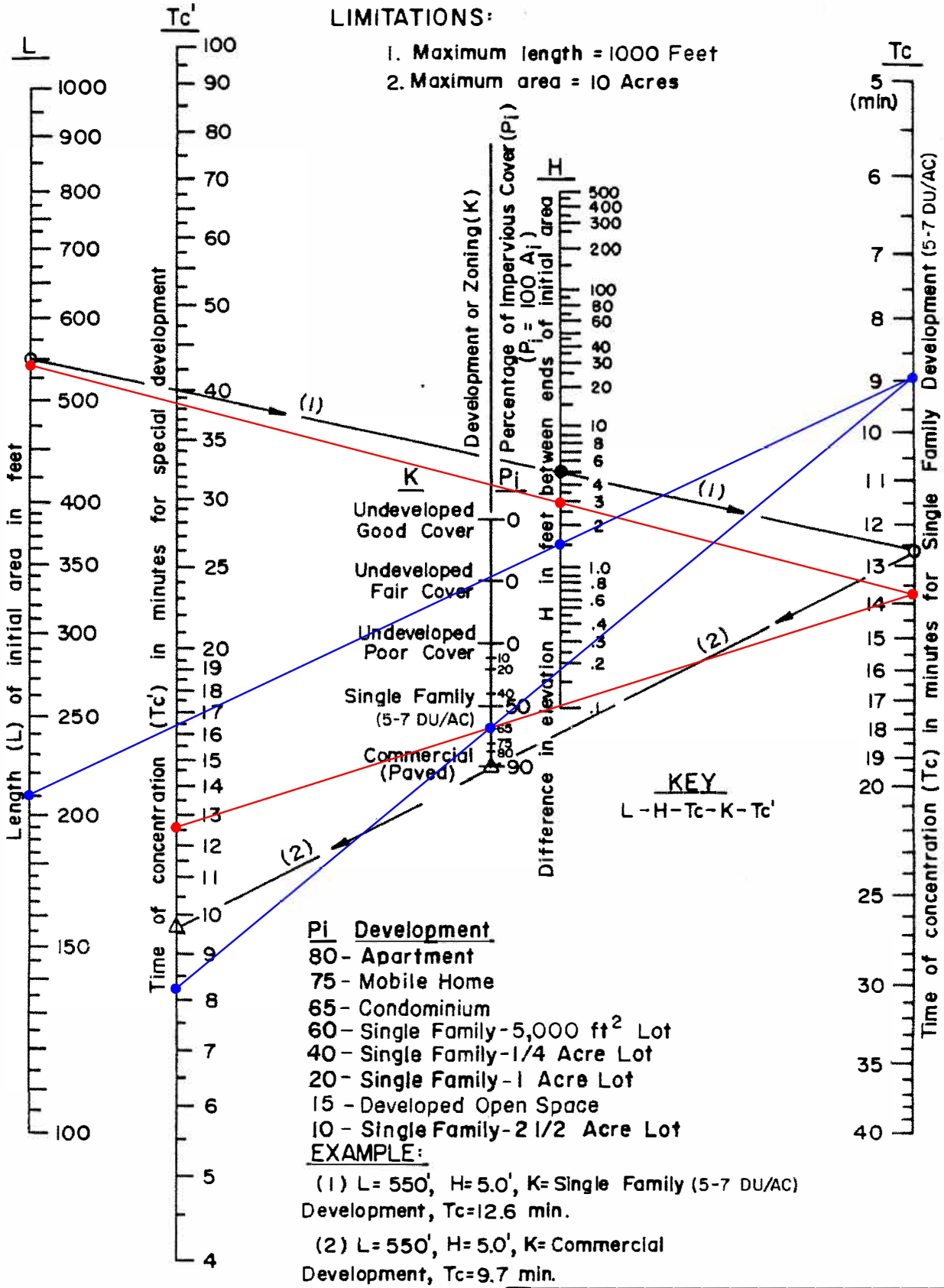
EXISTING TC



ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY
HYDROLOGY MANUAL

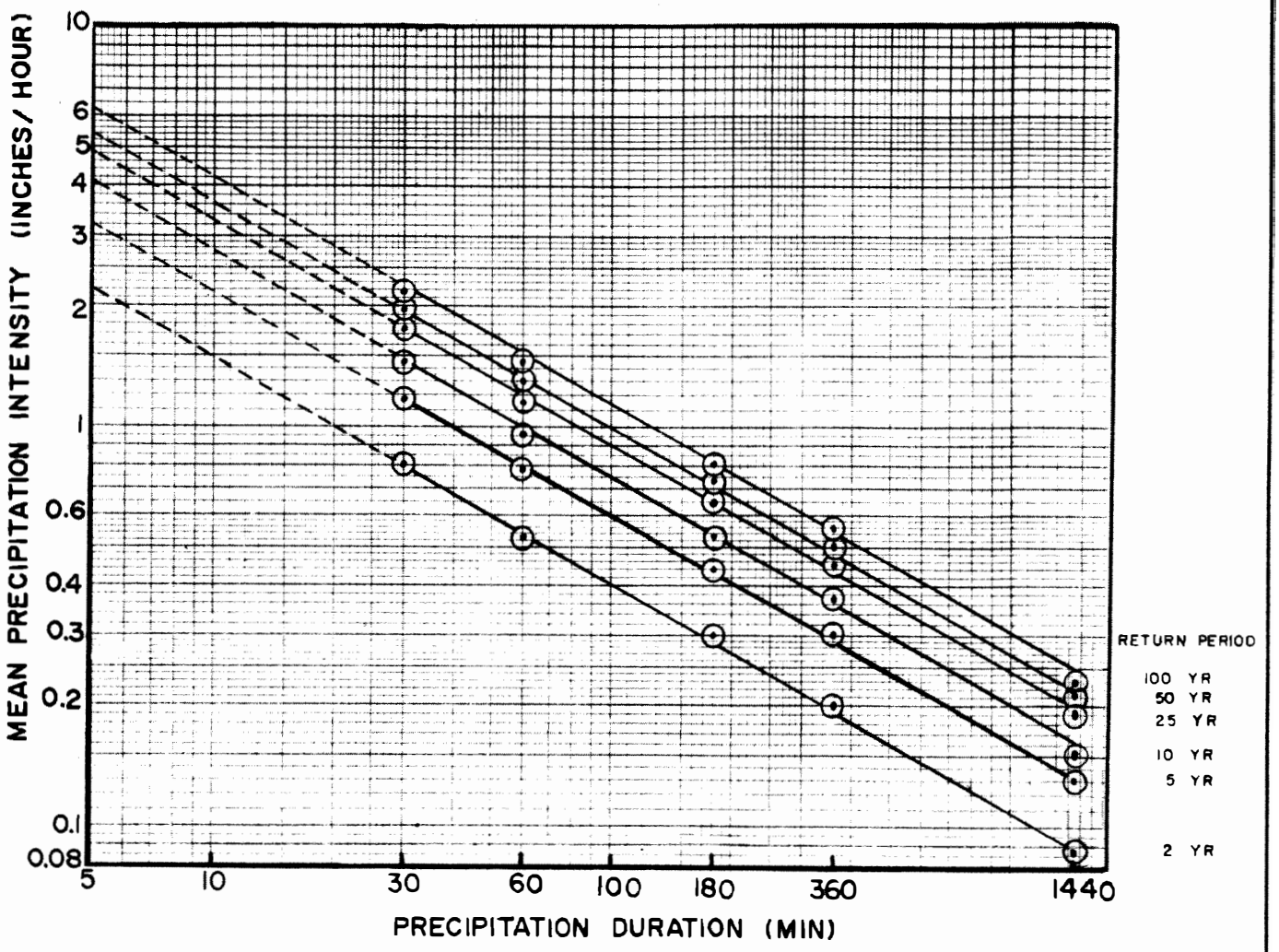
TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573



ORANGE COUNTY

HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

Figure B-3

Hydrology Summary

Below is a summary of the results of the rational method hydrology analysis. The table shows the estimated existing and proposed peak runoff values for the 10-year 25-year and 100-year events.

Table 1 – Rational Method Peak Flow Rate Hydrology Summary

Pre-Development	Area (acres)	Drain location	Q10	Tc (min)	Q25	Tc (min)	Q100	Tc (min)
Ex. A-1	**1.873**	Rear	**2.90 cfs**	16.5	**3.58 cfs**	16.5	**4.71 cfs**	16.5
Ex. A-2	**0.376**	Rear	**0.81 cfs**	10.5	**0.99 cfs**	10.5	**1.28 cfs**	10.5
Ex. A-3	**0.209**	This area is part of Hazard Avenue and Morse Street. Not evaluated in this calculation.						
Post-Development								
Pr. A-1	**1.873**	Rear	**3.78 cfs**	12.5	**4.57 cfs**	12.5	**5.91 cfs**	12.5
Pr. A-2	**0.376**	Rear	**1.01 cfs**	8.3	**1.21 cfs**	8.3	**1.55 cfs**	8.3
Ex. A-3	This area is part of Hazard Avenue and Morse Street. Not evaluated in this calculation.							

The result of the proposed development condition is an increase in peak flow rate. The peak flow rates for the Proposed Condition in Table 1 represent the peak flow rates that enter the Infiltration Basin. The Infiltration Basin will attenuate the peak flow rates in the proposed condition to be less than the peak flow rates in the existing condition.

Table 2 – Computation Data Summary

	Ex. A-1	Ex. A-2	Pr. A-1	Pr. A-2
Length of Travel (FT)	645	210	540	210
ΔH (FT)	2.02	0.71	2.95	1.50
SLOPE	0.31%	0.34%	0.50%	0.70%
AREA (ACRES)	1.873	0.376	1.873	0.376
IMPERVIOUS AREA (acres)	0.339	0.140	1.145	0.326
PERVIOUS AREA (acres)	1.534	0.236	0.728	0.050
DEVELOPMENT TYPE	SFR	SFR	MFR	MFR
INTENSITY – 10 YR (IN/HR)	2.05	2.65	2.40	3.03
INTENSITY – 25 YR (IN/HR)	2.45	3.17	2.87	3.62
INTENSITY – 100 YR (IN/HR)	3.12	4.04	3.66	4.63
Ap (ratio of pervious area)	0.82	0.63	0.39	0.13
Fp	0.40	0.40	0.40	0.40
Fm = Ap x Fp	0.328	0.252	0.156	0.053

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Existing 10-Year 10 - YEAR STORM RATIONAL METHOD STUDY										Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	16.5	2.05	0.33	0.33	2.90	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**16.5**				**2.90**				
NODE 4	A-2 0.376	0.376	A	SFR	-	10.5	2.65	0.25	0.25	0.81	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**10.5**				**0.81**				

ORANGE COUNTY HYDROLOGY MANUAL			STUDY NAME: Hazard Existing 25-Year 25 - YEAR STORM RATIONAL METHOD STUDY								Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	16.5	2.45	0.33	0.33	3.58	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**16.5**				**3.58**				
					-						210	0.003		InitiaL Sub-area
NODE 4	A-2 0.376	0.376	A	SFR		10.5	3.17	0.25	0.25	0.99				Drain to Morse
NODE 4						**10.5**				**0.99**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Existing 100-Year 100 - YEAR STORM RATIONAL METHOD STUDY	Calculated by _____ Date _____ Page _____ of _____

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	16.5	3.12	0.33	0.33	4.71	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**16.5**				**4.71**				
					-									
NODE 4	A-2 0.376	0.376	A	SFR		10.5	4.04	0.25	0.25	1.28	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**10.5**				**1.28**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Propose 10-Year 10 - YEAR STORM RATIONAL METHOD STUDY										Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	12.5	2.40	0.16	0.16	3.78	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**12.5**				**3.78**				
					-									
NODE 4	A-2 0.376	0.376	A	SFR		8.3	3.03	0.05	0.05	1.01	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**8.3**				**1.01**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Propose 25-Year 25 - YEAR STORM RATIONAL METHOD STUDY										Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	12.5	2.87	0.16	0.16	4.57	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**12.5**				**4.57**				
NODE 4	A-2 0.376	0.376	A	SFR	-	8.3	3.62	0.05	0.05	1.21	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**8.3**				**1.21**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Propose 100-Year 100 - YEAR STORM RATIONAL METHOD STUDY	Calculated by _____ Date _____ Page _____ of _____

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	12.5	3.66	0.16	0.16	5.91	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**12.5**				**5.91**				
					-									
NODE 4	A-2 0.376	0.376	A	SFR		8.3	4.63	0.05	0.05	1.55	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**8.3**				**1.55**				

II. CONCLUSION

The existing flow generated on the project site for sub-area A-1 is 2.90 cfs, 3.58 cfs and 4.71 cfs while sub-area A-2 generated 0.81 cfs, 0.99 cfs & 1.28 cfs for the 2-year, 25-year, and 100-year storm events respectively.

The propose flow generated on the project site for sub-area A-1 is 3.78 cfs, 4.57 cfs and 5.91 cfs while sub-area A-2 generate a flow of 1.01 cfs, 1.21 cfs and 1.28 cfs for the 2-year, 25-year and 100-year storm event respectively.

The propose project generates a larger flow than the existing condition. This is because of the increase of the impervious area propose by the project. The project will propose an ADS-PIPE stormtech chamber infiltration basin that would reduce the proposed project generated flow.

Appendix D-2

Hydrology Report

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental, and Civil Engineering

HYDROLOGY STUDY
& DRAINAGE ANALYSIS

for

BELLA TERRA
4006, 4010 & 4010 W. HAZARD AVENUE
SANTA ANA, CA 92703

Prepared for:
VAN HUYNH
4010 W. HAZARD AVENUE,
SANTA ANA, CA 92703

Preparation Date
October 25, 2024

576 East Lambert Road, Brea, California 92821; Tel: 714-671-1050, fax: 714-671-1090

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- B. Pre-development Condition 3
- C. Post-development Condition 3
- D. Methodology 3
- E. Hydrology Summary 6

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ATTACHMENT II – Rational Method Study Form

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ATTCHMENT IV – Existing Hydrology Map
ATTCHMENT IV – Proposed Hydrology Map

I. Rational Method Calculation

A. Project Description:
The project site is located at the south side of Hazard Avenue between Newhope Street and Harbor Boulevard, in the City of Santa Ana, County of Orange, and State of California. The project site is currently three (3) separate lot occupied by three single family residential house. The site has multiple easement within. The project site is currently a vacant lot is approximately 2.458 acres.

B. Pre-development Condition:
The lot size of the project site is approximately 2.458 acres. The whole site drains into the rear of the property to the south direction into the neighboring property. The site is very flat and creates some ponding area on the rear but ultimately flows to the south and west into neighboring property.

There are not off-site drain that drains to the project site.

C. Post-development Condition:
The project propose to construct eleven (11) residential subdivision and a separate lot for the propose church on the project site. The project site will be divided into two sub-areas. Sub Area A-1 will be the 11 lot subdivision and private street lot "A" that will drain southerly and will be collected into a sum pump. The stormwater will drain be pump into Hazard Avenue.

Sub-Area A-2 will be the lot occupied by the Church. This sub-area will drain westerly into Morse Street.1

D. Methodology:
The tributary drainage area boundaries were delineated utilizing topography from a survey of the Project site area. The proposed Project grading illustrated on the Proposed Condition Hydrology Map was used to determine the drainage patterns and boundaries for the onsite post-development condition.

General Assumptions and Guidelines
The assumptions and guidelines listed below were applied in the use of the Rational Method in preparing the hydrologic analysis.

• Hydrology methodology outlined by the Orange County (OC) Hydrology Manual dated 1986. The onsite hydrology was computed using the Rational Method outlined in the OC Hydrology Manual. The Rational Method is commonly used for determining peak discharge from relatively small drainage areas of less than 640 acres.

• The effects of infiltration caused by land use and soil surface characteristics were determined by following the procedure outlined in sections C.6.4, D.5 and D.6 of the OC Hydrology Manual. The OC Hydrology Manual 1986 Soils Map indicates that the Project study area consists of soil type C. Hydrologic soil ratings are based on a scale of A through D, where D is the least pervious, providing the greatest runoff. The type of vegetation, percent ground cover, and percentage of impervious surfaces also affect the infiltration rate. The

Single Family House, hardscape and Pool was used for the developed condition impervious area.

• The land use assumptions for the existing and post-development conditions were determined based on visual inspection of the areas during site visits and aerial photos of the area. A vacant lot with Fair Cover of vegetation on the undeveloped condition was used as a parameter for the predevelopment condition.

Rational Method

The Rational Method, an empirical computational procedure for developing peak runoff and discharge for storms of a specified recurrence interval in small watersheds, was used to compute peak flow rates for the Project watershed. The formula is:

$$Q=CIA$$

Where:

Q = Peak discharge, in cubic feet per second (cfs)
C = Runoff coefficient representing the ratio of runoff depth to rainfall depth
I = The time-averaged rainfall intensity for a storm duration equal to the time of concentration, in inches/hour (in/hr)
A = Drainage area, in acres (ac)

Rational Method Assumptions and Guidelines

The assumptions and guidelines listed below were applied in the use of the Rational Method.

• The basic assumption for the Rational Method is that the precipitation rate is constant and uniform over the entire watershed for the time duration such that runoff could travel from the most remote point in the watershed to the concentration point; after which time the rate of runoff does not increase. This is the time defined as the "time of concentration" (Tc). The rational method is based on the assumption that the peak flow rate is directly proportional to drainage area, rainfall intensity, and a runoff coefficient "A," which is related to land use and soil type.

• The runoff coefficient was calculated with using the OC County Hydrology Manual formula D.3 and D.4. The OC County Hydrology Manual formula uses rainfall intensity, infiltration rate, ratio of impervious area to total watershed area and the ratio of pervious area to total watershed area to calculate the runoff coefficient. A maximum effective pervious area loss rate of 0.40 inches/hour was used for the runoff calculation since the Project area consists of soil group C, found from the OC Hydrology Manual Maps. The Project watershed area was calculated in AutoCAD as 2.458 acres and the analysis covers the whole site. The pre-development impervious area consists of three (3) single family residential lot, while the post-development impervious area consists of 11 single family residential subdivision and a church. These impervious areas were calculated in AutoCAD from survey data and proposed construction drawings.

• Mean Precipitation Intensity Curve values were used for the Rational Method analysis based on OC Hydrology Manual Figure B-3 for non-mountainous areas. Non mountainous areas are defined in the OC Hydrology Manual as areas below 2,000 feet in elevation. The highest elevation in the Project Watershed is 78 feet. The times of concentration for the

predevelopment and post-development conditions were calculated using the OC Hydrology Manual Figure D-1.

Rational Method Calculation

The hydrologic calculations for the Project watershed were performed using OC County Hydrology Manual formula for Peak Flow Rate.

The Project watershed in the proposed condition, was subdivided into 3 subareas in an attempt to more accurately model the time of concentration. As previously stated, the subarea has overland flow on existing condition. The peak flow from the subarea was routed through the drainage pipe which discharges into the infiltration basin. The time of concentration from these two steps was used for the other subarea which drains into the detention basin.

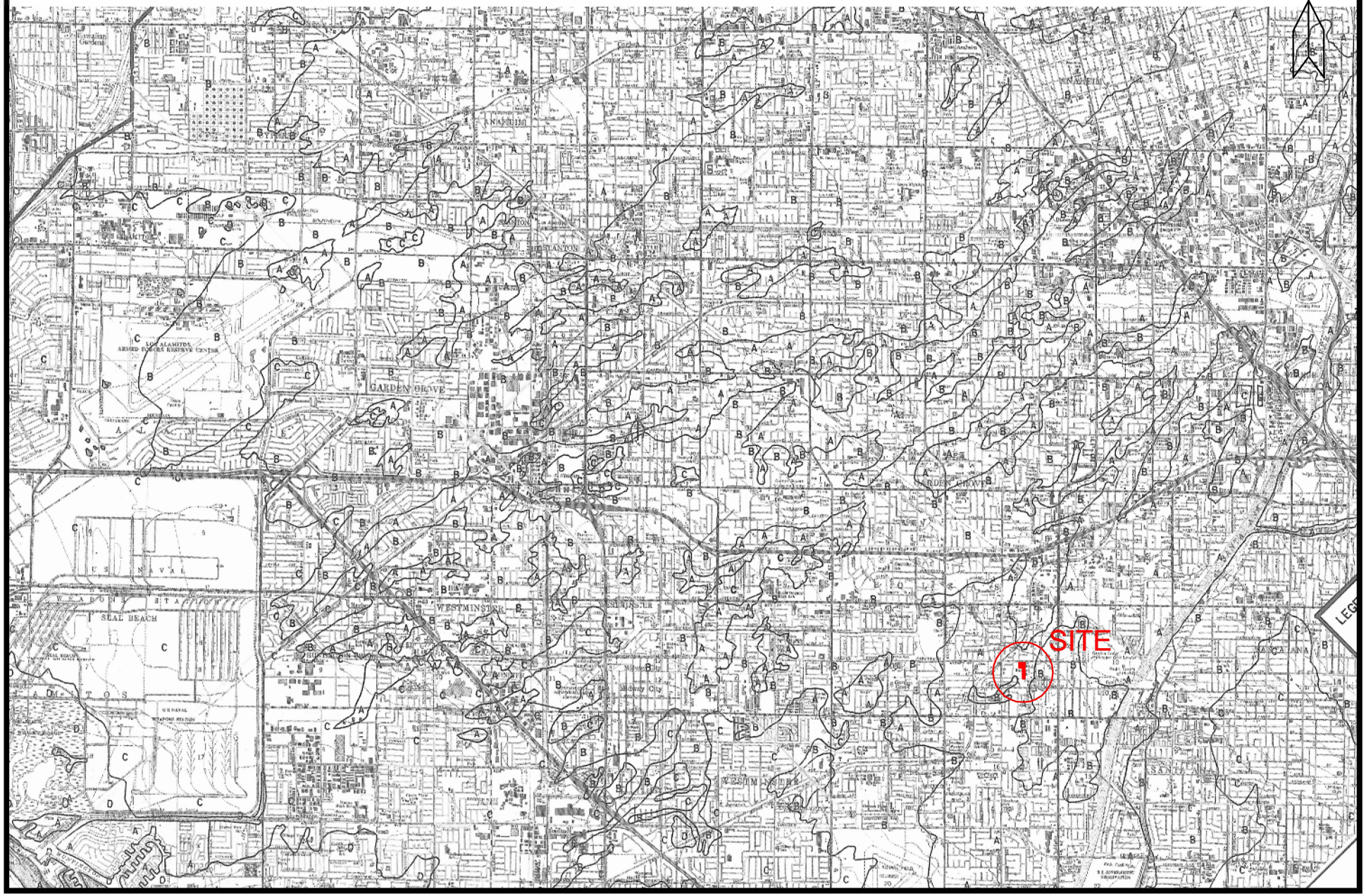
Small Area Unit Hydrograph Method Calculation

The time of concentration calculated from the rational method was used as an input parameter for the small area unit hydrograph method (SAUHM). Another important parameter used in the SAUHM is the low loss fraction, which is calculated from a curve number and infiltration rate. The curve number was obtained from Figure C-3 in the OC Hydrology Manual. The low loss fraction and Fm values were calculated with OC County Hydrology Manual. The small area unit hydrograph method was used to calculate the runoff volume from all disturbed area on the Project into the detention basin (see Appendix E1-E6).

Watershed Characteristics

The Project watershed covers approximately 2.458 acres. The existing conditions runoff flows from Hazard Avenue to the south into the neighboring property.
Following development, the Project will consist of eleven (11) single family residential subdivision and a church. Storm water will be routed from the single-family houses into the private street where it will be collected into a sump pump and will pump the stormwater into Hazard Avenue. The propose church will drain to the west into Morse Street.

ORANGE COUNTY SOIL MAP



EXISTING HYDROLOGY MAP

LEGEND

DRAINAGE SUBAREA

A-8 / 0.30 — SUBAREA / ACREAGE

0 50 100

SCALE: 1"=50'

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N 00°34'07" W

N 89°22'08" E

BIZARD AVENUE

PROPOSED HYDROLOGY MAP

LEGEND

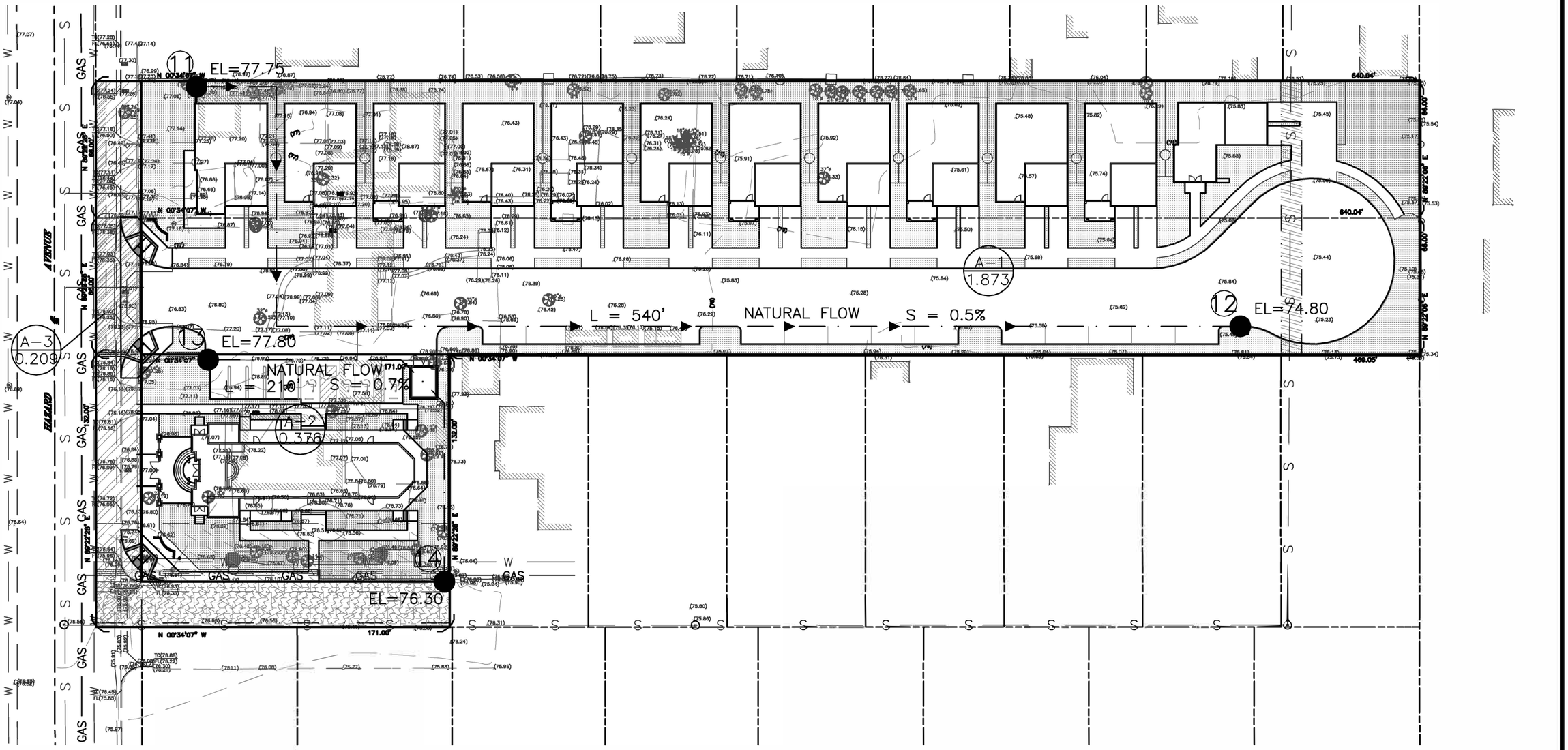
DRAINAGE SUBAREA

A-8 / 0.30 — SUBAREA / ACREAGE

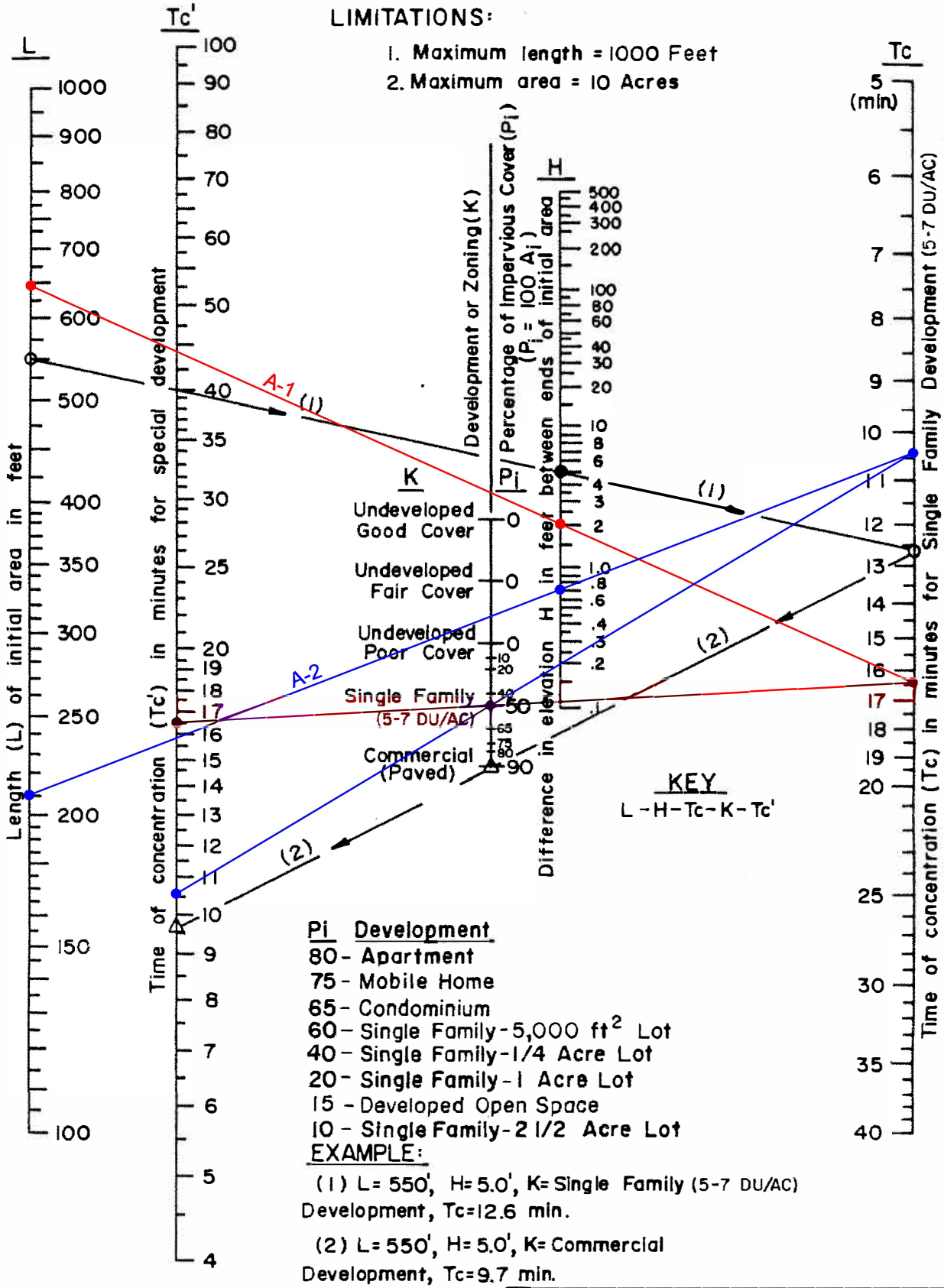
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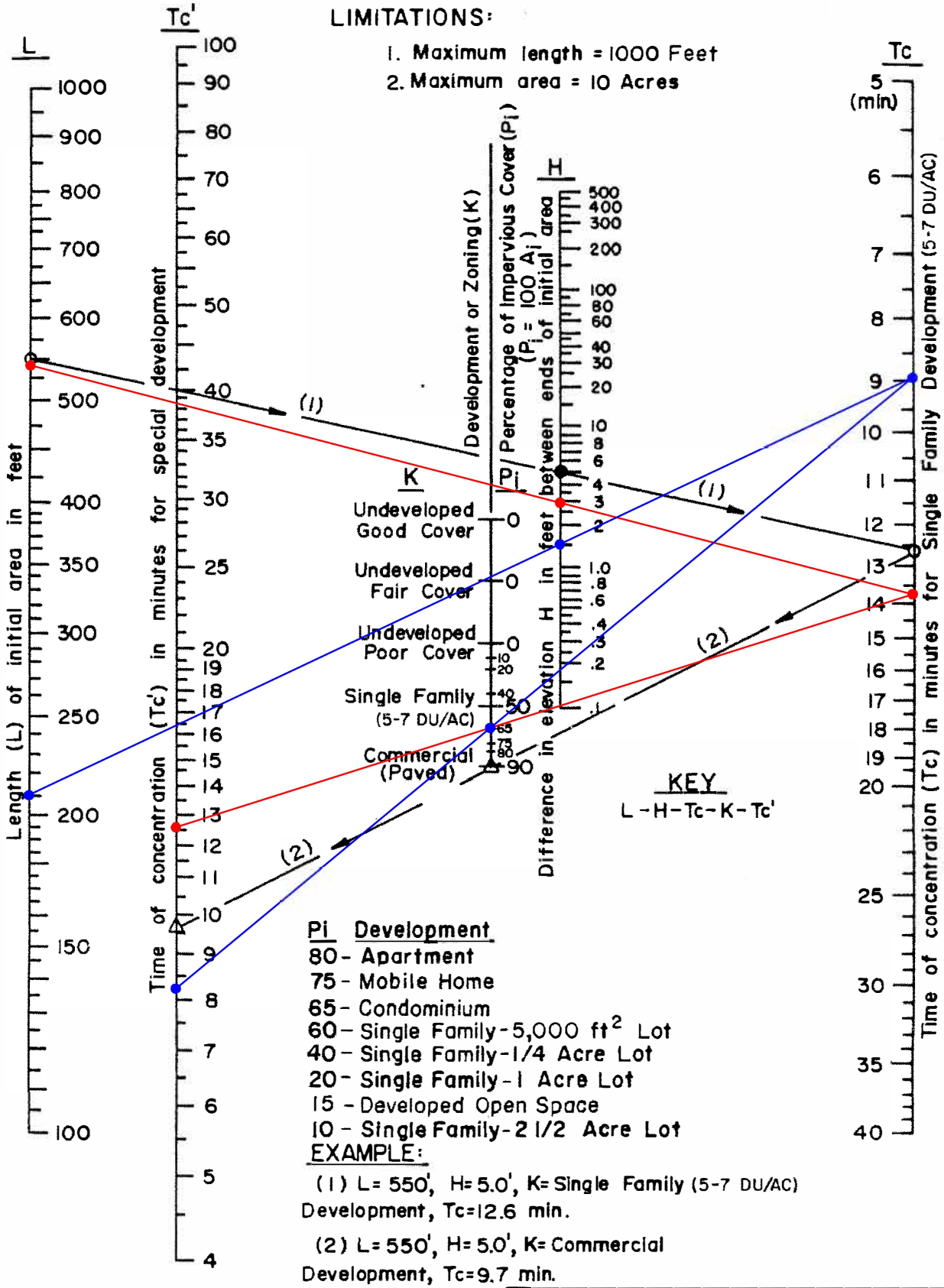
EXISTING TC



ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

Hydrology Summary

Below is a summary of the results of the rational method hydrology analysis. The table shows the estimated existing and proposed peak runoff values for the 10-year 25-year and 100-year events.

Table 1 – Rational Method Peak Flow Rate Hydrology Summary

Pre-Development	Area (acres)	Drain location	Q10	Tc (min)	Q25	Tc (min)	Q100	Tc (min)
Ex. A-1	**1.873**	Rear	**2.90 cfs**	16.5	**3.58 cfs**	16.5	**4.71 cfs**	16.5
Ex. A-2	**0.376**	Rear	**0.81 cfs**	10.5	**0.99 cfs**	10.5	**1.28 cfs**	10.5
Ex. A-3	**0.209**	This area is part of Hazard Avenue and Morse Street. Not evaluated in this calculation.						
Post-Development								
Pr. A-1	**1.873**	Rear	**3.78 cfs**	12.5	**4.57 cfs**	12.5	**5.91 cfs**	12.5
Pr. A-2	**0.376**	Rear	**1.01 cfs**	8.3	**1.21 cfs**	8.3	**1.55 cfs**	8.3
Ex. A-3	This area is part of Hazard Avenue and Morse Street. Not evaluated in this calculation.							

The result of the proposed development condition is an increase in peak flow rate. The peak flow rates for the Proposed Condition in Table 1 represent the peak flow rates that enter the Infiltration Basin. The Infiltration Basin will attenuate the peak flow rates in the proposed condition to be less than the peak flow rates in the existing condition.

Table 2 – Computation Data Summary

	Ex. A-1	Ex. A-2	Pr. A-1	Pr. A-2
Length of Travel (FT)	645	210	540	210
ΔH (FT)	2.02	0.71	2.95	1.50
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AREA (ACRES)	1.873	0.376	1.873	0.376
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PERVIOUS AREA (acres)	1.534	0.236	0.728	0.050
DEVELOPMENT TYPE	SFR	SFR	MFR	MFR
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INTENSITY – 100 YR (IN/HR)	3.12	4.04	3.66	4.63
Ap (ratio of pervious area)	0.82	0.63	0.39	0.13
Fp	0.40	0.40	0.40	0.40
Fm = Ap x Fp	0.328	0.252	0.156	0.053

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Existing 10-Year 10 - YEAR STORM RATIONAL METHOD STUDY										Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	16.5	2.05	0.33	0.33	2.90	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**16.5**				**2.90**				
NODE 4	A-2 0.376	0.376	A	SFR	-	10.5	2.65	0.25	0.25	0.81	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**10.5**				**0.81**				

ORANGE COUNTY HYDROLOGY MANUAL			STUDY NAME: Hazard Existing 25-Year 25 - YEAR STORM RATIONAL METHOD STUDY								Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	16.5	2.45	0.33	0.33	3.58	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**16.5**				**3.58**				
					-						210	0.003		InitiaL Sub-area
NODE 4	A-2 0.376	0.376	A	SFR		10.5	3.17	0.25	0.25	0.99				Drain to Morse
NODE 4						**10.5**				**0.99**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Existing 100-Year 100 - YEAR STORM RATIONAL METHOD STUDY	Calculated by _____ Date _____ Page _____ of _____

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	16.5	3.12	0.33	0.33	4.71	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**16.5**				**4.71**				
					-									
NODE 4	A-2 0.376	0.376	A	SFR		10.5	4.04	0.25	0.25	1.28	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**10.5**				**1.28**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Propose 10-Year 10 - YEAR STORM RATIONAL METHOD STUDY										Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	12.5	2.40	0.16	0.16	3.78	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**12.5**				**3.78**				
					-									
NODE 4	A-2 0.376	0.376	A	SFR		8.3	3.03	0.05	0.05	1.01	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**8.3**				**1.01**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Propose 25-Year 25 - YEAR STORM RATIONAL METHOD STUDY										Calculated by _____ Date _____ Page _____ of _____			
Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	12.5	2.87	0.16	0.16	4.57	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**12.5**				**4.57**				
NODE 4	A-2 0.376	0.376	A	SFR	-	8.3	3.62	0.05	0.05	1.21	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**8.3**				**1.21**				

ORANGE COUNTY HYDROLOGY MANUAL	STUDY NAME: Hazard Propose 100-Year 100 - YEAR STORM RATIONAL METHOD STUDY	Calculated by _____ Date _____ Page _____ of _____

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	Tt min.	Tc min.	I in/hr	Fm in/hr	Fm avg.	Q Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulic and Notes
NODE 2	A-1 1.873	1.873	A	SFR	-	12.5	3.66	0.16	0.16	5.91	645	0.003		Initial Sub-area
														Drain to Rear
NODE 2						**12.5**				**5.91**				
					-									
NODE 4	A-2 0.376	0.376	A	SFR		8.3	4.63	0.05	0.05	1.55	210	0.003		InitiaL Sub-area
														Drain to Morse
NODE 4						**8.3**				**1.55**				

II. CONCLUSION

The existing flow generated on the project site for sub-area A-1 is 2.90 cfs, 3.58 cfs and 4.71 cfs while sub-area A-2 generated 0.81 cfs, 0.99 cfs & 1.28 cfs for the 2-year, 25-year, and 100-year storm events respectively.

The propose flow generated on the project site for sub-area A-1 is 3.78 cfs, 4.57 cfs and 5.91 cfs while sub-area A-2 generate a flow of 1.01 cfs, 1.21 cfs and 1.28 cfs for the 2-year, 25-year and 100-year storm event respectively.

The propose project generates a larger flow than the existing condition. This is because of the increase of the impervious area propose by the project. The project will propose an ADS-PIPE stormtech chamber infiltration basin that would reduce the proposed project generated flow.

III. FLOOD HAZARD CONSIDERATION

The project site is located on FEMA Flood Map 06059C143J as Flood Zone A (Special Flood Hazard Areas). This area does not have a Base Flood Elevation. The proposed building lowest finish floor elevation shall be one foot above the highest adjacent grade.

Appendix E

Noise and Vibration Calculations

Appendix E

Field Noise Measurements and
Noise and Vibration Calculation Data

E-1

Field Noise Measurement Data Sheets

FIELD NOISE MEASUREMENT DATA

PROJECT: Bella Terra PROJ. # 3SAN050102

SITE IDENTIFICATION: Site 2 OBSERVER(S): B. HAMILTON
START DATE/TIME: 3/25/25 END DATE/TIME: 3/25/25
ADDRESS: South Portion of Project Site, north of Mobile homes

METEOROLOGICAL CONDITIONS:
TEMP: 58-66 °F HUMIDITY: 70-85 %R.H. WIND: ☐ CALM ☒ LIGHT ☐ MODERATE ☐ VARIABLE
WINDSPEED: 2-4 MPH DIR: ☐ N ☐ NE ☐ E ☐ SE ☐ S ☐ W ☒ NW ☒ STEADY ☐ GUSTY
SKY: ☐ SUNNY ☐ CLEAR ☒ OVRCST ☐ PRTLY CLOUDY ☐ FOG ☐ RAIN ☐ OTHER:

ACOUSTIC INSTRUMENTS:
INSTRUMENT: Larson Davis LD-831 TYPE: ☒ 1 ☐ 2 SERIAL #: 0001742
CALIBRATOR: Larson Davis CAL200 SERIAL #: 6674
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 114.0 dBA SPL WINDSCREEN ✓
SETTINGS: ☒ A-WEIGHTED ☒ SLOW ☐ FAST ☐ FRONTAL ☒ RANDOM ☐ ANSI ☐ OTHER: ____

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)	
____	9:24	9:44	45.6	59.3	39.3	40.8	42.8	49.3	____	____	____
____	9:57	10:17	46.3	62.4	40.6	41.9	43.8	48.0	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____

COMMENTS:

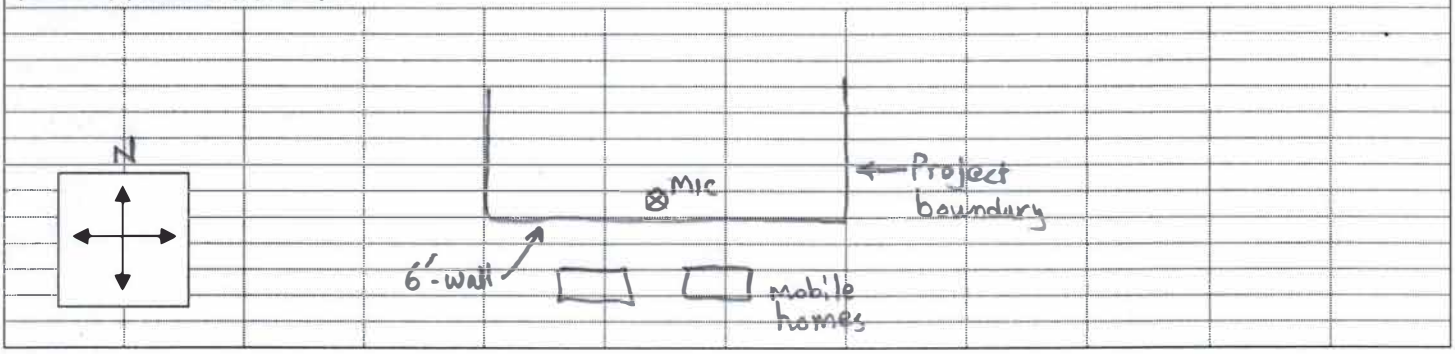
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: ☐ TRAFFIC ☐ AIRCRAFT ☐ RAIL ☐ INDUSTRIAL ☒ AMBIENT ☐ OTHER: ____
ROADWAY TYPE:

TRAFFIC COUNT DURATION: ____-MIN	____ SPEED			#2 COUNT		____ SPEED	
☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB
AUTOS ____	____	____	____	____	____	____	____
MED. TRUCKS: ____	____	____	____	____	____	____	____
HVY TRUCKS: ____	____	____	____	____	____	____	____
BUSES: ____	____	____	____	____	____	____	____
MOTORCYCLES: ____	____	____	____	____	____	____	____

SPEED ESTIMATED BY: ☐ RADAR ☐ DRIVING ☐ OBSERVER

OTHER SOURCES: ☒ DIST. AIRCRAFT ☐ RUSTLING LEAVES ☒ DIST. BARKING DOGS ☒ BIRDS ☐ DIST. INDUSTRIAL
☒ DIST. CHILDREN PLAYING ☒ DIST. TRAFFIC ☐ DIST. LANDSCAPING ACTIVITIES ☐ OTHER: ____

DESCRIPTION/SKETCH:
TERRAIN: ☐ HARD ☒ SOFT ☒ MIXED ☐ FLAT ☐ OTHER:
PHOTOS:
OTHER COMMENTS/SKETCH:



FIELD NOISE MEASUREMENT DATA

PROJECT: Bella Terra PROJ. # 35AN050102

SITE IDENTIFICATION: Site 3 OBSERVER(S): F Farhang
START DATE/TIME: 3/25/25 / 10:05 AM END DATE/TIME: 10:54 AM
ADDRESS: West side of Project Site

METEOROLOGICAL CONDITIONS:
TEMP: 58-66 °F HUMIDITY: 80-85 %R.H. WIND: ☐ CALM ☐ LIGHT ☐ MODERATE ☐ VARIABLE
WINDSPEED: 2-4 MPH DIR: ☐ N ☐ NE ☐ E ☐ SE ☐ S ☐ W ☒ NW ☒ STEADY ☐ GUSTY
SKY: ☐ SUNNY ☐ CLEAR ☒ OVRCST ☐ PRTLY CLOUDY ☒ FOG ☐ RAIN ☐ OTHER:

ACOUSTIC INSTRUMENTS:
INSTRUMENT: Larson Davis LXT-1 TYPE: ☒ 1 ☐ 2 SERIAL #: 0004615
CALIBRATOR: Larson Davis CAL200 SERIAL #: 12648
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 113.93 dBA SPL WINDSCREEN √
SETTINGS: ☐ A-WEIGHTED ☐ SLOW ☐ FAST ☐ FRONTAL ☐ RANDOM ☐ ANSI ☐ OTHER: ____

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)	
17	10:05	10:25	48.6	60.7	40.5	42.1	44.5	52.5			
18	10:34	10:54	45.9	56.8	41.6	43.0	45.5	47.7			

COMMENTS:

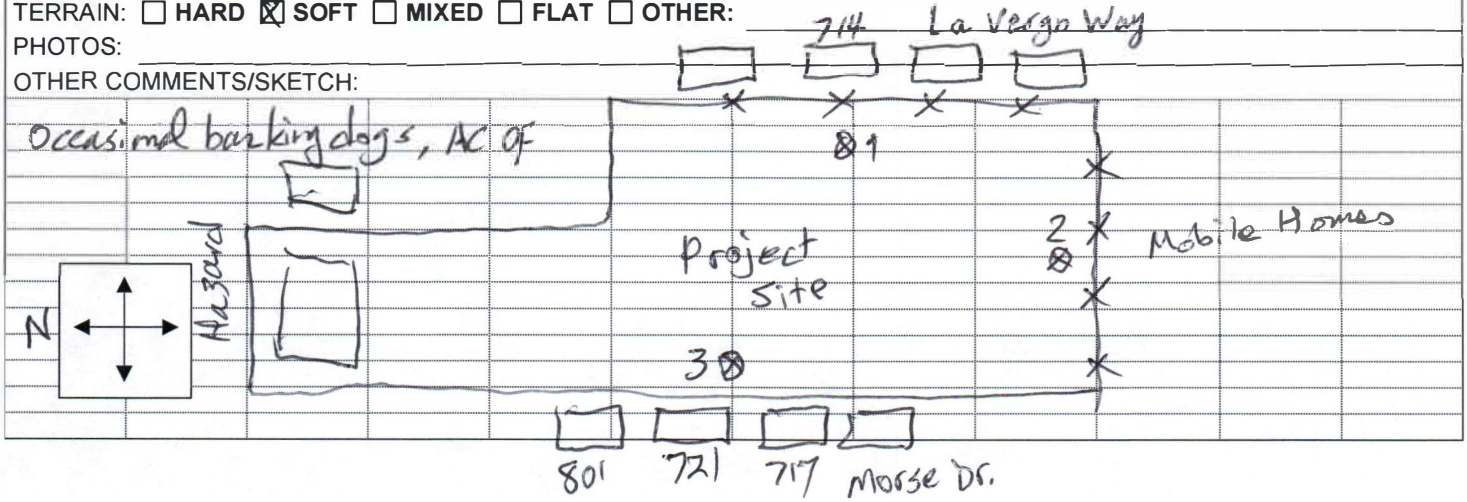
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: ☐ TRAFFIC ☐ AIRCRAFT ☐ RAIL ☐ INDUSTRIAL ☒ AMBIENT ☐ OTHER: ____
ROADWAY TYPE:

TRAFFIC COUNT DURATION: ___-MIN	___ SPEED		#2 COUNT	___ SPEED			
☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB
AUTOS							
MED. TRUCKS:							
HVY TRUCKS:							
BUSES:							
MOTORCYCLES:							

SPEED ESTIMATED BY: ☐ RADAR ☐ DRIVING ☐ OBSERVER

OTHER SOURCES: ☒ DIST. AIRCRAFT ☐ RUSTLING LEAVES ☒ DIST. BARKING DOGS ☒ BIRDS ☐ DIST. INDUSTRIAL
☐ DIST. CHILDREN PLAYING ☒ DIST. TRAFFIC ☐ DIST. LANDSCAPING ACTIVITIES ☐ OTHER: ____

DESCRIPTION/SKETCH:
TERRAIN: ☐ HARD ☒ SOFT ☐ MIXED ☐ FLAT ☐ OTHER:
PHOTOS:
OTHER COMMENTS/SKETCH:



FIELD NOISE MEASUREMENT DATA

PROJECT: Bella Terra PROJ. # 3SAN050102

SITE IDENTIFICATION: Site 4 OBSERVER(S): B. HAMILTON
START DATE/TIME: 3/25/25 END DATE/TIME: 3/25/25
ADDRESS: North of project, on sidewalk near 11857-11867 Hazard Ave

METEOROLOGICAL CONDITIONS:
TEMP: 70-75 °F HUMIDITY: 65-70 %R.H. WIND: ☐ CALM ☒ LIGHT ☐ MODERATE ☐ VARIABLE
WINDSPEED: 0-3 MPH DIR: ☐ N ☐ NE ☐ E ☐ SE ☐ S ☐ W ☐ NW ☒ STEADY ☐ GUSTY
SKY: ☒ SUNNY ☒ CLEAR ☐ OVRCST ☐ PRTLY CLOUDY ☐ FOG ☐ RAIN ☐ OTHER:

ACOUSTIC INSTRUMENTS:
INSTRUMENT: Larson Davis TYPE: ☒ 1 ☐ 2 SERIAL #: 0001742
CALIBRATOR: Larson Davis SERIAL #: 6674
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 114.0 dBA SPL WINDSCREEN ✓
SETTINGS: ☒ A-WEIGHTED ☒ SLOW ☐ FAST ☐ FRONTAL ☒ RANDOM ☐ ANSI ☐ OTHER: ____

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)	
____	10:40	11:00	62.2	77.9	42.9	45.8	53.6	66.8	____	____	____
____	11:15	11:35	60.0	74.3	44.5	46.1	50.6	64.9	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____	____	____	____

COMMENTS:

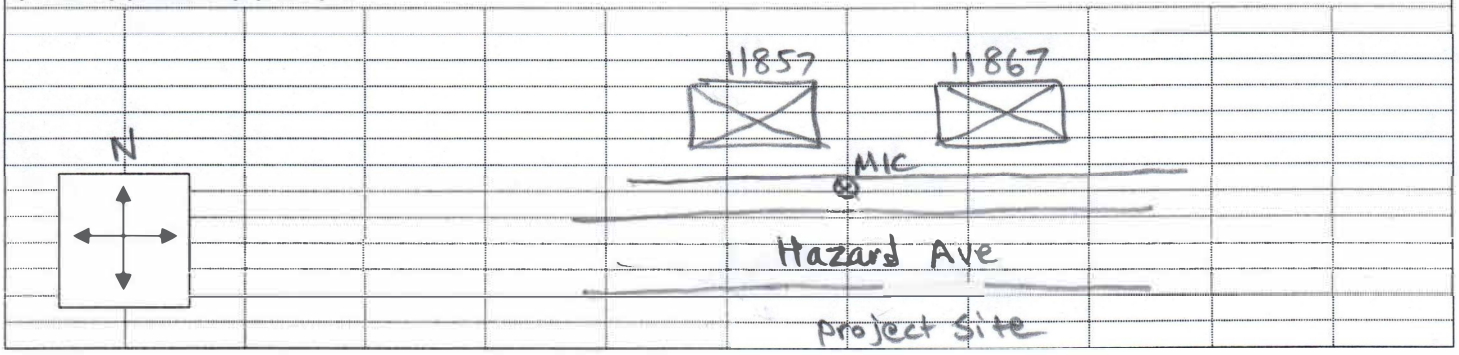
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: ☒ TRAFFIC ☐ AIRCRAFT ☐ RAIL ☐ INDUSTRIAL ☒ AMBIENT ☐ OTHER: ____
ROADWAY TYPE:

TRAFFIC COUNT DURATION: ____ -MIN			____ SPEED		#2 COUNT		____ SPEED	
	☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB	☐NB/☐EB	☐SB/☐WB
AUTOS	____	____	____	____	____	____	____	____
MED. TRUCKS:	____	____	____	____	____	____	____	____
HVY TRUCKS:	____	____	____	____	____	____	____	____
BUSES:	____	____	____	____	____	____	____	____
MOTORCYCLES:	____	____	____	____	____	____	____	____

SPEED ESTIMATED BY: ☐ RADAR ☐ DRIVING ☐ OBSERVER

OTHER SOURCES: ☒ DIST. AIRCRAFT ☐ RUSTLING LEAVES ☒ DIST. BARKING DOGS ☒ BIRDS ☐ DIST. INDUSTRIAL
☒ DIST. CHILDREN PLAYING ☒ DIST. TRAFFIC ☐ DIST. LANDSCAPING ACTIVITIES ☐ OTHER: ____

DESCRIPTION/SKETCH:
TERRAIN: ☒ HARD ☐ SOFT ☐ MIXED ☐ FLAT ☐ OTHER:
PHOTOS:
OTHER COMMENTS/SKETCH:



FIELD NOISE MEASUREMENT DATA

PROJECT: Bella Terra PROJ. # 3SAN050102

SITE IDENTIFICATION: Site 5 OBSERVER(S): F. Farhang
START DATE/TIME: 3/25/25 / 11:15 AM END DATE/TIME: 11:57 AM
ADDRESS: NW corner of 11819 Hazard / SW corner of 4030 Celeste St.

METEOROLOGICAL CONDITIONS:
TEMP: 69-75 °F HUMIDITY: 65-70 %R.H. WIND: ☐ CALM ☒ LIGHT ☒ MODERATE ☐ VARIABLE
WINDSPEED: 0-3 MPH DIR: ☐ N ☐ NE ☐ E ☒ SE ☐ S ☐ W ☐ NW ☒ STEADY ☐ GUSTY
SKY: ☒ SUNNY ☒ CLEAR ☐ OVRCST ☐ PRTLY CLOUDY ☐ FOG ☐ RAIN ☐ OTHER:

ACOUSTIC INSTRUMENTS:
INSTRUMENT: Larson Davis LXT-1 TYPE: ☒ 1 ☐ 2 SERIAL #: 0004615
CALIBRATOR: Larson Davis CAL200 SERIAL #: 12648
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 113.97 dBA SPL WINDSCREEN
SETTINGS: ☐ A-WEIGHTED ☐ SLOW ☐ FAST ☐ FRONTAL ☐ RANDOM ☐ ANSI ☐ OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)	
19	11:15	11:35	53.9	68.9	44.2	46.1	48.8	56.6			
20	11:37	11:57	54.7	72.9	43.4	45.2	48.1	57.1			

COMMENTS:

SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: ☒ TRAFFIC ☐ AIRCRAFT ☐ RAIL ☐ INDUSTRIAL ☒ AMBIENT ☐ OTHER:
ROADWAY TYPE:

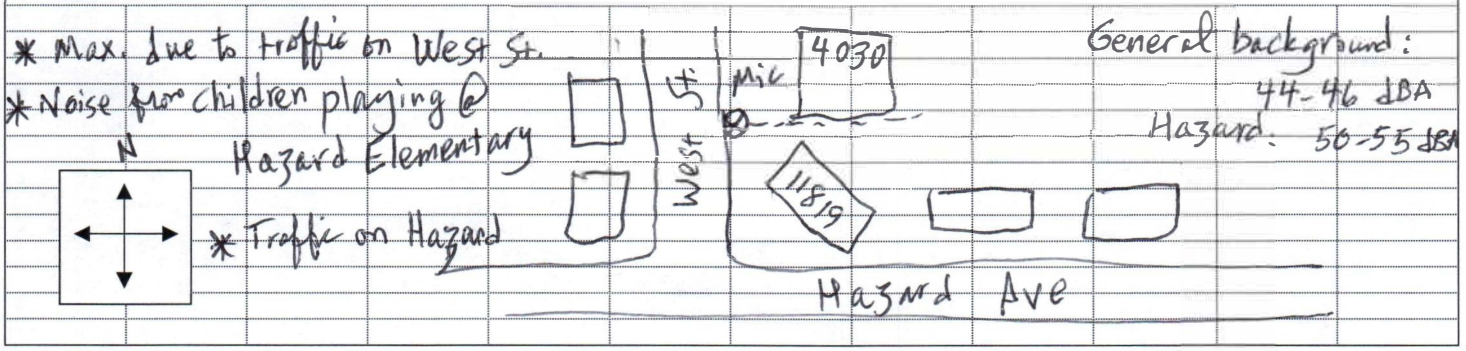
TRAFFIC COUNT DURATION: ___-MIN	___ SPEED	#2 COUNT	___ SPEED
☐NB/☐EB ☐SB/☐WB	☐NB/☐EB ☐SB/☐WB	☐NB/☐EB ☐SB/☐WB	☐NB/☐EB ☐SB/☐WB

AUTOS								
MED. TRUCKS:								
HVY TRUCKS:								
BUSES:								
MOTORCYCLES:								

SPEED ESTIMATED BY: ☐ RADAR ☐ DRIVING ☐ OBSERVER

OTHER SOURCES: ☐ DIST. AIRCRAFT ☐ RUSTLING LEAVES ☐ DIST. BARKING DOGS ☒ BIRDS ☐ DIST. INDUSTRIAL
☒ DIST. CHILDREN PLAYING ☒ DIST. TRAFFIC ☐ DIST. LANDSCAPING ACTIVITIES ☐ OTHER:

DESCRIPTION/SKETCH:
TERRAIN: ☒ HARD ☐ SOFT ☐ MIXED ☐ FLAT ☐ OTHER:
PHOTOS:
OTHER COMMENTS/SKETCH:



E-2

Construction Noise and Vibration Calculations

Report date: 1/7/2026
Case Description: Bella Terra Project - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	50	5
Backhoe	No	40		77.6	50	5
Concrete Saw	No	20		89.6	50	5
Dozer	No	40		81.7	50	5
Dozer	No	40		81.7	50	5

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		76.7	72.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		72.6	68.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		84.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		76.7	72.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		76.7	72.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	84.6	80.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	50	5
Backhoe	No	40		77.6	50	5
Concrete Saw	No	20		89.6	50	5
Dozer	No	40		81.7	50	5
Dozer	No	40		81.7	50	5

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	76.7	72.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Backhoe		72.6	68.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		84.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		76.7	72.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		76.7	72.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	84.6	80.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dozer	No	40		81.7	507	5
Backhoe	No	40		77.6	507	5
Concrete Saw	No	20		89.6	507	5
Dozer	No	40		81.7	507	5
Dozer	No	40		81.7	507	5

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		56.5	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		52.4	48.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		64.5	57.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		56.5	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		56.5	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	64.5	60.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dozer	No	40		81.7	190	0
Backhoe	No	40		77.6	190	0
Concrete Saw	No	20		89.6	190	0
Dozer	No	40		81.7	190	0
Dozer	No	40		81.7	190	0

Results

Equipment		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		70.1	66.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		66	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		78	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		70.1	66.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		70.1	66.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	78	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/7/2026
Case Description: Bella Terra Project - Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		65	5
Scraper	No	40		83.6	65	5
Backhoe	No	40		77.6	65	5

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader		77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper		76.3	72.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		70.3	66.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	77.7	76.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		65	5
Scraper	No	40		83.6	65	5
Backhoe	No	40		77.6	65	5

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader		77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper		76.3	72.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		70.3	66.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	77.7	76.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		310	5
Scraper	No	40		83.6	310	5
Backhoe	No	40		77.6	310	5

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader	64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	62.7	58.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	56.7	52.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.2	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		380	0
Scraper	No	40		83.6	380	0
Backhoe	No	40		77.6	380	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader	67.4	63.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	66	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	59.9	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.4	66.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/7/2026
Case Description: Bella Terra Project - Grading - Temple

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		60	5
Dozer	No	40		81.7	60	5
Backhoe	No	40		77.6	60	5
Backhoe	No	40		77.6	60	5

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader		78.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		75.1	71.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		71	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		71	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	78.4	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		188	5
Dozer	No	40		81.7	188	5
Backhoe	No	40		77.6	188	5
Backhoe	No	40		77.6	188	5

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader		68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		65.2	61.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		61.1	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		61.1	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	68.5	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader	No	40	85		530	5
Dozer	No	40		81.7	530	5
Backhoe	No	40		77.6	530	5
Backhoe	No	40		77.6	530	5

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	56.2	52.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	52.1	48.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	52.1	48.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	59.5	58.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Grader	No	40	85		180	0
Dozer	No	40		81.7	180	0
Backhoe	No	40		77.6	180	0
Backhoe	No	40		77.6	180	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	73.9	69.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	70.5	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.4	62.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.4	62.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.9	72.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/7/2026
Case Description: Bella Terra Project - Grading - Residential

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		65	5
Dozer	No	40		81.7	65	5
Backhoe	No	40		77.6	65	5
Backhoe	No	40		77.6	65	5

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		74.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		70.3	66.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		70.3	66.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	77.7	76.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		65	5
Dozer	No	40		81.7	65	5
Backhoe	No	40		77.6	65	5
Backhoe	No	40		77.6	65	5

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader		77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		74.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		70.3	66.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		70.3	66.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	77.7	76.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		310	5
Dozer	No	40		81.7	310	5
Backhoe	No	40		77.6	310	5
Backhoe	No	40		77.6	310	5

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader	64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	60.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	56.7	52.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	56.7	52.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.2	62.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		380	0
Dozer	No	40		81.7	380	0
Backhoe	No	40		77.6	380	0
Backhoe	No	40		77.6	380	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Grader	67.4	63.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	64.1	60.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	59.9	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	59.9	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.4	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 1/7/2026
Case Description: Bella Terra Project - Building Construction, Temple

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	60	5
Man Lift	No	20		74.7	60	5
Man Lift	No	20		74.7	60	5
Generator	No	50		80.6	60	5
Tractor	No	40	84		60	5
Welder / Torch	No	40		74	60	5
Welder / Torch	No	40		74	60	5
Welder / Torch	No	40		74	60	5

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Crane	74	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.1	61.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	68.1	61.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	77.4	73.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	67.4	63.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	67.4	63.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	67.4	63.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.4	76.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	180	5
Man Lift	No	20		74.7	180	5
Man Lift	No	20		74.7	180	5
Generator	No	50		80.6	180	5
Tractor	No	40	84		180	5
Welder / Torch	No	40		74	180	5
Welder / Torch	No	40		74	180	5
Welder / Torch	No	40		74	180	5

Results

Equipment		Calculated (dBA) *Lmax	Calculated (dBA) Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Crane		64.4	56.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		58.6	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		58.6	51.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator		64.5	61.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		67.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		57.9	53.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		57.9	53.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		57.9	53.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	67.9	67.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	480	5
Man Lift	No	20		74.7	480	5
Man Lift	No	20		74.7	480	5
Generator	No	50		80.6	480	5
Tractor	No	40	84		480	5
Welder / Torch	No	40		74	480	5
Welder / Torch	No	40		74	480	5
Welder / Torch	No	40		74	480	5

Results

Equipment		Calculated (dBA) *Lmax	Calculated (dBA) Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Crane		55.9	47.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		50.1	43.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		50.1	43.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator		56	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		59.4	55.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		49.4	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		49.4	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		49.4	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	59.4	58.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	180	0
Man Lift	No	20		74.7	180	0
Man Lift	No	20		74.7	180	0
Generator	No	50		80.6	180	0
Tractor	No	40	84		180	0
Welder / Torch	No	40		74	180	0
Welder / Torch	No	40		74	180	0
Welder / Torch	No	40		74	180	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		69.4	61.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		63.6	56.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		63.6	56.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator		69.5	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		72.9	68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		62.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		62.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		62.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	72.9	72.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/7/2026
Case Description: Bella Terra Project - Building Construction, Residential

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

			Equipment Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	100	5
Man Lift	No	20		74.7	100	5
Man Lift	No	20		74.7	100	5
Generator	No	50		80.6	100	5
Tractor	No	40	84		100	5
Welder / Torch	No	40		74	100	5
Welder / Torch	No	40		74	100	5
Welder / Torch	No	40		74	100	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		69.5	61.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		63.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		63.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator		69.6	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		73	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		63	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		63	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		63	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	73	72.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

			Equipment Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	35	5
Man Lift	No	20		74.7	35	5
Man Lift	No	20		74.7	35	5
Generator	No	50		80.6	35	5
Tractor	No	40	84		35	5
Welder / Torch	No	40		74	35	5
Welder / Torch	No	40		74	35	5
Welder / Torch	No	40		74	35	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		78.6	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		72.8	65.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		72.8	65.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator		78.7	75.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		82.1	78.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		72.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		72.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		72.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	82.1	81.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	100	5
Man Lift	No	20		74.7	100	5
Man Lift	No	20		74.7	100	5
Generator	No	50		80.6	100	5
Tractor	No	40	84		100	5
Welder / Torch	No	40		74	100	5
Welder / Torch	No	40		74	100	5
Welder / Torch	No	40		74	100	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		69.5	61.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		63.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		63.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator		69.6	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		73	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		63	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		63	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		63	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	73	72.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	150	0
Man Lift	No	20		74.7	150	0
Man Lift	No	20		74.7	150	0
Generator	No	50		80.6	150	0
Tractor	No	40	84		150	0
Welder / Torch	No	40		74	150	0
Welder / Torch	No	40		74	150	0
Welder / Torch	No	40		74	150	0

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		71	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		65.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift		65.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator		71.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		74.5	70.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		64.5	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		64.5	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch		64.5	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	74.5	73.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/7/2026
Case Description: Bella Terra Project - Paving, Temple

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	60	5
Roller	No	20		80	60	5
Backhoe	No	40		77.6	60	5
Drum Mixer	No	50		80	60	5
Paving Equipment	No	40		0	60	5
Roller	No	20		80	60	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		70.6	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		73.4	66.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		71	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer		73.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment		-6.6	-10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		73.4	66.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	73.4	74.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	155	5
Roller	No	20		80	155	5
Backhoe	No	40		77.6	155	5
Drum Mixer	No	50		80	155	5
Paving Equipment	No	40		0	155	5
Roller	No	20		80	155	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		62.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		65.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		62.7	58.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer		65.2	62.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment		-14.8	-18.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		65.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	65.2	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	530	5
Roller	No	20		80	530	5
Backhoe	No	40		77.6	530	5
Drum Mixer	No	50		80	530	5
Paving Equipment	No	40		0	530	5
Roller	No	20		80	530	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		51.7	48.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		54.5	47.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		52.1	48.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer		54.5	51.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment		-25.5	-29.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		54.5	47.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	54.5	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	150	0
Roller	No	20		80	150	0
Backhoe	No	40		77.6	150	0

Drum Mixer	No	50	80	150	0
Paving Equipment	No	40	0	150	0
Roller	No	20	80	150	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	67.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	70.5	67.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment	-9.5	-13.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.5	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/7/2026
Case Description: Bella Terra Project - Paving, Residential

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	23	5
Roller	No	20		80	23	5
Backhoe	No	40		77.6	23	5
Drum Mixer	No	50		80	23	5
Paving Equipment	No	40		0	23	5
Roller	No	20		80	23	5

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	79	76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	81.7	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	79.3	75.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	81.7	78.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment	1.7	-2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	81.7	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	81.7	83.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	107	5
Roller	No	20		80	107	5
Backhoe	No	40		77.6	107	5
Drum Mixer	No	50		80	107	5
Paving Equipment	No	40		0	107	5
Roller	No	20		80	107	5

Results

Equipment		Calculated (dBA) *Lmax	Calculated (dBA) Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Paver		65.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		68.4	61.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		66	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer		68.4	65.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment		-11.6	-15.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		68.4	61.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	68.4	69.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	80	5
Roller	No	20		80	80	5
Backhoe	No	40		77.6	80	5
Drum Mixer	No	50		80	80	5
Paving Equipment	No	40		0	80	5
Roller	No	20		80	80	5

Results

Equipment		Calculated (dBA) *Lmax	Calculated (dBA) Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Paver		68.1	65.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		70.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer		70.9	67.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment		-9.1	-13.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller		70.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	70.9	72.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	150	0
Roller	No	20		80	150	0
Backhoe	No	40		77.6	150	0

Drum Mixer	No	50	80	150	0
Paving Equipment	No	40	0	150	0
Roller	No	20	80	150	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	67.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	70.5	67.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paving Equipment	-9.5	-13.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.5	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/7/2026
Case Description: Bella Terra Project - Architectural Coating, Temple

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	60	5

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		71.1	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	71.1	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	180	5

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		61.5	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	61.5	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	480	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		53	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	53	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Equipment

			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40		77.7	180	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		66.5	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	66.5	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 1/7/2026
Case Description: Bella Terra Project - Architectural Coating, Temple

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the West	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100	5

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		66.6	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	66.6	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Residential to the East	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	30	5

Results

		Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		77.1	73.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	77.1	73.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Mobile Homes South of Project Site	Residential	46	44	35

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	125	5

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		64.7	60.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	64.7	60.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Nearest Residential to the North	Residential	61	60	55

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	155	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		67.8	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	67.8	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Construction Vibration

	Receptors							
	West		East		South		East	
	Distance to Closest Receiver (ft)		Distance to Closest Receiver (ft)		Distance to Closest Receiver (ft)		Distance to Closest Receiver (ft)	
Distance	10		10		50		100	
Equipment	**PPV_{ref} (@ 25 ft, in/sec)**	**PPV (in/sec)**	**PPV_{ref} (@ 25 ft, in/sec)**	**PPV (in/sec)**	**PPV_{ref} (@ 25 ft, in/sec)**	**PPV (in/sec)**	**PPV_{ref} (@ 25 ft, in/sec)**	**PPV (in/sec)**
Vibratory Roller	0.21	0.830	0.21	0.830	0.21	0.074	0.21	0.026
Hoe Ram	0.089	0.352	0.089	0.352	0.089	0.031	0.089	0.011
Large Bulldozer	0.089	0.352	0.089	0.352	0.089	0.031	0.089	0.011
Caisson Drilling	0.089	0.352	0.089	0.352	0.089	0.031	0.089	0.011
Loaded Trucks	0.076	0.300	0.076	0.300	0.076	0.027	0.076	0.010
Jackhammer	0.035	0.138	0.035	0.138	0.035	0.012	0.035	0.0044
Small Bulldozer	0.003	0.012	0.003	0.0119	0.003	0.0011	0.003	0.00038
Maximum Vibration Levels		**0.830**		**0.830**		**0.074**		**0.026**
Vibration Damage Threshold		**0.30**		**0.30**		**0.30**		**0.30**
Exceeds Vibration Damage Threshold?		**Yes**		**Yes**		**No**		**No**

Structure and Condition	**Older residential structures**

Note: Construction vibration levels are calculated at the setback of the nearest buildings to the Project site within each of the receptor properties.
Source: FTA 2018, Caltrans 2020

E-3

HVAC Unit Specifications and Noise Level Calculation

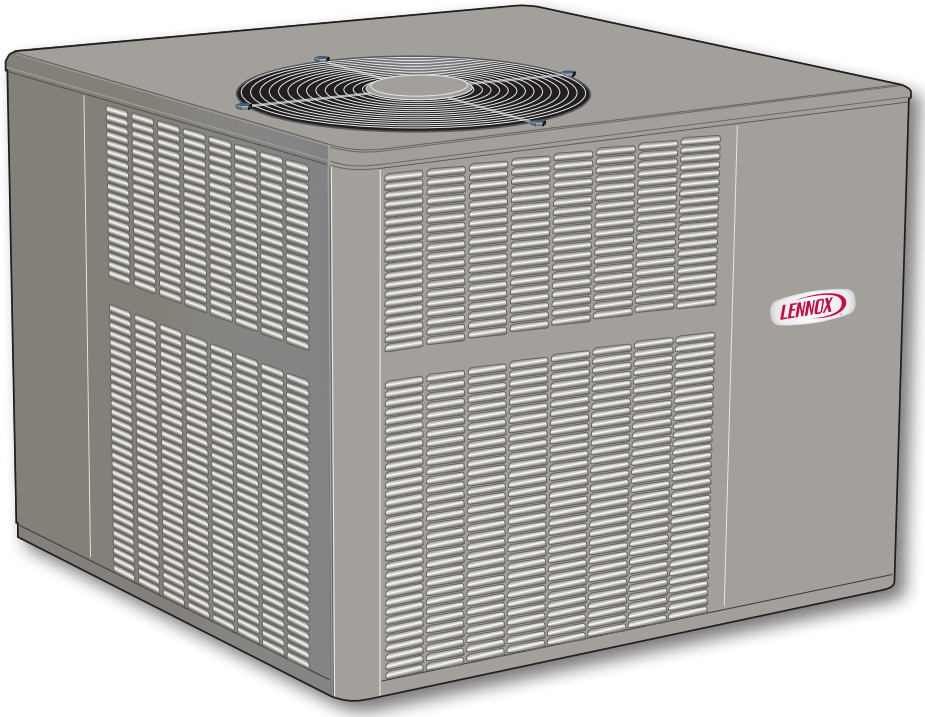
PACKAGED GAS / ELECTRIC

LRP16GE / LRP16GX

Residential - Two-Stage Compressor - Variable Speed Blower - 60Hz

RESIDENTIAL PRODUCT SPECIFICATIONS

Bulletin No. 210773
September 2019
Supersedes October 2018



SEER - 16.00
AFUE - 81%
2 to 5 Tons
Cooling Capacity - 23,800 to 57,000 Btuh
Input Gas Heating Capacity - 72,000 to 126,000 Btuh

MODEL NUMBER IDENTIFICATION

L RP 16 GE 36 - 090 V P - 1 - A

- **Brand**
  L = Lennox
- **Product Type**
  RP = Residential Packaged Unit
- **Nominal SEER**
  16 = 16 SEER
- **Unit Type**
  GE = Gas/Electric Unit
  GX = Low NOx Gas/Electric Unit
- **Nominal Cooling Capacity**
  24 = 2 tons
  36 = 3 tons
  48 = 4 tons
  60 = 5 tons
- **Nominal Heating Capacity Input**
  072 = 72,000 Btuh
  090 = 90,000 Btuh
  108 = 108,000 Btuh
  126 = 126,000 Btuh
- **Blower**
  V = Variable Speed Blower Motor
- **Voltage**
  P = 208/230V-1phase-60hz
- **Major Revision Sequence**
  1 = 1st Generation
- **Minor Revision Sequence**
  A = 1st Generation

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APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 210/240 Certified
- Design Certified by ETL Intertek
- Cooling system rated according to DOE test procedures
- ENERGY STAR® certified units are designed to use less energy, help save money on utility bills, and help protect the environment
- Heating ratings are Certified by AHRI according to U.S. Department of Energy (DOE) test procedures and Federal Trade Commission (FTC) labeling regulations
- LRP16GX models are approved by the California Energy Commission and meet California Nitrogen Oxides Standard (NOx) limits of 40 ng/J
- Units are ETL Certified for the U.S. and Canada
- Unit and components are UL bonded for grounding to meet safety standards for servicing
- Test operated at the factory before shipment ensuring dependable operation at start-up

California Only

- If installed in South Coast Air Quality Management District (SCAQMD) only:
  - This furnace does not meet the SCAQMD Rule 1111 NO_x emission limit (14 ng/J), and thus is subject to a mitigation fee of up to $450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.
- If installed in San Joaquin Valley Air Pollution Control District (SJVAPCD) only:
  - This furnace does not meet the SJVAPCD Rule 4905 NO_x emission limit (14 ng/J), and thus is subject to a mitigation fee of up to $450

WARRANTY

- Heat Exchanger:
  - Limited twenty years in residential applications
  - Limited ten years in non-residential applications
- Compressor:
  - Limited ten years in residential installations
  - Limited five years in non-residential installations
- All other covered components:
  - Limited five years in residential installations
  - Limited one year in non-residential installations

NOTE - Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

FEATURES

APPLICATIONS

- Designed for outdoor installations at ground level or rooftop for residential applications

Zoning Applications
- Units are not approved for zoning applications

HEATING SYSTEM

Heat Exchanger
- Aluminized tubular steel for superior resistance to corrosion and oxidation
- Round surfaces create minimum air resistance and allow air to surround all surfaces for excellent heat transfer
- Compact design reduces space requirements in cabinet
- Laboratory life cycle tested

Inshot Burners
- Aluminized steel inshot burners provide efficient trouble free operation
- Burner venturi mixes air and gas in correct proportion for proper combustion
- Burner assembly is removable from the unit as a single component for ease of service
- Each burner may be removed individually

Two-Stage Gas Control Valve
- 24 volt redundant combination two-stage gas control valve combines manual shut off valve (On-Off), automatic electric valve (dual) and gas pressure regulation into a compact combination control

Two-Stage Combustion Air Inducer
- Heavy duty combustion air inducer prepurges heat exchanger and safely vents flue products
- Blower is controlled by the ignition control board
- Pressure switch proves blower operation before allowing gas valve to open
- Combustion air inducer operates during heating cycle
- Inducer operates for the first 10 seconds of every cooling cycle to prevent insects from nesting in the flue outlet during cooling season

Limit Control
- Factory installed on heating vestibule panel
- Automatic reset

Flame Rollout Switch
- Factory installed on burner box
- Provides protection from abnormal operating conditions
- Manual reset

Ignition Control Board
- Ignition control board with LED diagnostics

Optional Accessories

LPG/Propane Conversion Kit
- Required for field changeover from natural gas to LPG/ Propane

REFRIGERATION SYSTEM

R-410A Refrigerant
- Non-chlorine, ozone friendly
- Unit is factory pre-charged

Evaporator and Condenser Coils
- Copper tube with aluminum fin coils

Anti-Microbial Evaporator Coil Drain Pan
- Anti-Microbial additive resists growth of mold and mildew on drain pan which improves indoor air quality and reduces drain line blockage

Condenser Fan
- Weather protected heavy duty condenser fan motor
- Coated steel fan blades for long life
- Corrosion-resistant coated steel fan guard
- Internally mounted
- Totally enclosed fan motor

High Pressure Switch
- Protects the system from high pressure conditions
- Automatic reset.

Loss of Charge Switch
- Shuts off unit if suction pressure falls below setting
- Loss of charge and freeze-up protection

COMPRESSOR

Two-Stage Scroll Compressor
- High volumetric efficiency
- Uniform suction flow
- Constant discharge flow
- Quiet operation

Compressor Operation
- Two involute spiral scrolls matched together generate a series of crescent shaped gas pockets between them
- During compression, one scroll remains stationary while the other scroll orbits around it
- Gas is drawn into the outer pocket, the pocket is sealed as the scroll rotates
- As the spiral movement continues, gas pockets are pushed to the center of the scrolls
- Volume between the pockets is simultaneously reduced
- When the pocket reaches the center, gas is now at high pressure and is forced out of a port located in the center of the fixed scrolls
- During compression, several pockets are compressed simultaneously resulting in a smooth continuous compression cycle
- Continuous flank contact, maintained by centrifugal force, minimizes gas leakage and maximizes efficiency
- Compressor is tolerant to the effects of slugging and contaminants
- If this occurs, scrolls separate, allowing liquid or contaminants to be worked toward the center and discharged

FEATURES

COMPRESSOR (continued)

- During the compression process, there are several pockets in the scroll that are compressing gas
- Modulation is achieved by venting a portion of the gas in the first suction pocket back to the low side of the compressor thereby reducing the effective displacement of the compressor
- A 24-volt DC solenoid valve inside the compressor controls staging
- When the 3-way solenoid is energized it moves the lift ring assembly to block the ports and the compressor operates at full-load or 100% capacity
- When the solenoid is de-energized the lift ring assembly moves to unblock the compressor ports and the compressor operates at part-load or approximately 67% of its full-load capacity
- The "loading" and "unloading" of the two stage scroll is done "on the fly" without shutting off the single-speed compressor motor between stages
- Low gas pulses during compression reduces operational sound levels
- Compressor motor is internally protected from excessive current and temperature
- Compressor is installed in the unit on specially formulated, resilient rubber mounts for better sound dampening and vibration free operation

Optional Accessories

Compressor Crankcase Heater
- Protects against refrigerant migration that can occur during low ambient operation

Compressor Hard Start Kit
- A PSC compressor motor does not normally need a potential relay and start capacitor
- In cases of low voltage, this kit may be required to increase the compressor starting torque

Compressor Timed-Off Control
- Prevents compressor short-cycling
- Allows time for suction and discharge pressure to equalize
- Permits compressor start-up in an unloaded condition
- Automatic reset
- Five minute delay between compressor shut-off and start-up

SUPPLY AIR BLOWER

- Direct Drive Blower
- Blower wheel statically and dynamically balanced
- Multi-speed operation is achieved by the use of an ECM (Electronically Commutated Motor) variable speed motor
- Blower assembly easily removed for servicing

ECM Variable Speed Blower Motor
- Variable speed motor maintains specified air volume from 0 though 0.80 in. w.g. static range
- Motor is controlled by the blower control
- Change in blower speed is easily accomplished by simple jumper pin change on blower control
- Motor is resiliently mounted

CONTROLS

Electronic Blower Control
- Two Stages - HEAT and COOL (with four different air volume selections for each) are made by simple jumper pins
- ADJUST jumper pin allows approximately 10% higher, normal or 10% lower motor speed selection within (COOL) speeds selected for for fine tuning air volume
- See Blower Data tables

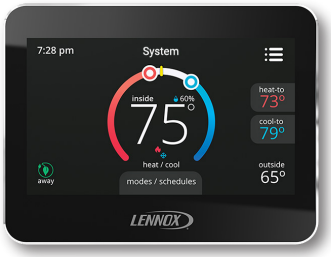
NOTE - HEAT speeds are not affected by jumper change.
- Cooling Airflow Ramp Up - At the beginning of a call for cooling, the blower will run at 82% of full airflow for 7.5 minutes
- This improves the system's moisture removal and saves blower power during cooling start
- Reduced Airflow Operation - For situations where humidity control is an issue, the variable speed motor can be connected to operate at a 25% reduction of the normal airflow rate
- The variable speed motor interface provides for connection of a thermostat with humidity control or a humidistat on the HUM terminal

NOTE - When connected, the dehumidifier resistor on the interface must be cut.
- The control should be wired to open during high humidity, which will reduce blower airflow

24 Volt Transformer
- 40VA transformer furnished and factory installed in control area

Optional Accessories

iComfort® M30 Smart Wi-Fi Progammable Thermostat
- Wi-Fi-enabled, electronic 7-day
- Universal, multi-stage
- 4 Heat/2 Cool
- Auto-changeover
- Dual-fuel control (optional outdoor sensor required)
- Dehumidification control during cooling mode
- Humidification control during heating mode
- Enhanced capabilities:
  - Humidification / Dehumidification
  - Dewpoint measurement and control
  - Humiditrol® control
  - Equipment maintenance reminders
- 4.3 in. color touchscreen (measured diagonally)



FEATURES

CONTROLS (continued)

Optional Accessories (continued)

- LCD display with backlight shows the current and set temperature, time, inside relative humidity, system status (operating mode and schedules) and outside temperature (optional outdoor sensor required)
- Smooth Setback Recovery starts system early to achieve setpoint at start of program period
- Compressor short-cycle protection (5 minutes)
- Four separate schedules available plus Schedule IQ™
- One-Touch Away Mode - Set the cooling and heating setpoints while away
- Smart Away™ - Geo-fencing technology determines when the homeowner is within a predetermined distance from the home to operate the system
- Amazon® Alexa-enabled, smart-home-compatible
- Works with Amazon Echo, Echo Dot and Tap devices
- WI-FI remote monitoring and adjustment

NOTE - See the iComfort® M30 Smart Wi-Fi Thermostat Product Specifications bulletin in the Controls section for more information.

Remote Outdoor Temperature Sensor



- Used with the iComfort® M30 Smart Wi-Fi Thermostat
- Outdoor sensor allows thermostat to display outdoor temperature

NOTE - Remote Outdoor Temperature Sensor is recommended for heat pump balance point control to lock out some of the the electric heating elements where two-stage control is applicable.

Thermostat

- Thermostat is not furnished with unit
- Lennox Price Book for selection

INDOOR AIR QUALITY (option)

Healthy Climate® PCO Accessory

- The Healthy Climate® PCO Accessory uses photocatalytic oxidation (PCO) technology to significantly reduce levels of airborne volatile organic compounds, cooking odors and common household odors
- Lennox' Healthy Climate® PCO Accessory is mounted internally to the unit cabinet for superior indoor air quality
- Kit contains PCO cartridge, UVA lamp, UVA lampholder assembly, ballast box, wiring harness and all necessary hardware

NOTE - The Healthy Climate® PCO Accessory cannot be used with the Internal Filter Rack Kit. High efficiency filtration external to the return air inlet and the PCO accessory in the unit is required and must be field supplied.

Internal Filter Rack Kits

- Available for 1 in. thick filters. Kit contains filter rails for mounting filters internal to unit
- Filters are not furnished and must be field provided

NOTE - The Internal Filter Rack Kit cannot be used with the Healthy Climate® PCO Accessory.

NOTE - Maximum acceptable filter efficiency is MERV 11.

CABINET

- Conditioned areas insulated with foil faced insulation
- Minimizes heat loss and reduce operating sound levels
- Powder paint for maximum durability
- Easy service access
- Steel louvered panels provides complete coil protection

Airflow Choice

- Units are shipped in horizontal configuration
- Can be field converted to downflow (vertical) airflow with optional Downflow Conversion Kit

Gas Piping Inlets, Electrical Inlets and Service Valves

- Gas piping and field wiring inlets are located in one central area of the cabinet
- See dimension drawing
- Gauge ports are located inside the cabinet

Optional Accessories

Downflow Conversion Kit

- Required for field conversion to downflow (vertical) air.
- Consists of 2 duct covers to block off horizontal air openings on side of unit
- Drain pan overflow switch monitors condensate level in drain pan
- Shuts down unit if drain becomes clogged

Lifting Brackets

- Available to facilitate rigging of the unit

Clip Curb (Full Perimeter)

- Interlocking tabs fasten corners together
- No tools required
- Available in 8 and 14 inch heights
- Shipped knocked down

Adjustable Pitch Roof Curb (Full Perimeter)

- Fully adjustable pitch curb provides a level platform for packaged units
- Allows flexible installations on roofs with sloped or uneven angles
- Adjustable from 2/12 to 6/12 pitch
- Unit hold-down brackets secure packaged unit to curb
- Constructed of heavy-gauge galvanized steel with fully welded seams and corners
- Rounded corners on flange prevent damage to roof shingles
- Built-in drip edge
- IAPMO/UMC listed
- CBC 2013 compliant (California)
- Seismic rating - Ss=3.73 Ip=1.5, wind rating - 155mph
- Maximum load rating – 800 lbs.

SPECIFICATIONS

General Data		Model No.	LRP16GE24	LRP16GE36	LRP16GE48	LRP16GE60
		Model No. - Low NOx	LRP16XE24	LRP16GX36	LRP16GX48	LRP16GX60
		Nominal Tonnage	2	3	4	5
Gas Heat Available - See Page 8			**-72**	**-72, -90**	**-108**	**-126**
Cooling Performance	Total cooling capacity - Btuh		23,800	35,400	47,500	57,000
	Total Unit Watts		1900	2950	3960	4750
	[1] SEER (Btuh/Watt)		16.0	16.0	16.0	16.0
	EER (Btuh/Watt)		12.5	12.0	12.0	12.0
	[2] Sound Rating Number (dB)		74	75	75	74
Refrigerant	Type		R-410A	R-410A	R-410A	R-410A
	Charge		5 lbs. 7 oz.	5 lbs. 12 oz.	6 lbs. 10 oz.	9 lbs. 1 oz.
Condensate drain size (fpt) - in.			3/4	3/4	3/4	3/4
Outdoor Coil	Net Face Area - sq. ft.		14.6	16.4	19.5	19.1
	Tube Dia. - in. and No. of Rows		5/16 – 1	5/16 – 1	5/16 – 1	5/16 – 2
	Fins per inch		26	26	26	22
Outdoor Coil Fan	Motor horsepower		1/6	1/6	1/4	1/4
	Dia. - in. and No. of blades		22 – 3	22 – 3	24 – 3	24 – 3
Indoor Coil	Net Face Area - sq. ft.		4.4	4.4	6.8	6.8
	Tube Dia. - in. and No. of rows		3/8 – 3	3/8 – 3	3/8 – 3	3/8 – 3
	Fins per in.		15	15	15	15
Indoor Blower	Blower wheel size dia. x width - in.		10 x 6	10 x 8	10 x 10	12 x 9
	Motor horsepower		1/2	1/2	3/4	1
Net weight of basic unit - lbs.			375	384	486	522
Shipping weight of basic unit (1 Pkg.) - lbs.			445	456	528	595
Electrical characteristics (60 hz)			208/230V-1ph-60Hz			

ELECTRICAL DATA

Line voltage data - 60hz 1 phase		208/230V	208/230V	208/230V	208/230V
[3] Maximum overcurrent protection (amps)		25	35	50	60
[4] Minimum Circuit Ampacity		17.0	22.7	31.2	41.7
Compressor	Rated load amps	11.7	15.3	21.2	28.8
	Locked rotor amps	58.3	83.0	104.0	152.9
Outdoor Coil Fan Motor	Full load amps	1.0	1.0	1.7	1.7
	Locked rotor amps	1.9	1.9	3.2	3.2
Indoor Blower Motor	Full load amps	1.1	2.3	3.1	4.0
	Locked rotor amps	4.3	4.3	6.8	9.1

NOTE-Extremes of operating range are plus and minus 10% of line voltage.

[1] AHRI Certified to AHRI Standard 210/240; 95°F outdoor air temperature, 80°F db/67°F wb entering evaporator air.

[2] Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270.

[3] HACR type circuit breaker or fuse.

[4] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

HVAC Noise Level Calculations

Bella Terra Residential Community and Temple Project

Receptor 1: 802 La Vergn Wy, Santa Ana

Source#	Sound Power Level (dBA)	Distance to Receiver (ft)	Noise Attenuation Due to Shielding (dB)	Sound Pressure Level at Receiver (dBA)
1	75	200	5	26.0
2	75	158	5	28.0
3	75	113	5	31.0
4	75	75	5	34.5
5	75	31	5	42.2
6	75	20	5	46.0
7	75	56	5	37.1
8	75	102	5	31.8
9	75	150	5	28.5
10	75	187	5	26.6
11	75	229	5	24.8
11	75	272	5	23.3
		Total Sound Pressure Level (dBA):		**48.4**

Appendix F

Traffic Memorandum

March 12, 2025

To: Pedro Gomez
Planning Division
City of Santa Ana

From: Timothy Chan, P.E.
Jessica Hitchcock
Alia Hokuki, AICP

Subject: **Traffic Memorandum for the Proposed Bella Terra Residential Community and Temple Project in the City of Santa Ana**

INTRODUCTION

Psomas has prepared a Traffic Memorandum for the proposed Bella Terra Residential Community and Temple Project (Project) located at 4006, 4010, and 4018 W. Hazard Avenue in the City of Santa Ana. This memorandum provides a discussion of estimated trip generation, project site access, and findings pertaining to the City's established Vehicle Miles Traveled (VMT) screening criteria. The findings and conclusions of this Traffic Memorandum are consistent with the traffic study requirements of the City of Santa Ana, based on the *City of Sana Ana Traffic Impact Study Guidelines* (September 2019).

PROJECT DESCRIPTION

The Project is located on three existing parcels along W. Hazard Avenue. Each parcel currently consists of a single-family detached dwelling unit and ancillary structures, comprising a total of three existing residential units. Per the City of Santa Ana Zoning Map, the Project is located within Specific Development 53 (SD-53), which permits the development of 17 single-family dwelling units. As part of this project, SD-53 will be amended to accommodate the proposed land uses.

The Project proposes the demolition of the three existing residential units and includes the development of twelve (12) single-family detached units and a 3,200-square-foot religious facility within these three parcels. The Project site is bounded by W. Hazard Avenue to the north, Morse Drive to the west, and residential parcels to the east, south, and west. W. Hazard Avenue, along the project frontage, is a Secondary Arterial based on the *City of Santa Ana General Plan Circulation Element*. Currently, there is one lane in each direction, a two-way left-turn (TWLT) lane, and Class 3 bicycle facilities along W. Hazard Avenue. The Project will not impact or modify these existing facilities along W. Hazard Avenue. The Project is depicted in its local context on **Figure 1**. The site plan is shown on **Figure 2**.

5 Hutton Centre Drive
Suite 300
Santa Ana, CA 92707

Tel 714.751.7373
www.Psomas.com



FIGURE 1
VICINITY MAP
SOURCE: NEARMAP

NOT TO SCALE

PSOMAS

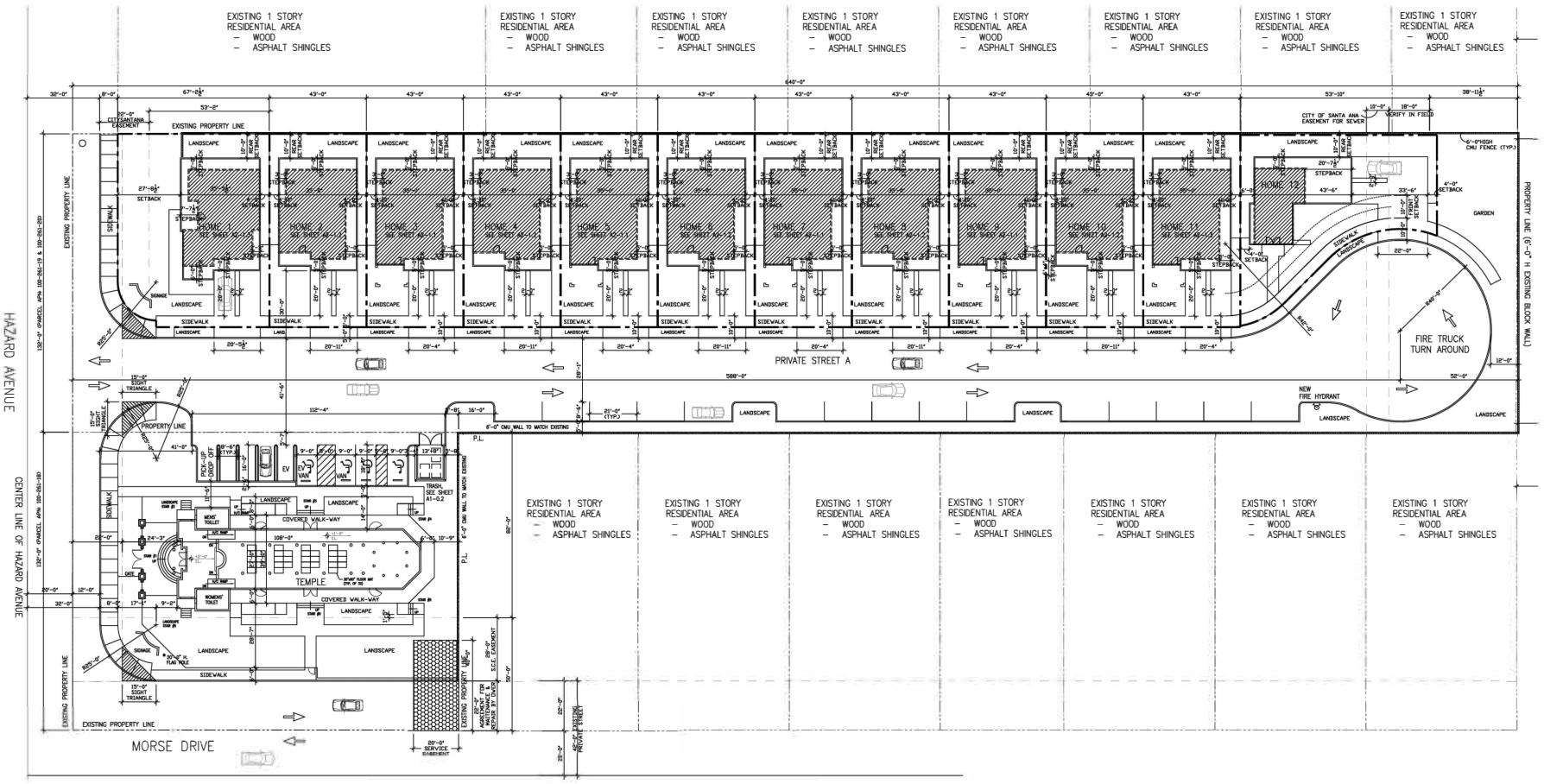


FIGURE 2
SITE PLAN

NOT TO SCALE

PSOMAS

TRIP GENERATION

Trip generation estimates for the Project are derived from daily and peak hour trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition. Trip generation rates are based on published data for Land Use (LU) 210 – Single-Family Detached Housing and Land Use (LU) 560 – Church. The Church ITE land use was selected due to its similarities with the proposed temple component of the project. Since the existing residential units on the site are operational, trip credits were accounted for the current land use.

As shown on **Table 1**, the proposed residential and temple uses are expected to generate 167 daily trips, with 12 trips (4 inbound and 8 outbound) in the morning peak hour and 16 trips (10 inbound and 6 outbound) in the evening peak hour. The existing land use generates 40 daily trips, with 3 trips (1 inbound and 2 outbound) in the morning peak hour and 4 trips (2 inbound and 2 outbound) in the evening peak hour. With the demolition of existing uses on the site, the Project will generate a net increase of 127 daily trips, with an increase of 9 trips (3 inbound and 6 outbound) in the morning peak hour and 12 trips (8 inbound and 4 outbound) in the evening peak hour.

Table 1. Project Trip Generation

ITE Trip Generation									
ITE Land Use	**Qty.**	**Units**	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
				In	**Out**	**Total**	**In**	**Out**	**Total**
Existing Land Use									
Single-Family Detached Housing (LU 210)[1]	3	DU	40	1	2	3	2	2	4
Proposed Land Use									
Single-Family Detached Housing (LU 210)[1]	12	DU	143	3	8	11	9	5	14
Church (LU 560)	3.200	KSF	24	1	0	1	1	1	2
Total Proposed Project Trips			167	4	8	12	10	6	16
Net Trips (Proposed - Existing)			**127**	**3**	**6**	**9**	**8**	**4**	**12**

DU = Dwelling Unit, KSF = Thousand Square Feet
[1]Per the ITE Trip Generation Manual, trip generation for this LU is based on Fitted Curve Equations

SITE ACCESS

Access to the proposed site will be facilitated through the construction of a new private driveway from W. Hazard Avenue. From this driveway, a proposed 28-foot private street will provide access to each of the 12 residential units and the proposed temple. This private street will terminate at a cul-de-sac located at the southeast quadrant of the site. The Project will allow full

movement access from W. Hazard Avenue at the proposed driveway, with westbound left-turn movements into the site being made from the existing TWLT lane.

VEHICLE MILES TRAVELED (VMT) SCREENING

With the passage of Senate Bill (SB) 743, the State Office of Planning and Research (OPR) mandated the development of guidelines that would establish Vehicle Miles Traveled (VMT) as the primary metric for evaluating a project's environmental impacts on the transportation system. Since then, the City of Santa Ana has established VMT screening criteria to be consistent with the updated OPR guidelines. Per the City's established VMT screening thresholds, identified in Section 2.1 of the *City of Sana Ana Traffic Impact Study Guidelines* (September 2019), the following four screening criteria were evaluated for the Project. It is noted that only one criteria must be met for the Project to screen out of further VMT analysis. Additionally, the Project has been reviewed for consistency with the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). The household and employment growth between 2019 and 2050, per SCAG's adopted Connect SoCal 2024, indicates growth that is consistent with the proposed Project land use type and intensity.

1. **Projects which serve the local community and have the potential to reduce VMT, such as neighborhood K-12 schools and local serving retail less than 50,000 square feet.**

   Although the temple component of the project will serve the local community, incorporating single-family housing into the Project would not be considered local serving in nature. Therefore, the Project in its entirety is not local serving and does not meet this screening criteria.

2. **Projects that generate less than 110 net daily trips.**

   According to the trip generation analysis, the Project will result in an increase of 127 net daily trips. The Project generates more than 110 net daily trips and does not meet this screening criteria.

3. **Projects located within Transit Priority Areas (TPA).**

   The City of Santa Ana defines a TPA as a ½ mile radius around an existing or planned major transit stop, such as a Metrolink Station, or an existing stop along a high quality transit corridor. High Quality Transit Areas (HQTA) consist of corridors with fixed route bus service with service intervals no longer than 15 minutes during peak hours. The City of Santa Ana has mapped the location of these TPAs and HQTAs, and projects located within these areas are presumed to have less-than-significant VMT impacts. The Project is located within a TPA and meets this screening criteria. A map of TPAs within the City is provided in the **Appendix**.

4. Projects located in a low-VMT generating TAZ.

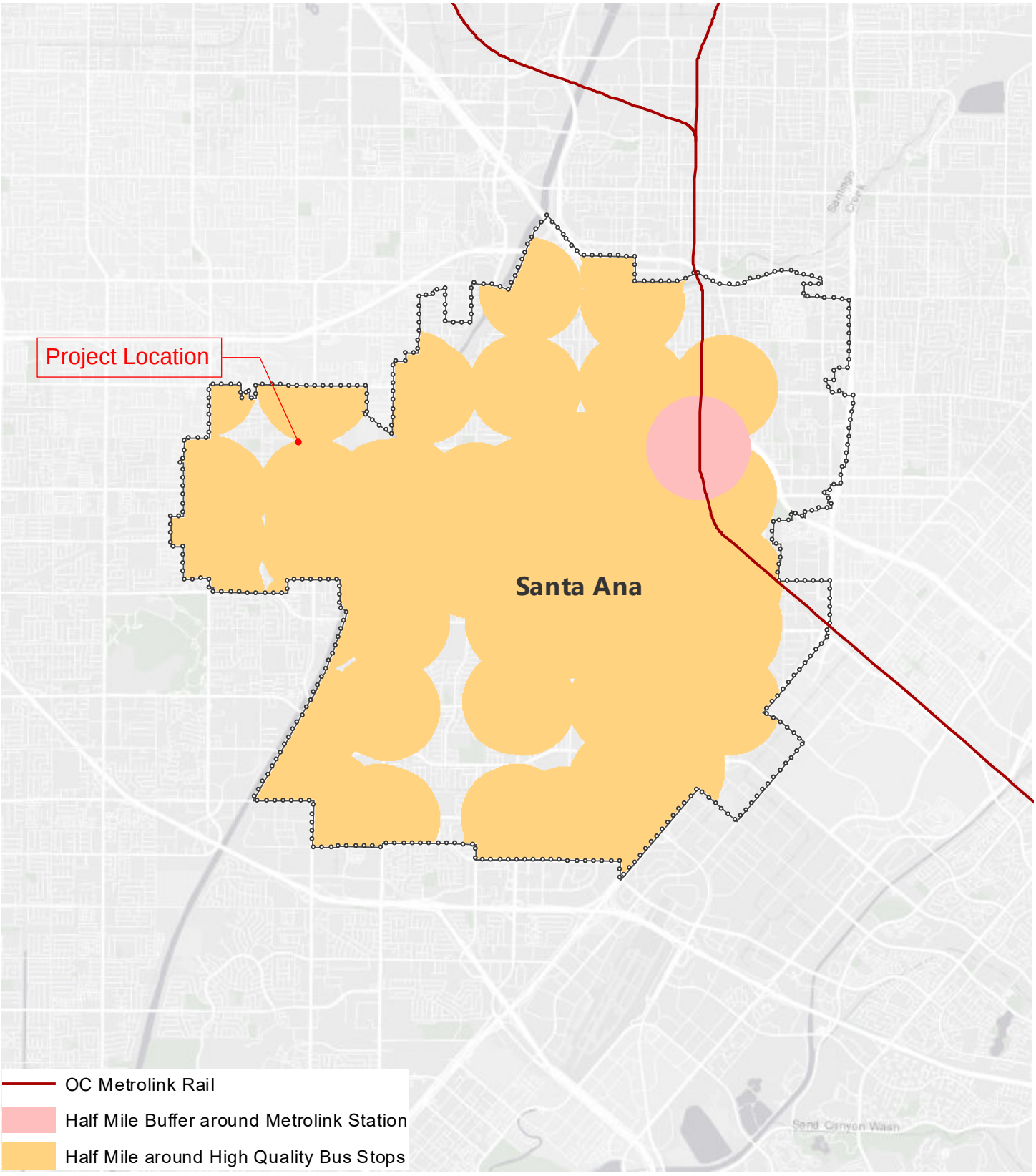
Projects located in Traffic Analysis Zones (TAZ) with VMT per service population less than 15% of the Orange County average are presumed to have a less-than-significant impact on VMT. Based on VMT maps provided by the City, the Project is located within a low-VMT generating TAZ and meets this screening criteria. A map of low VMT areas within the City is provided in the **Appendix**.

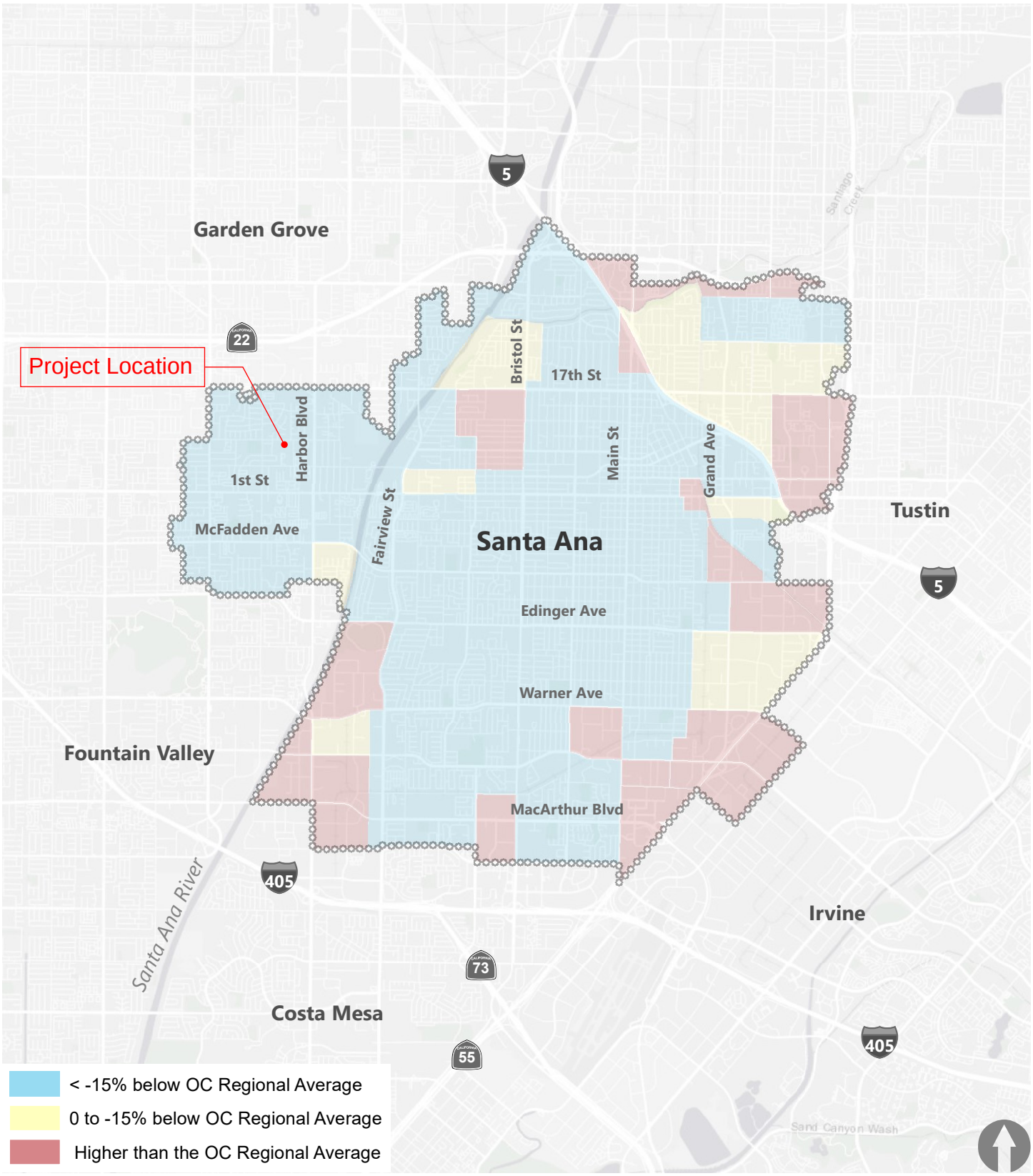
The Project satisfies two of the City's established screening criteria. The Project is located within a Transit Priority Area and a Low-VMT Generating TAZ. Moreover, the Project is consistent in land use with RTP/SCS assumptions. As a result, the Project is presumed to have a less-than-significant VMT impact and is exempt from further VMT analysis.

FINDINGS AND CONCLUSIONS

The Project proposes the demolition of three existing residential units along W. Hazard Avenue and includes the construction of twelve (12) single-family detached units and a 3,200-square-foot religious facility. With the demolition of existing uses on the site, the Project will generate a net increase of 127 daily trips, with an increase of 9 trips (3 inbound and 6 outbound) in the morning peak hour and 12 trips (8 inbound and 4 outbound) in the evening peak hour. In accordance with City of Santa Ana guidelines, the Project satisfies two of the City's established VMT screening criteria. As a result, the Project is presumed to have a less-than-significant VMT impact and is exempt from further VMT analysis.

APPENDIX


Project Location
Santa Ana
OC Metrolink Rail
Half Mile Buffer around Metrolink Station
Half Mile around High Quality Bus Stops



VMT/SP in Santa Ana as Compared to Orange County Average

Appendix G

Tribal Consultation Documentation

MAYOR
Valerie Amezcua
MAYOR PRO TEM
Benjamin Vazquez
COUNCILMEMBERS
Phil Bacerra
Johnathan Ryan Hernandez
Jessie Lopez
David Penaloza
Thai Viet Phan

CITY MANAGER
Alvaro Nuñez
CITY ATTORNEY
Sonia R. Carvalho
CITY CLERK
Jennifer L. Hall

CITY OF SANTA ANA
PLANNING AND BUILDING AGENCY
20 Civic Center Plaza ● P.O. Box 1988
Santa Ana, California 92702
www.santa-ana.org

July 22, 2025 *Also sent via email to: anthonymad2002@gmail.com*

Cahuilla Band of Indians
Anthony Madrigal, Tribal Historic Preservation Officer
52701 CA Highway 371
Anza, CA, 92539

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Tribal Historic Preservation Officer,

Pursuant to California Public Resources Code § 21080.3.1 (Assembly Bill 52), the City of Santa Ana, as the lead agency under the California Environmental Quality Act (CEQA), is reaching out to offer your tribe the opportunity to consult on the proposed Bella Terra Residential Community and Temple Project ("Project") located at 4006, 4010, and 4018 West Hazard Avenue in the City of Santa Ana.

The City is preparing an Initial Study/Mitigated Negative Declaration (IS/MND) to analyze potential environmental effects associated with the proposed Project, which involves:

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Sincerely,

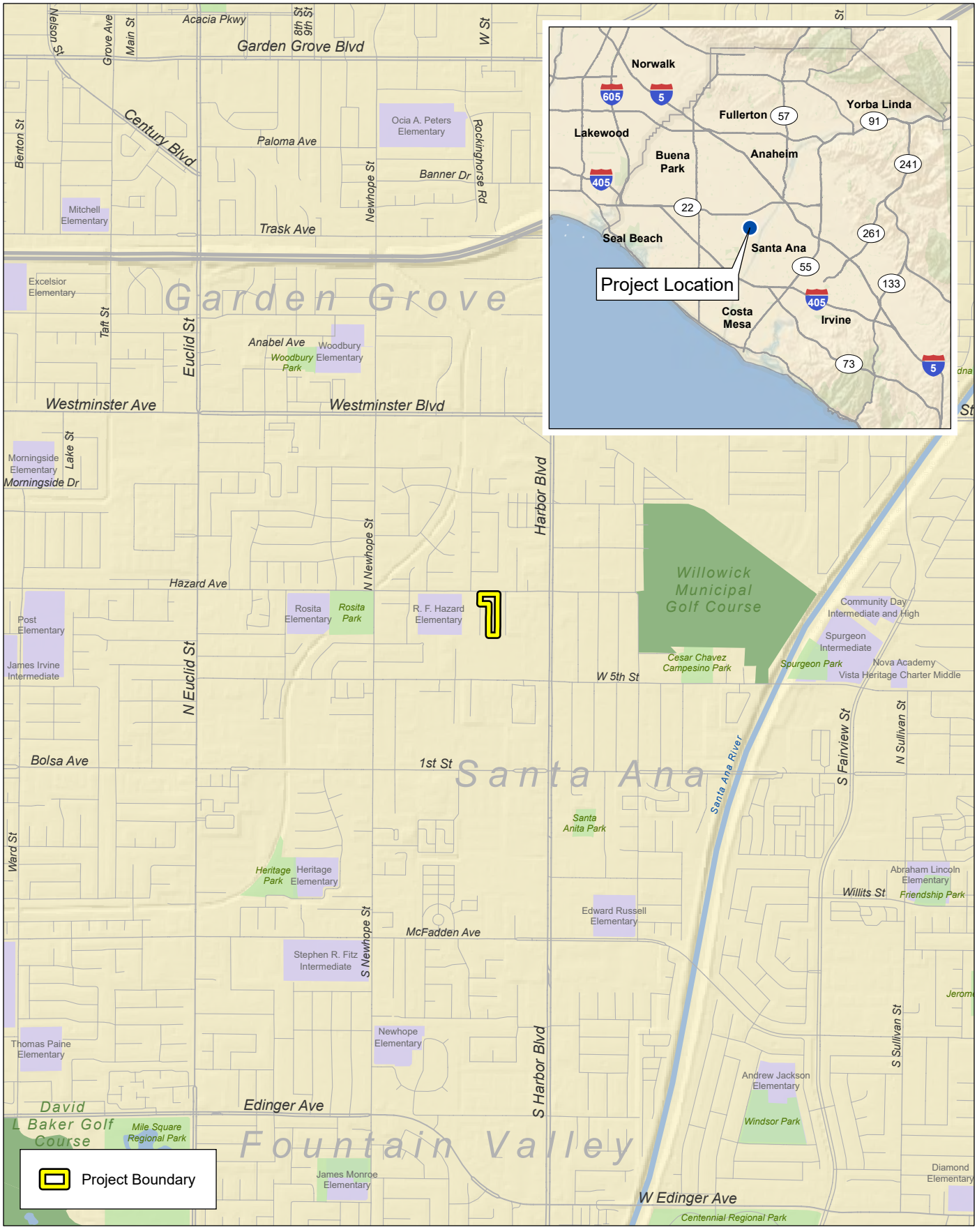
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
City of Santa Ana

Enclosure: Project Vicinity Map and Project Location Map

CC:

Nancy Tran, AICP, Senior Planner
City of Santa Ana



Regional Location and Local Vicinity

Exhibit 1

Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

PSOMAS

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

PSOMAS

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July 22, 2025 *Also sent via email to: besparza@cahuilla-nsn.gov*

Cahuilla Band of Indians
BobbyRay Esparza, Cultural Director
52701 CA Highway 371
Anza, CA, 92539

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

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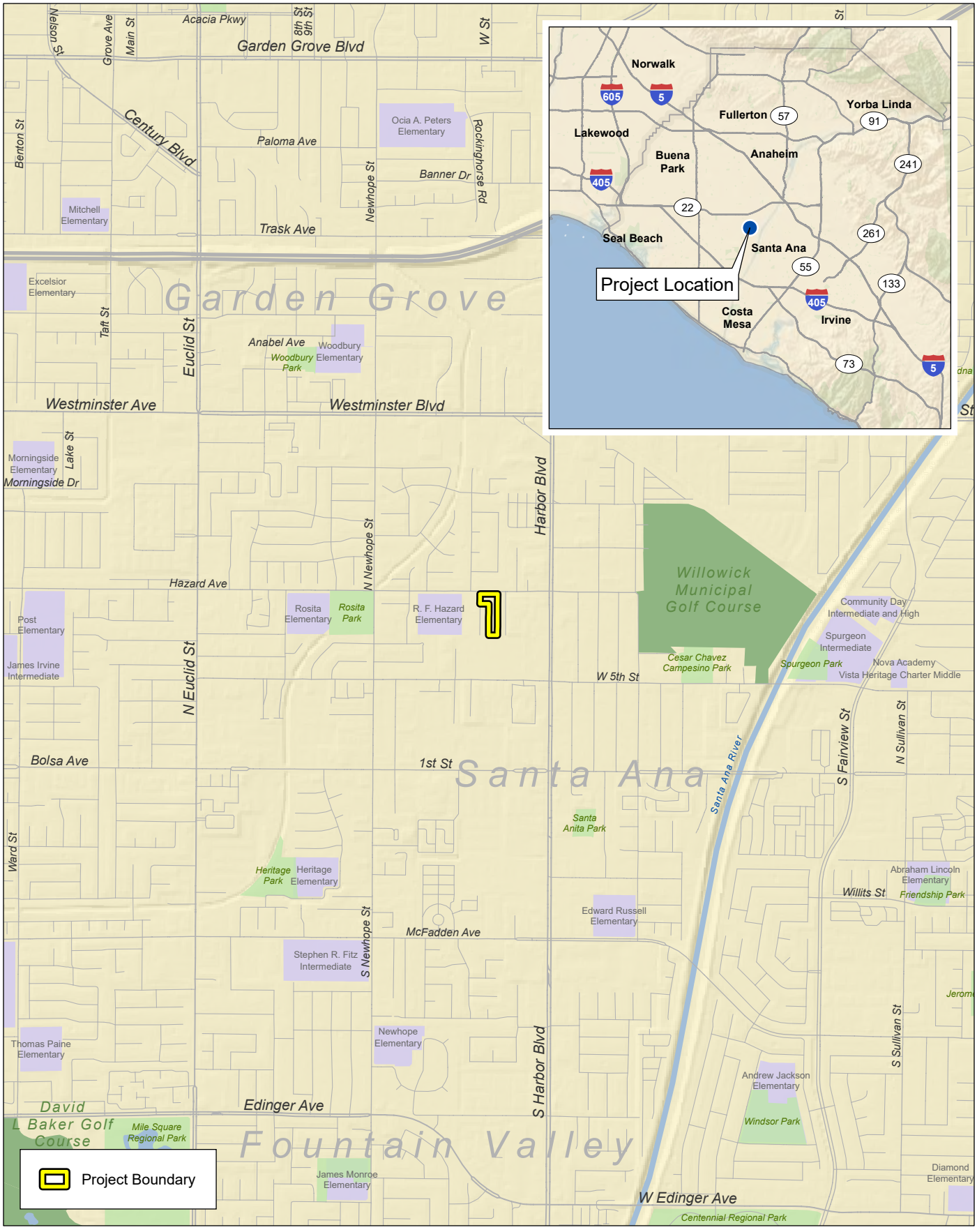
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Enclosure: Project Vicinity Map and Project Location Map

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Regional Location and Local Vicinity

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Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

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July 22, 2025 *Also sent via email to: chair@cahuilla-nsn.gov*

Cahuilla Band of Indians
Erica Schenk, Chairperson
52701 CA Highway 371
Anza, CA, 92539

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

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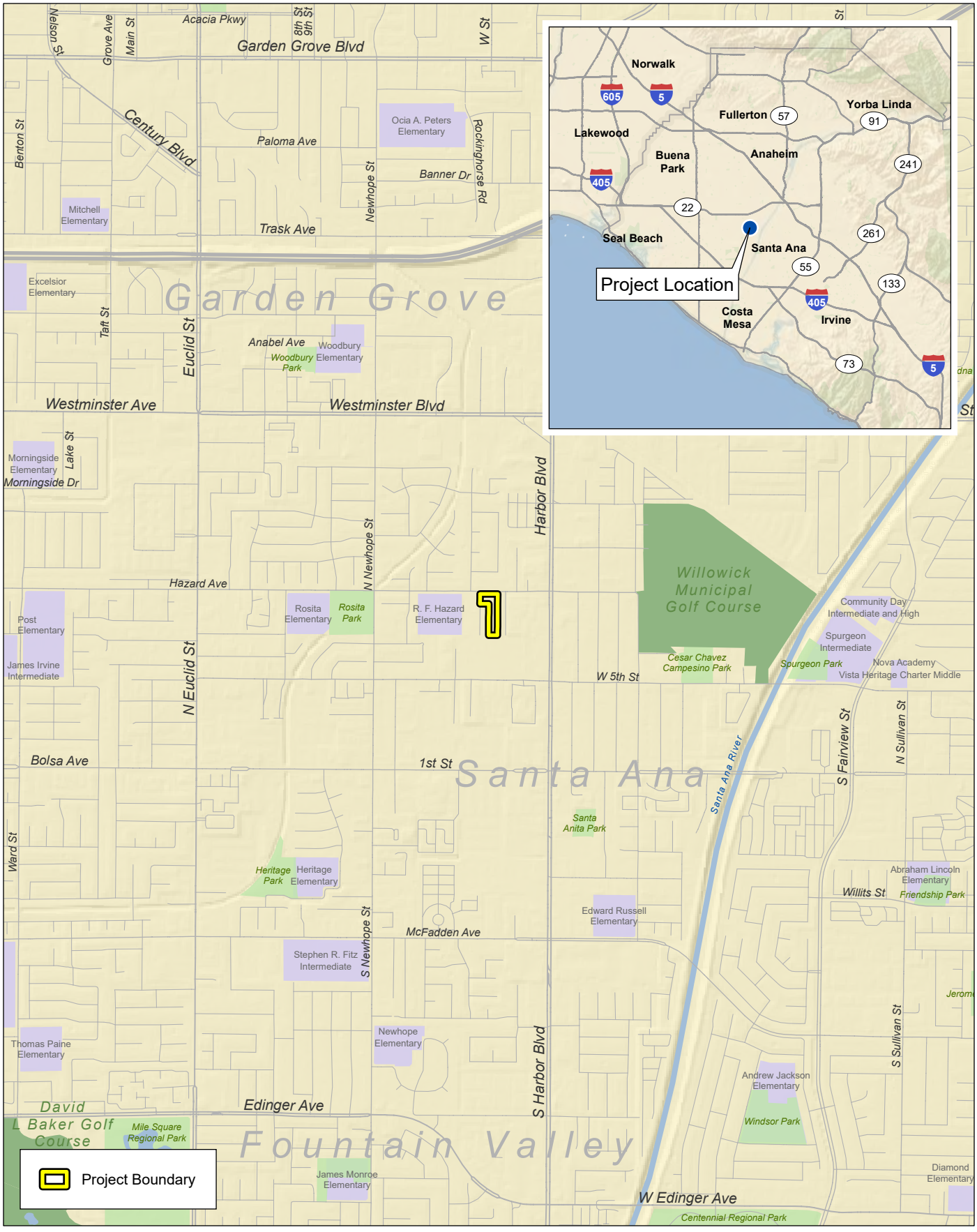
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City of Santa Ana



Regional Location and Local Vicinity

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Bella Terra Residential Community and Temple Project

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

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0 75 150 Feet

PSOMAS

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July 22, 2025 *Also sent via email to: admin@gabrielenoindians.org*

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina, CA, 91723

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

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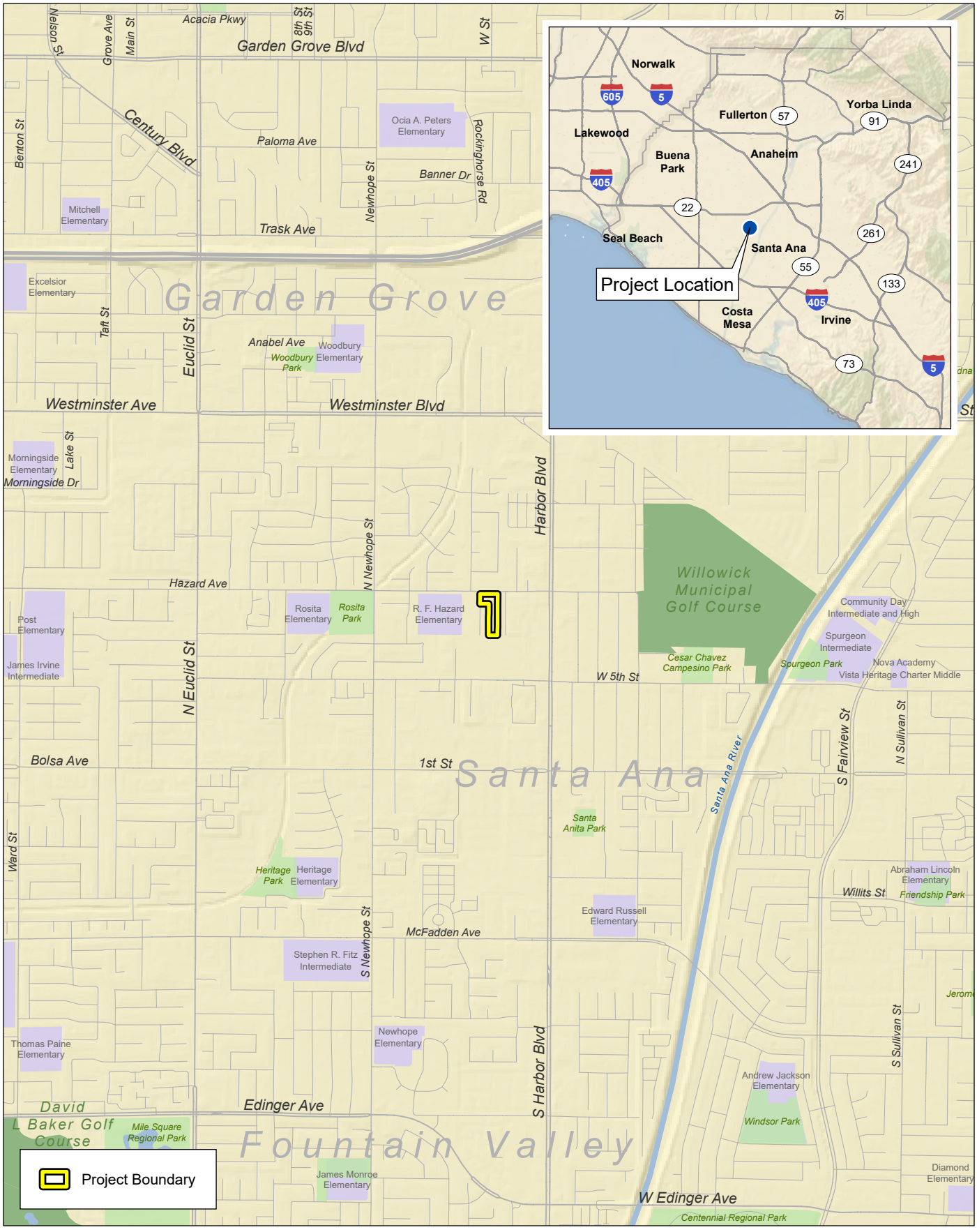
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City of Santa Ana



Regional Location and Local Vicinity

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Bella Terra Residential Community and Temple Project

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

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July 22, 2025 *Also sent via email to: admin@gabrielenoindians.org*

Gabrieleno Band of Mission Indians - Kizh Nation
Christina Swindall Martinez, Secretary
P.O. Box 393
Covina, CA, 91723

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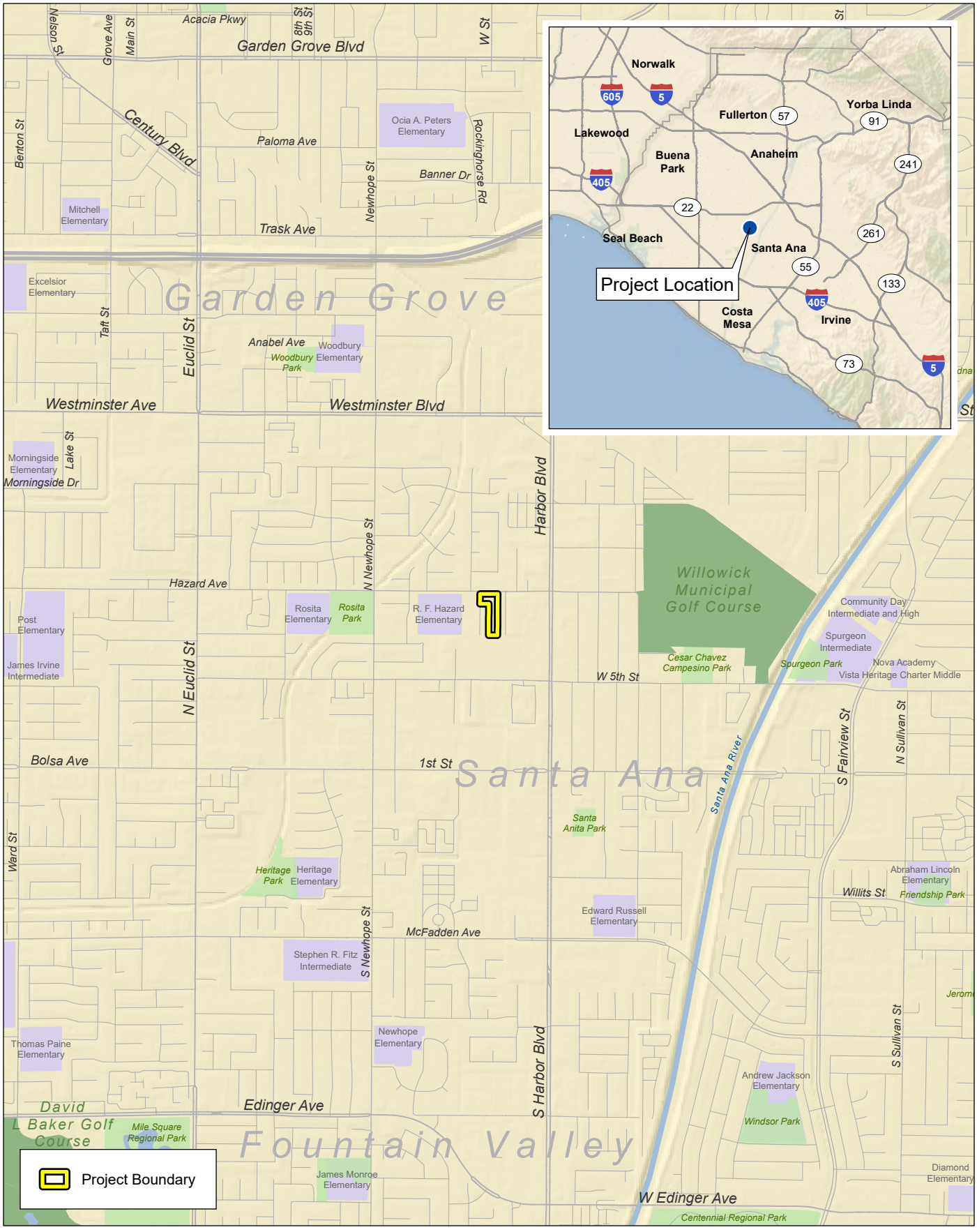
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Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA, 91778

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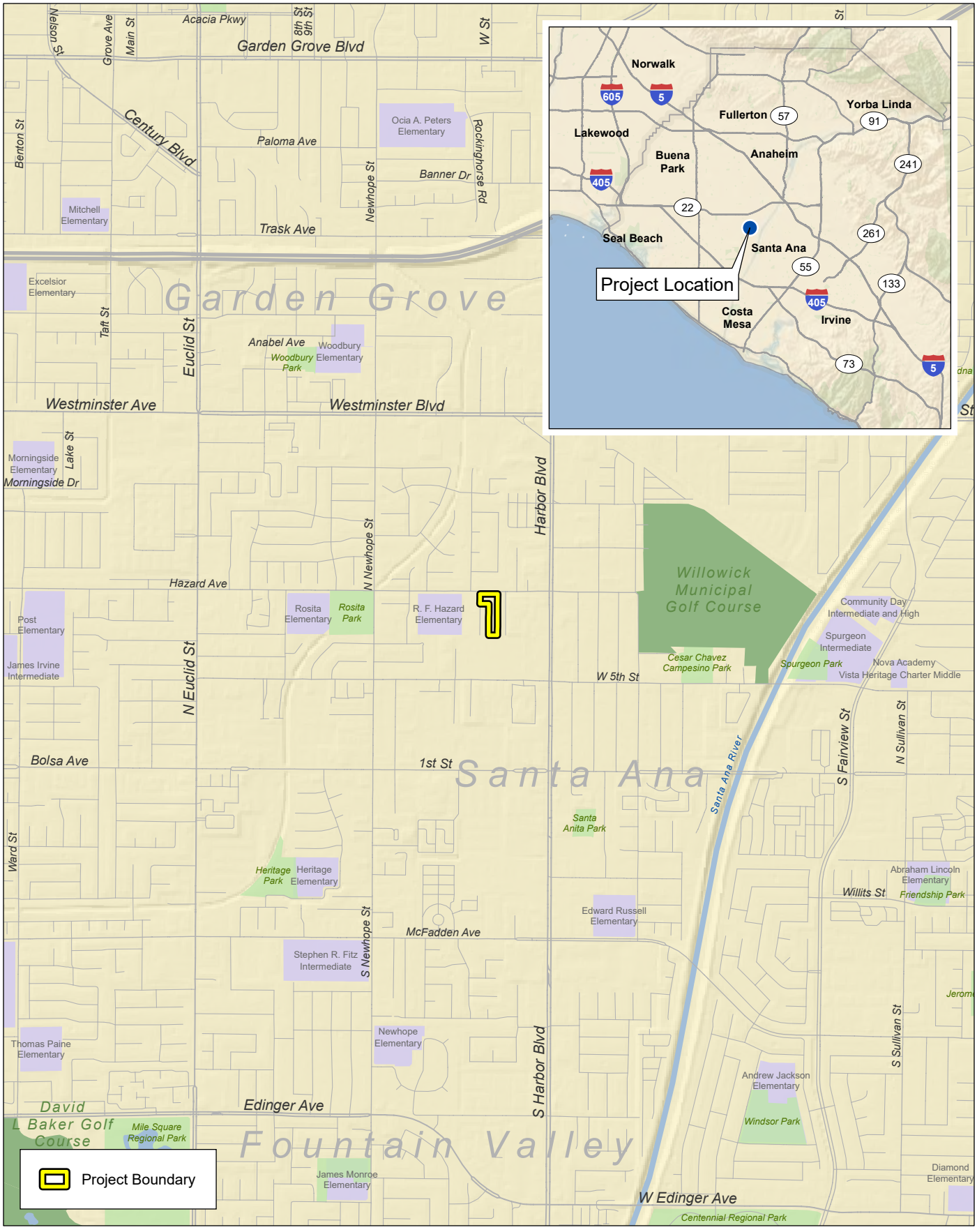
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Jennifer L. Hall

CITY OF SANTA ANA
PLANNING AND BUILDING AGENCY
20 Civic Center Plaza ● P.O. Box 1988
Santa Ana, California 92702
www.santa-ana.org

July 22, 2025 *Also sent via email to: christina.marsden@alumni.usc.edu*

Gabrielino Tongva Indians of California Tribal Council
Christina Conley, Cultural Resource Administrator
P.O. Box 941078
Simi Valley, CA, 93094

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Cultural Resource Administrator,

Pursuant to California Public Resources Code § 21080.3.1 (Assembly Bill 52), the City of Santa Ana, as the lead agency under the California Environmental Quality Act (CEQA), is reaching out to offer your tribe the opportunity to consult on the proposed Bella Terra Residential Community and Temple Project ("Project") located at 4006, 4010, and 4018 West Hazard Avenue in the City of Santa Ana.

The City is preparing an Initial Study/Mitigated Negative Declaration (IS/MND) to analyze potential environmental effects associated with the proposed Project, which involves:

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Sincerely,

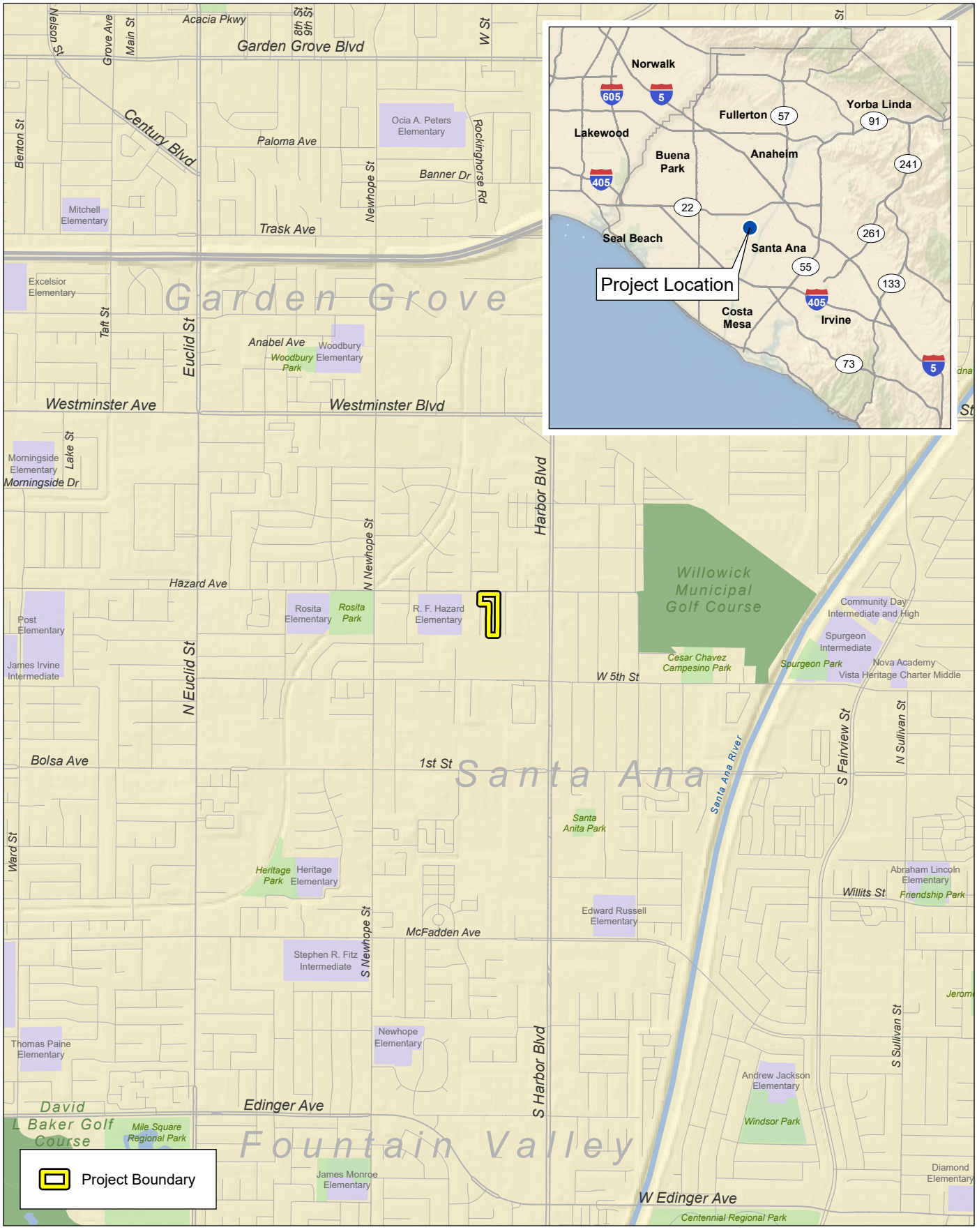
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
City of Santa Ana

Enclosure: Project Vicinity Map and Project Location Map

CC:

Nancy Tran, AICP, Senior Planner
City of Santa Ana



Regional Location and Local Vicinity

Exhibit 1

Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

PSOMAS

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

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July 22, 2025 *Also sent via email to: gtongva@gmail.com*

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA, 90707

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

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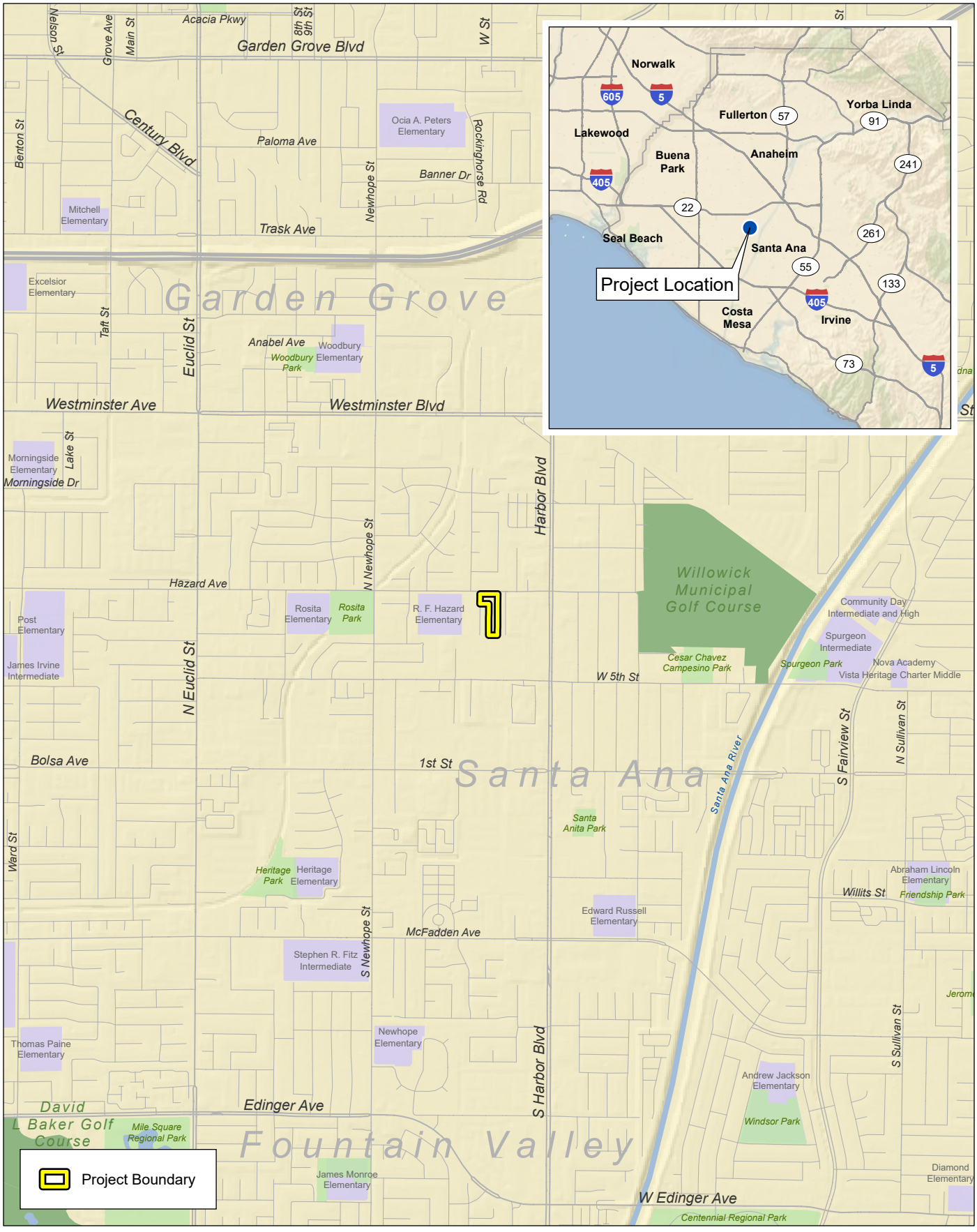
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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

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July 22, 2025 *Also sent via email to: sgoad@gabrielino-tongva.com*

Gabrielino/Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231
Los Angeles, CA, 90012

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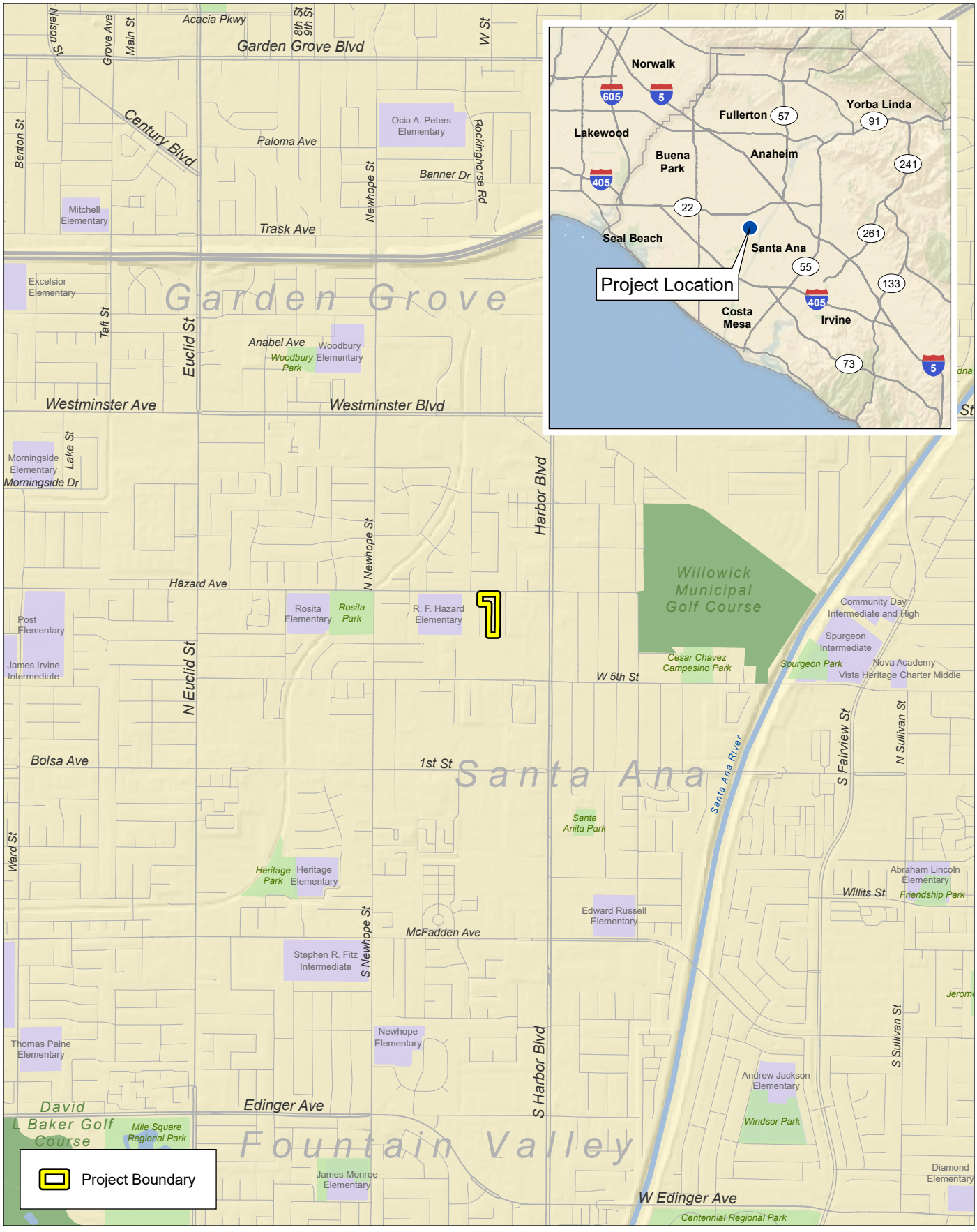
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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

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July 22, 2025 *Also sent via email to: Chavez1956metro@gmail.com*

Gabrielino-Tongva Tribe
Charles Alvarez, Chairperson
23454 Vanowen Street
West Hills, CA, 91307

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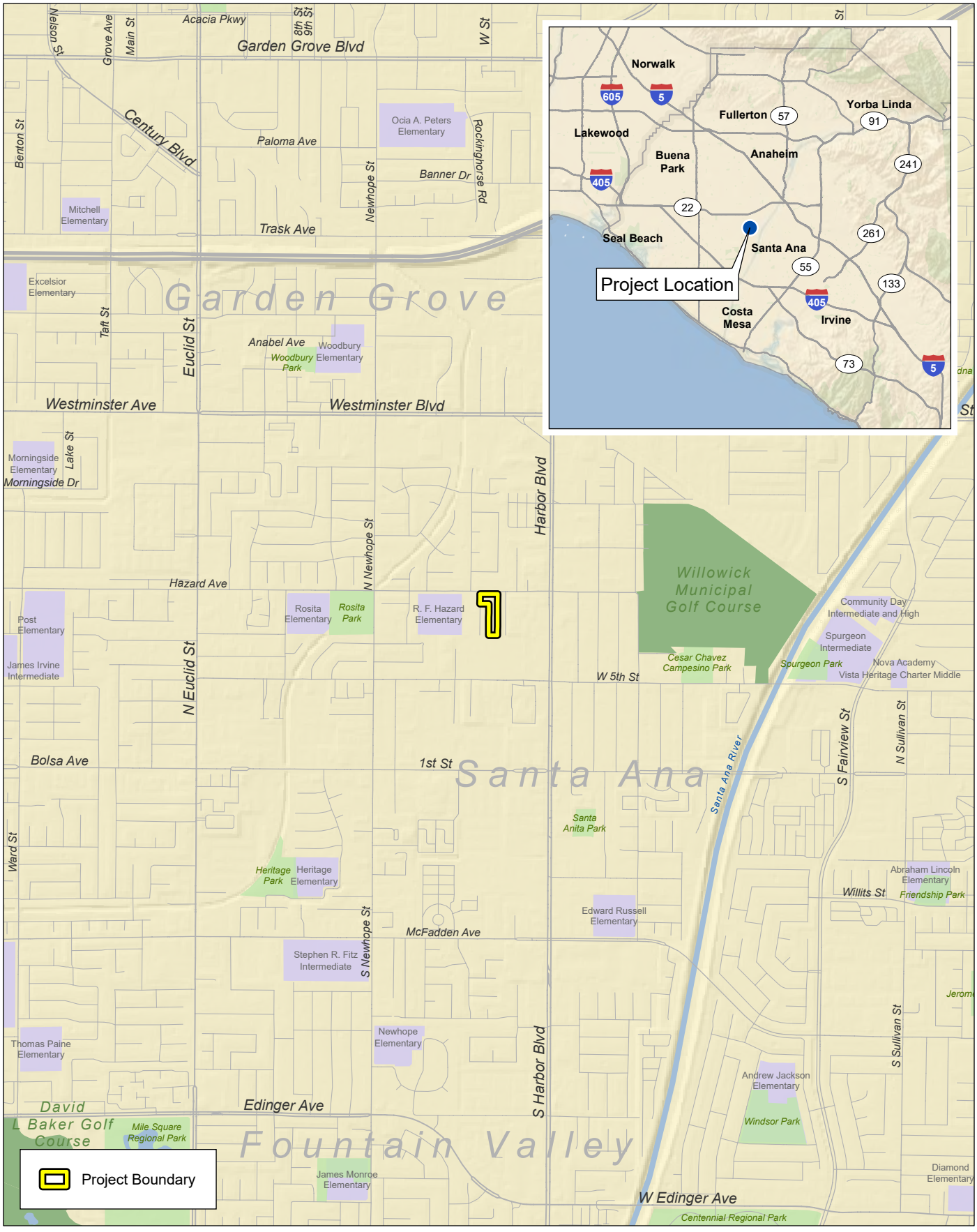
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Regional Location and Local Vicinity

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Bella Terra Residential Community and Temple Project

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

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Sam Dunlap, Cultural Resource Director
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Seal Beach, CA, 90740

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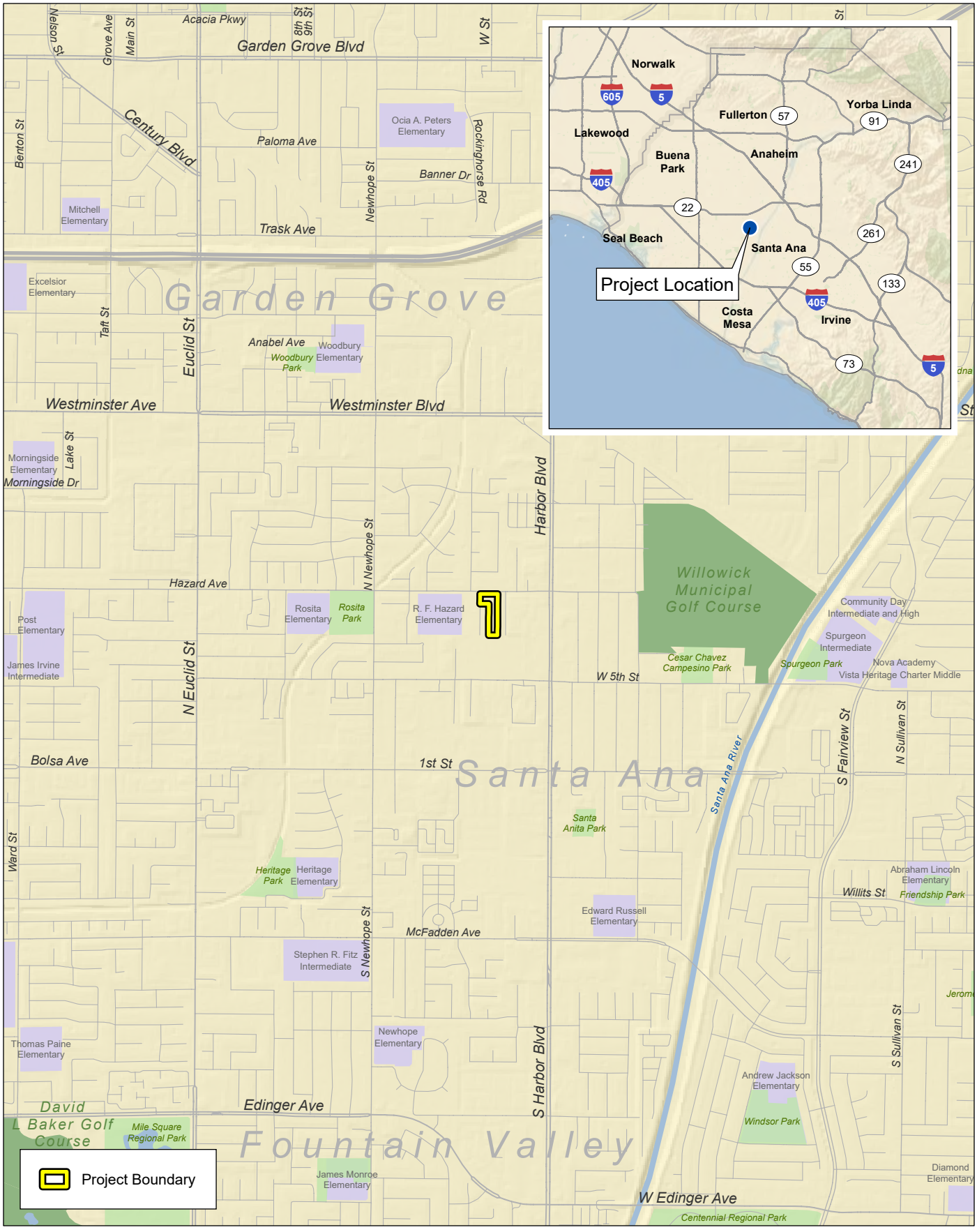
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Juaneno Band of Mission Indians
Acjachemen Nation - Belardes
Joyce Perry, Cultural Resource Director
4955 Paseo Segovia
Irvine, CA, 92603

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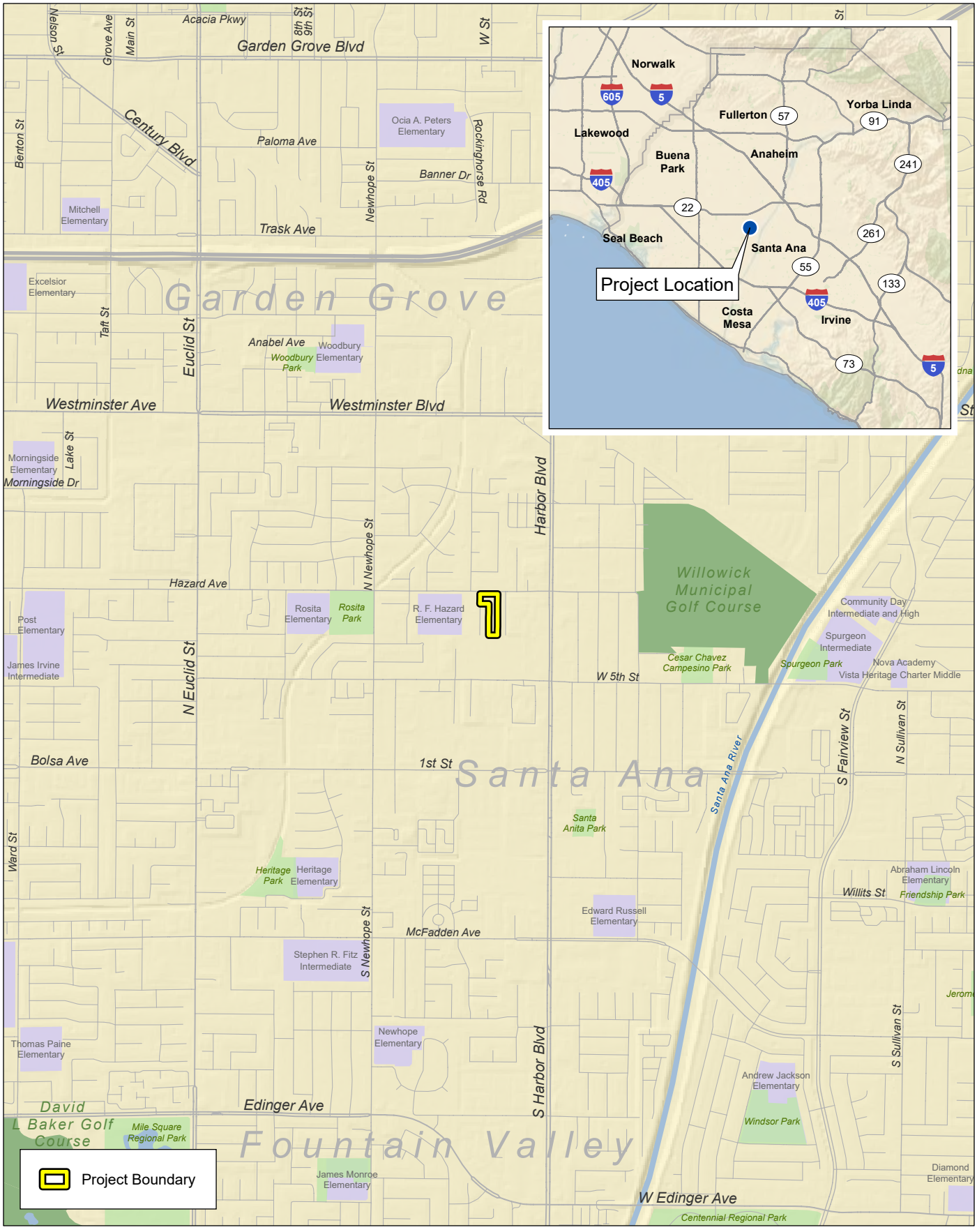
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CITY OF SANTA ANA
PLANNING AND BUILDING AGENCY
20 Civic Center Plaza ● P.O. Box 1988
Santa Ana, California 92702
www.santa-ana.org

July 22, 2025 *Also sent via email to: thpo@jbmian.com*

Juaneno Band of Mission Indians
Acjachemen Nation 84A
Heidi Lucero, THPO/MLD
31411-A La Matanza Street
San Juan Capistrano, CA, 92675

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Ms. Lucero,

Pursuant to California Public Resources Code § 21080.3.1 (Assembly Bill 52), the City of Santa Ana, as the lead agency under the California Environmental Quality Act (CEQA), is reaching out to offer your tribe the opportunity to consult on the proposed Bella Terra Residential Community and Temple Project ("Project") located at 4006, 4010, and 4018 West Hazard Avenue in the City of Santa Ana.

The City is preparing an Initial Study/Mitigated Negative Declaration (IS/MND) to analyze potential environmental effects associated with the proposed Project, which involves:

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Should you have any questions or require further information, please do not hesitate to contact Nancy Tran at (714) 667-2740 or via email at ntran5@santa-ana.org. Thank you for your assistance.

Sincerely,

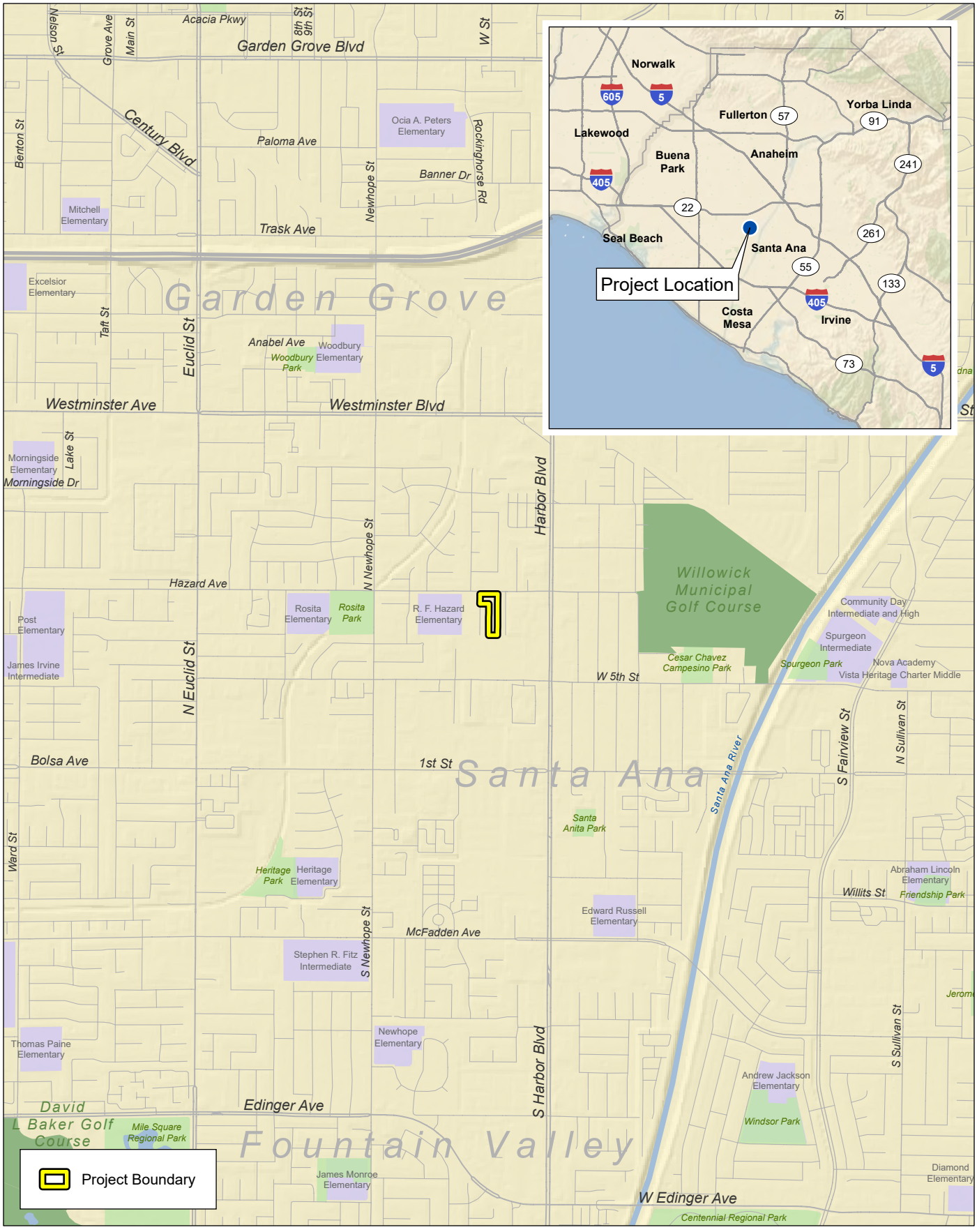
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
City of Santa Ana

Enclosure: Project Vicinity Map and Project Location Map

CC:

Nancy Tran, AICP, Senior Planner
City of Santa Ana



Regional Location and Local Vicinity

Exhibit 1

Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

PSOMAS

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D:\Projects\3SAN\Bella_Terra\PRO\Bella_Terra.aprx\ex_Aerial

Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

PSOMAS

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July 22, 2025 *Also sent via email to: nbanda@jbmian.com*

Juaneno Band of Mission Indians
Acjachemen Nation 84A
Nathan Banda, Chairman
31411-A La Matanza Street
San Juan Capistrano, CA, 92675

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Chairman,

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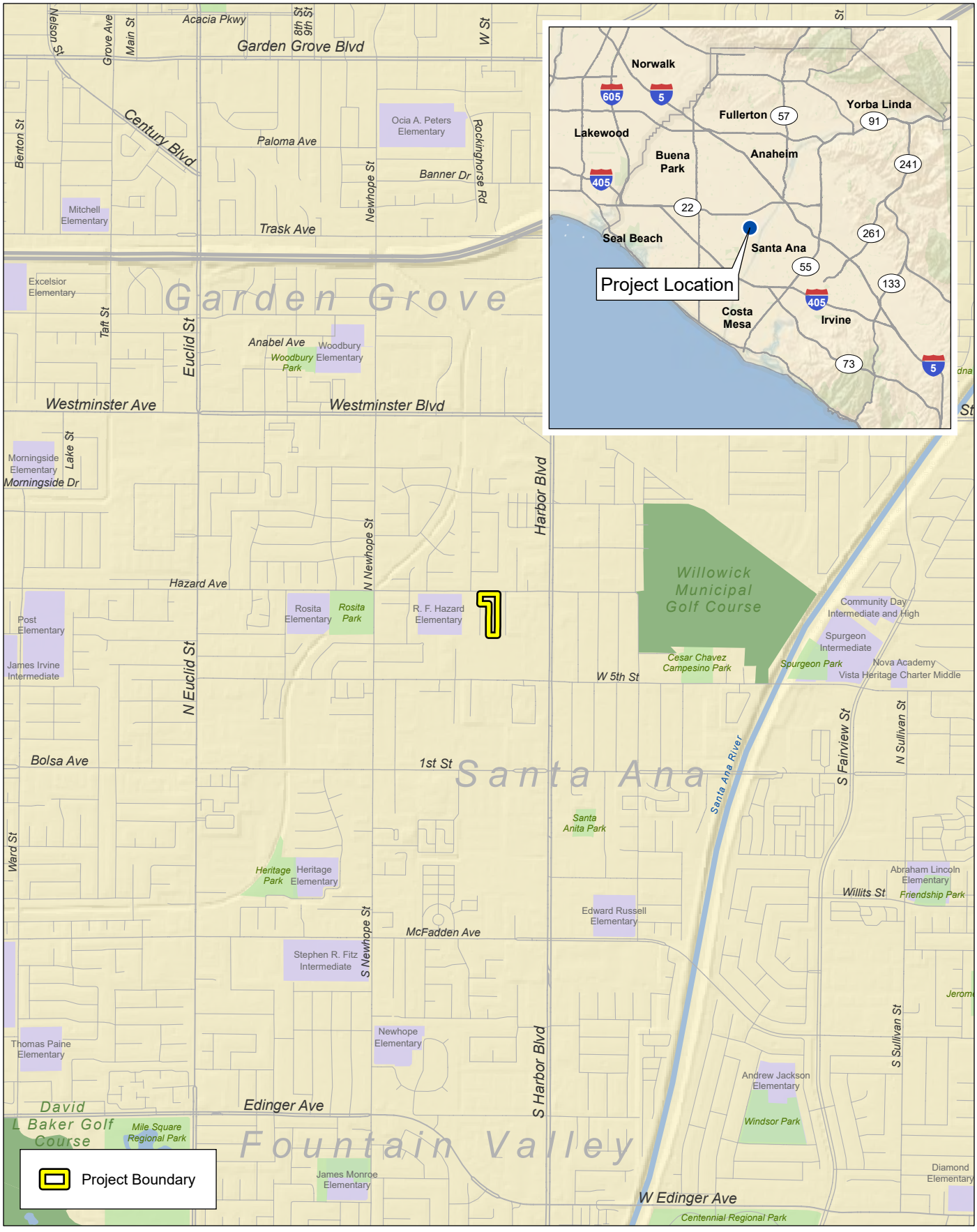
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
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Enclosure: Project Vicinity Map and Project Location Map

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Regional Location and Local Vicinity

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Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

PSOMAS

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July 22, 2025 *Also sent via email to: webmaster@jbmian.com*

Juaneno Band of Mission Indians
Acjachemen Nation 84A
Shannon Wingfield, Secretary
31411-A La Matanza Street
San Juan Capistrano, CA, 92675

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Ms. Wingfield,

Pursuant to California Public Resources Code § 21080.3.1 (Assembly Bill 52), the City of Santa Ana, as the lead agency under the California Environmental Quality Act (CEQA), is reaching out to offer your tribe the opportunity to consult on the proposed Bella Terra Residential Community and Temple Project ("Project") located at 4006, 4010, and 4018 West Hazard Avenue in the City of Santa Ana.

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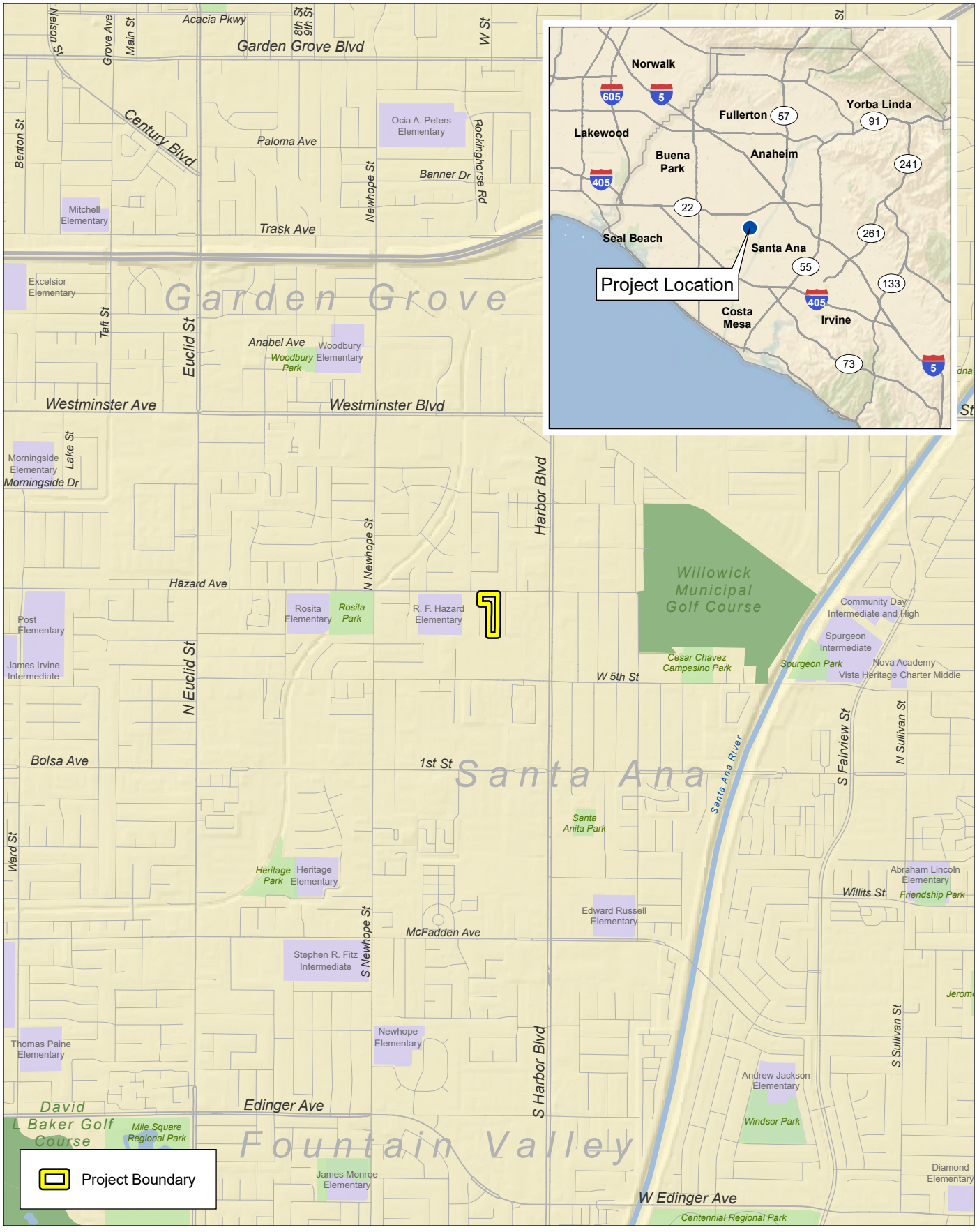
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
City of Santa Ana

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Nancy Tran, AICP, Senior Planner
City of Santa Ana



Regional Location and Local Vicinity

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Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

PSOMAS

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July 22, 2025 *Also sent via email to: awallick@palatribe.com*

Pala Band of Mission Indians
Alexis Wallick, Assistant THPO
PMB 50, 35008 Pala Temecula Road
Pala, CA, 92059

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Alexis Wallick,

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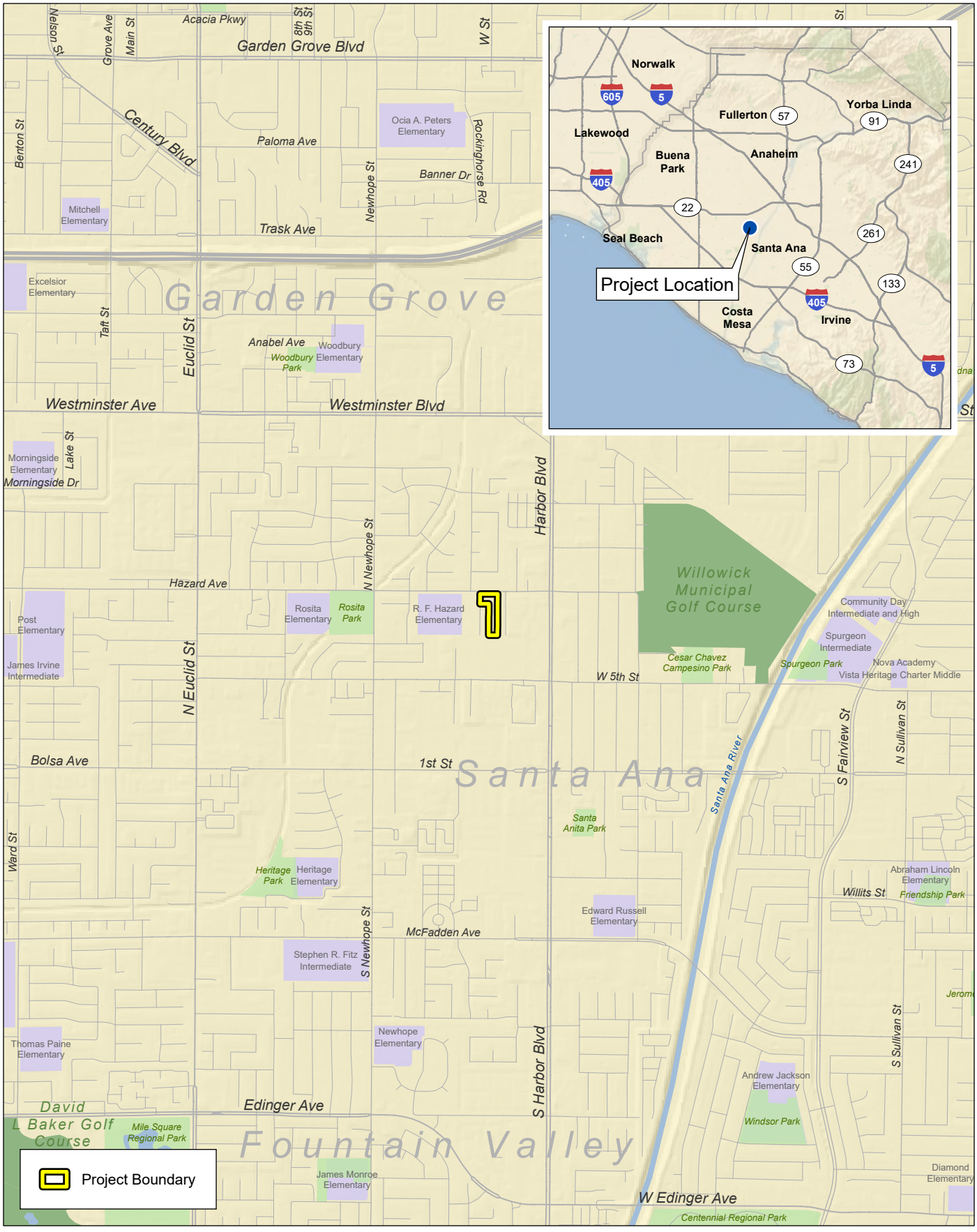
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City of Santa Ana

Enclosure: Project Vicinity Map and Project Location Map

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City of Santa Ana



Regional Location and Local Vicinity

Exhibit 1

Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

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July 22, 2025 *Also sent via email to: cnejo@palatribe.com*

Pala Band of Mission Indians
Christopher Nejo, Legal Analyst/Researcher
PMB 50, 35008 Pala Temecula Road
Pala, CA, 92059

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Christopher Nejo,

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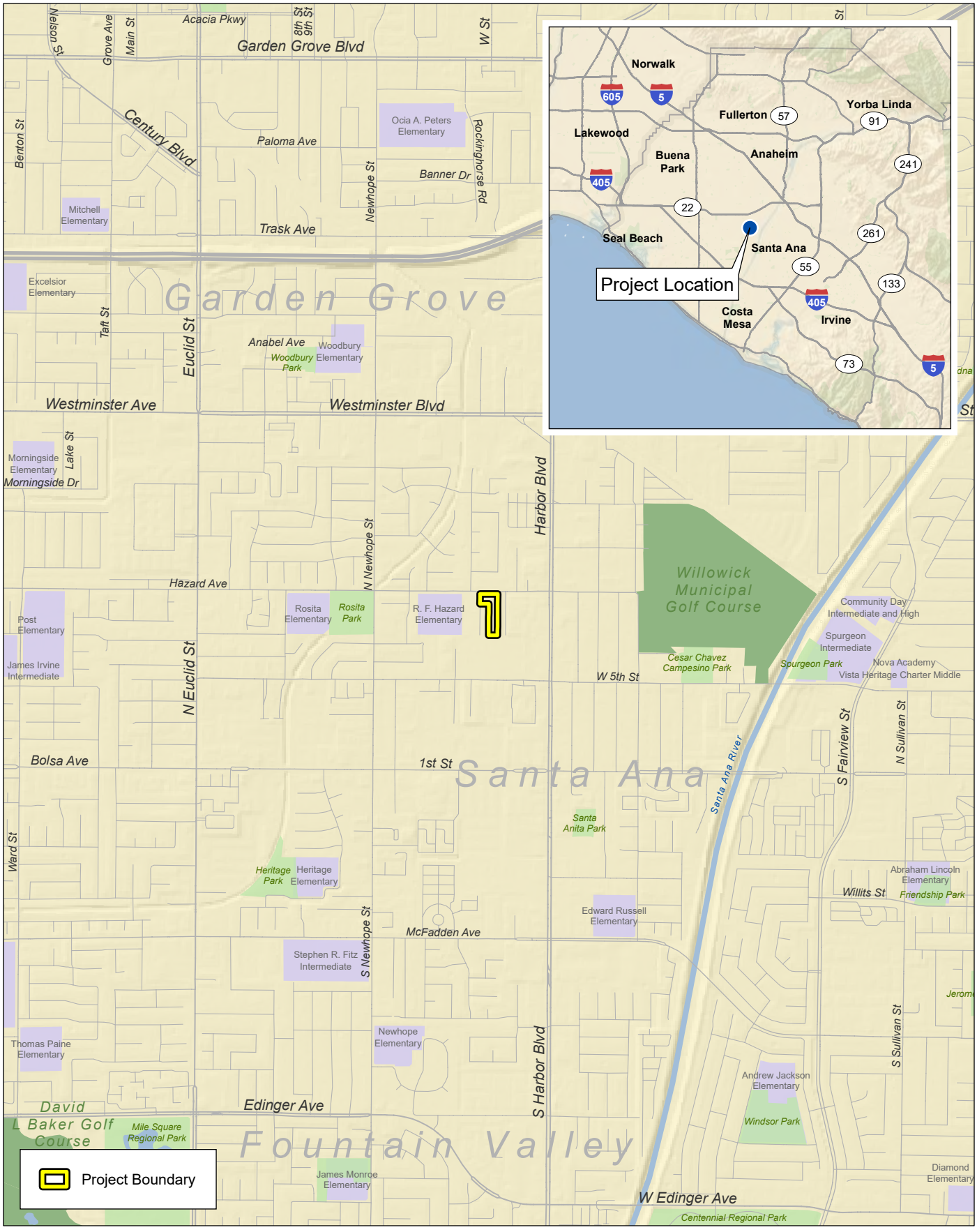
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July 22, 2025 *Also sent via email to: sgaughen@palatribe.com*

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Road
Pala, CA, 92059

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Tribal Historic Preservation Officer,

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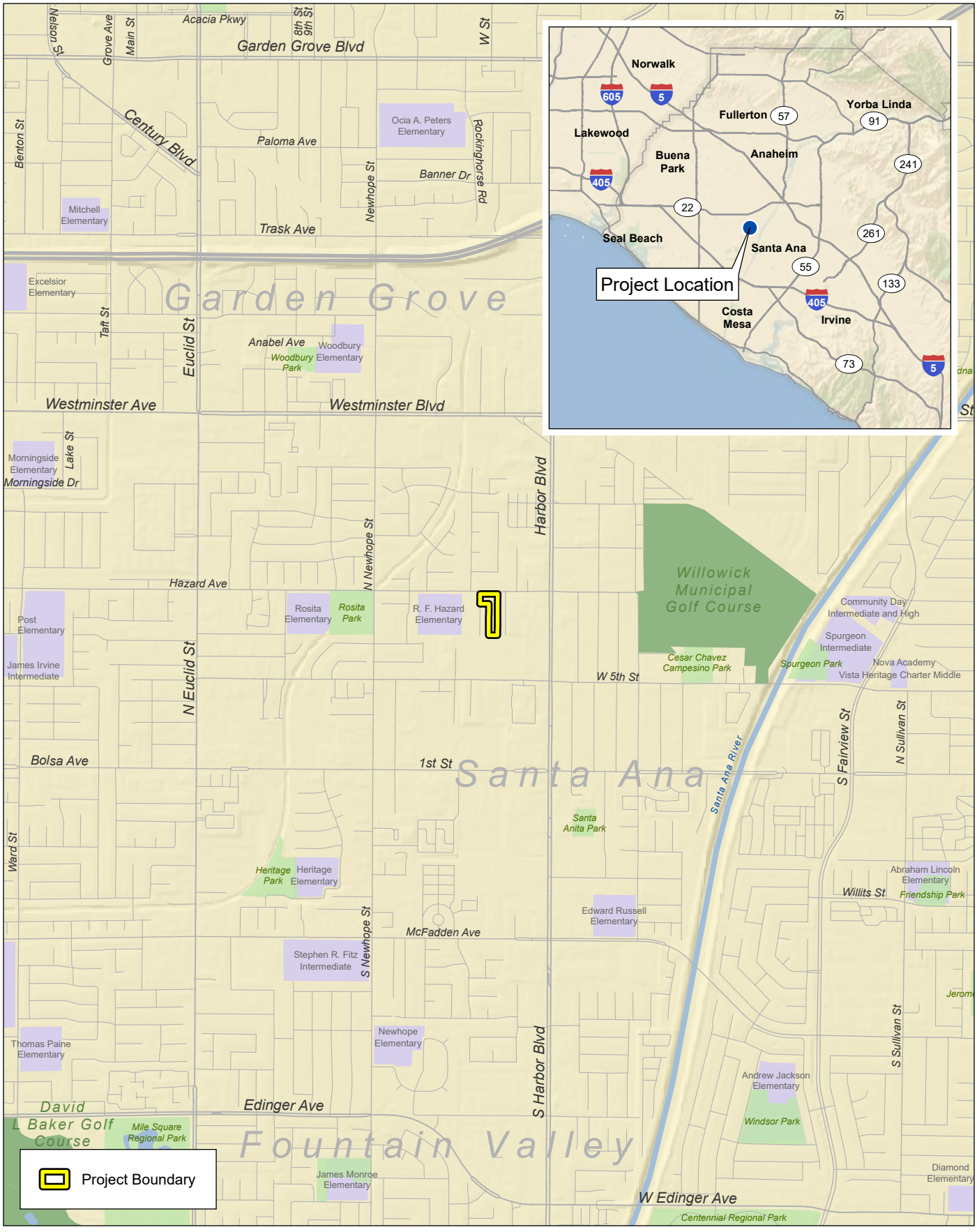
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Sonia R. Carvalho
CITY CLERK
Jennifer L. Hall

CITY OF SANTA ANA
PLANNING AND BUILDING AGENCY
20 Civic Center Plaza ● P.O. Box 1988
Santa Ana, California 92702
www.santa-ana.org

July 22, 2025 *Also sent via email to: sestrada@santarosa-nsn.gov*

Santa Rosa Band of Cahuilla Indians
Steven Estrada, Tribal Chairman
P.O. Box 391820
Anza, CA, 92539

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Tribal Chairman,

Pursuant to California Public Resources Code § 21080.3.1 (Assembly Bill 52), the City of Santa Ana, as the lead agency under the California Environmental Quality Act (CEQA), is reaching out to offer your tribe the opportunity to consult on the proposed Bella Terra Residential Community and Temple Project ("Project") located at 4006, 4010, and 4018 West Hazard Avenue in the City of Santa Ana.

The City is preparing an Initial Study/Mitigated Negative Declaration (IS/MND) to analyze potential environmental effects associated with the proposed Project, which involves:

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SANTA ANA CITY COUNCIL

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notifying your tribe to offer the opportunity to consult regarding potential tribal cultural resources that may be affected by the Project. This consultation is part of our commitment to ensuring that cultural heritage is appropriately considered in the planning process.

Please note that under AB 52, you have **30 days from the receipt of this letter** to request formal consultation in writing. We welcome your input and are committed to meaningful dialogue throughout this process.

Should you have any questions or require further information, please do not hesitate to contact Nancy Tran at (714) 667-2740 or via email at ntran5@santa-ana.org. Thank you for your assistance.

Sincerely,

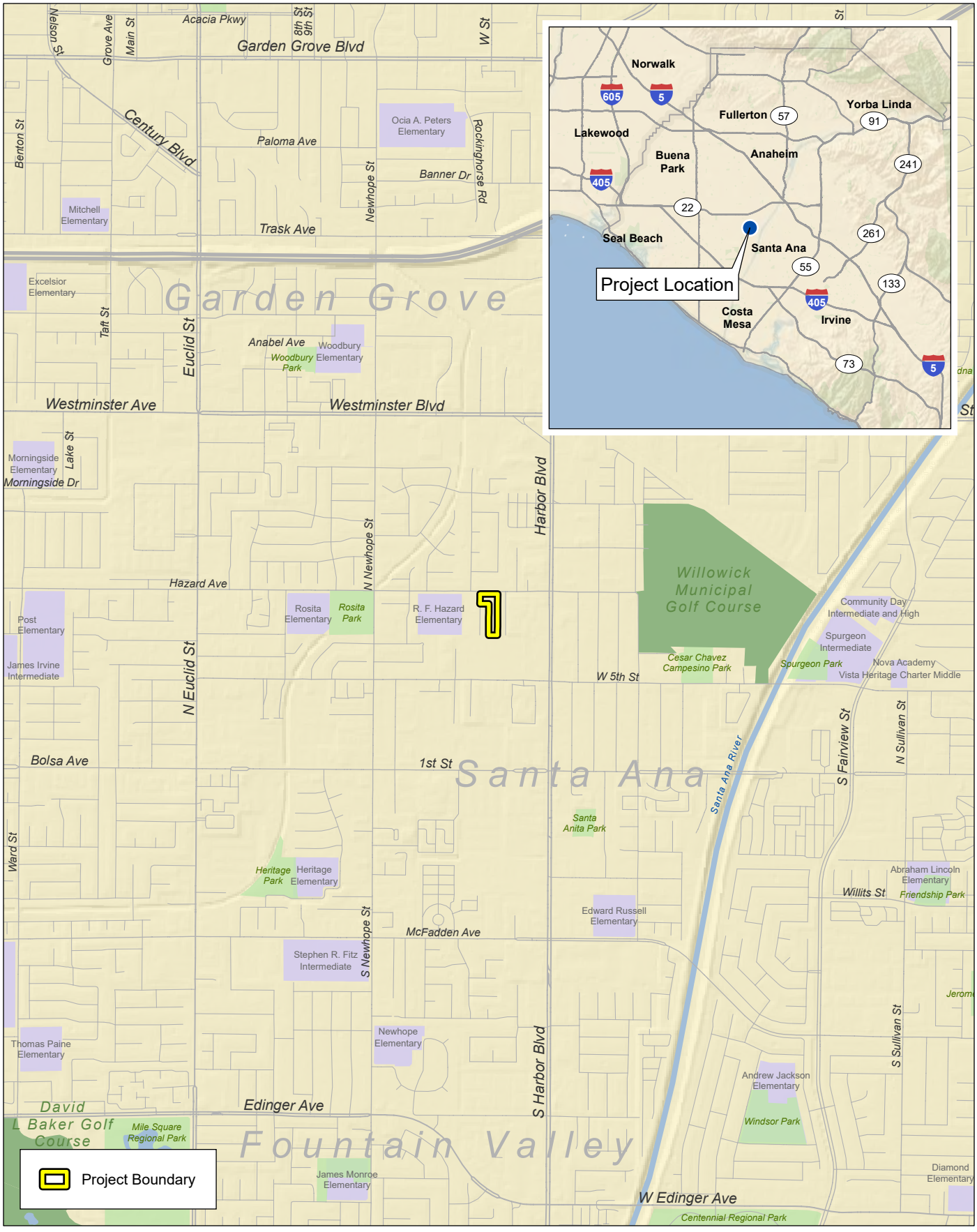
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
City of Santa Ana

Enclosure: Project Vicinity Map and Project Location Map

CC:

Nancy Tran, AICP, Senior Planner
City of Santa Ana



Regional Location and Local Vicinity

Exhibit 1

Bella Terra Residential Community and Temple Project

N W E S

0 1,000 2,000 Feet

PSOMAS

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D:\Projects\3SAN\Bella_Terra\PRO\Bella_Terra.aprx\ex_Aerial

Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

N W E S

0 75 150 Feet

PSOMAS

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July 22, 2025 *Also sent via email to: vminott@santarosa-nsn.gov*

Santa Rosa Band of Cahuilla Indians
Vanessa Minott, Tribal Administrator
P.O. Box 391820
Anza, CA, 92539

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Tribal Administrator,

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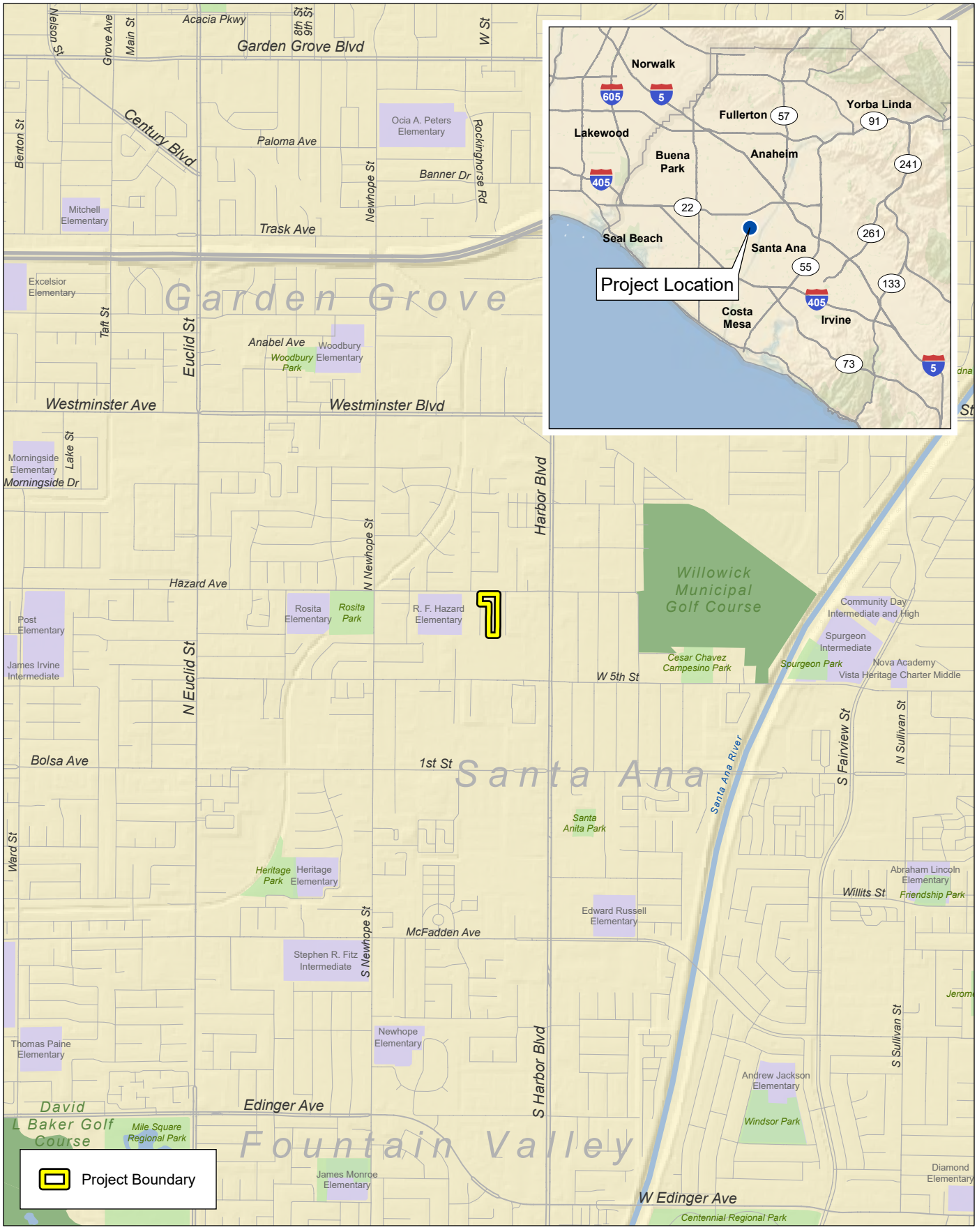
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
City of Santa Ana

Enclosure: Project Vicinity Map and Project Location Map

CC:

Nancy Tran, AICP, Senior Planner
City of Santa Ana



Regional Location and Local Vicinity

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Bella Terra Residential Community and Temple Project

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Aerial Photograph

Exhibit 2

Bella Terra Residential Community and Temple Project

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July 22, 2025 *Also sent via email to: jvaldez@soboba-nsn.gov*

Soboba Band of Luiseno Indians
Jessica Valdez, Cultural Resource Specialist
P.O. Box 487
San Jacinto, CA, 92581

RE: AB 52 Consultation, Cultural Resources Study for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Cultural Resource Specialist,

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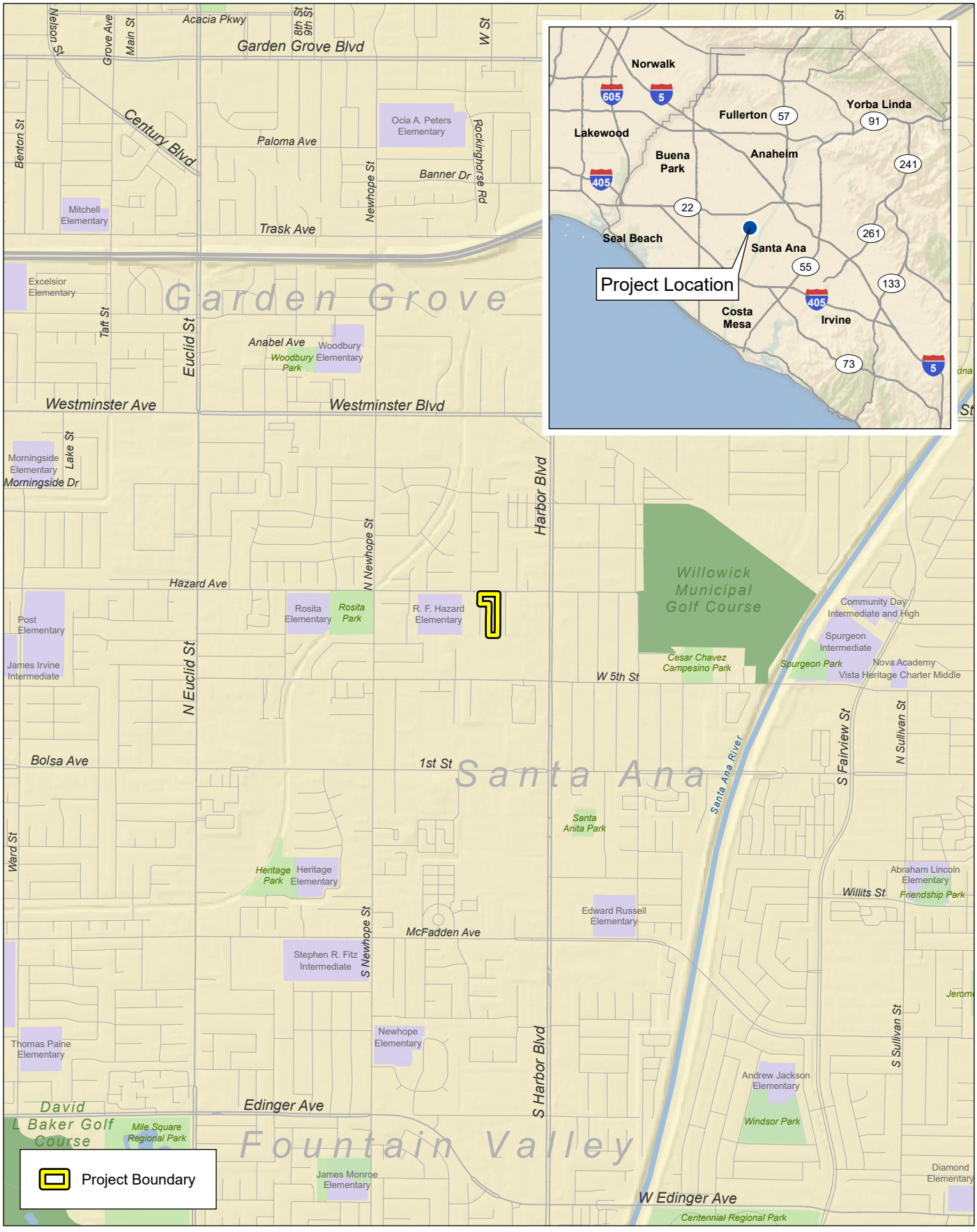
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City of Santa Ana



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Bella Terra Residential Community and Temple Project

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July 22, 2025 *Also sent via email to: jontiveros@soboba-nsn.gov*

Soboba Band of Luiseno Indians
Joseph Ontiveros, Tribal Historic Preservation Officer
P.O. Box 487
San Jacinto, CA, 92581

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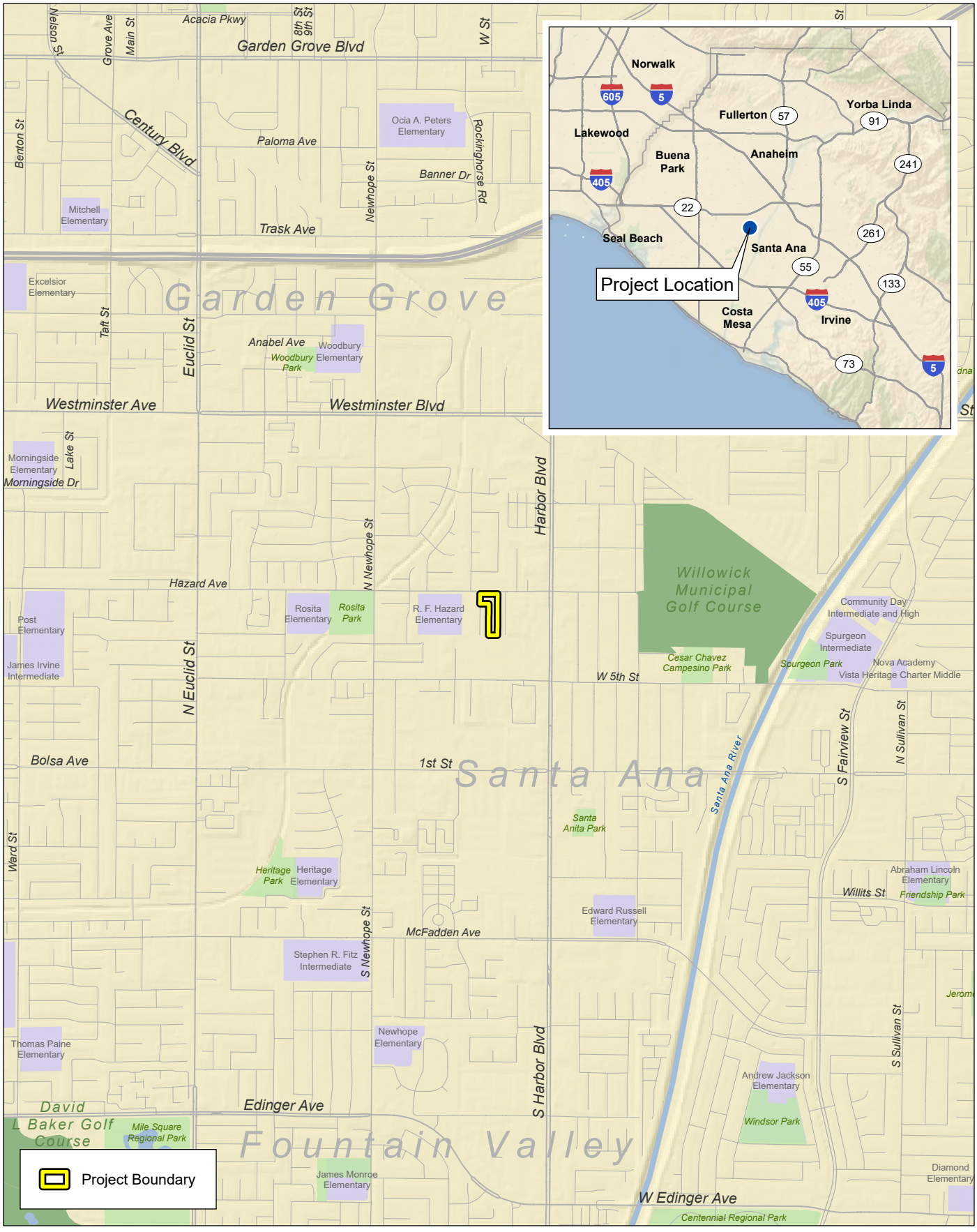
Pedro Gomez

Pedro Gomez, AICP, Principal Planner
City of Santa Ana

Enclosure: Project Vicinity Map and Project Location Map

CC:

Nancy Tran, AICP, Senior Planner
City of Santa Ana



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Bella Terra Residential Community and Temple Project

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Aerial Photograph

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GABRIELEÑO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians recognized by the State of California as the aboriginal tribe of the Los Angeles basin

July 22, 2025

Nancy Tran
Senior Principal Planner
City of Santa Ana

Subject: Formal Request for Government-to-Government Consultation – Bella Terra Residential Community and Temple Project, Santa Ana

Dear Nancy Tran,

On behalf of the Gabrieleno Band of Mission Indians Kizh Nation, I am formally requesting government-to-government consultation with the City of Santa Ana pursuant to Assembly Bill 52 (AB 52) and the California Environmental Quality Act (CEQA) regarding the proposed Bella Terra Residential Community and Temple Project. Our tribe has ancestral and cultural ties to this area, and we are concerned that the project may impact Tribal Cultural Resources (TCRs) within our traditional territory.

Under AB 52, lead agencies are required to engage in meaningful government-to-government consultation with our tribe who is ancestrally traditionally and culturally affiliated with the project area when the project undergoes CEQA review, in accordance with the law.

We request that formal consultation be initiated within the required timeframe, and we are prepared to meet at your earliest convenience. Please confirm receipt of this request and provide available dates for an initial consultation meeting.

For scheduling or further discussion, please contact me at gabrielenoindians@gmail.com or (844) 390 - 0787. We appreciate your commitment to ensuring compliance with AB 52 and protecting the cultural heritage of our tribal community.

Best regards,

Hereditary Chief Andrew Salas
Gabrieleño Band of Mission Indians–Kizh Nation

Andrew Salas, Chairman | Nadine Salas, Vice-Chairman | Dr. Christina Swindall Martinez, Secretary
Mike Jesus Lemos, Treasurer I | Samantha Lemos, Treasurer II | Richard Gradias, Chairman of the council of Elders
PO Box 393 Covina, CA 91723 www.gabrielenoindians.org
admin@gabrielenoindians.org

From: Joyce Perry
Sent: Wednesday, August 6, 2025 2:57 PM
To: Gomez, Pedro <PGomez@santa-ana.org>
Cc: Tran, Nancy <ntran5@santa-ana.org>
Subject: Re: AB 52 Consultation for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Attention: This email originated from outside of City of Santa Ana. Use caution when opening attachments or links.

Good Afternoon,

I am responding on behalf of the Juaneno Band of Mission Indians, Acjachemen Nation-Belardes to your letter pursuant to AB52 regarding the Bella Terra Residential Community and Temple Project. This project is located within our territory, and a sensitive area to our tribe. We wish to consult on this project as it moves forward.

Can you please provide any proposed mitigation measures?

Due to the sensitivity of the area, our preliminary recommendation is that mitigation measures including native monitoring by representatives of our Tribe, and an inadvertent discovery plan are put in place to minimize the potential impacts on buried cultural resources. Please see attached recommended mitigation language.

Thank you and we look forward to hearing from you.

Joyce Stanfield Perry

Húu'uni 'óomaqati yáamaqati- Teach peace



Payomkawichum Kaamalam - President

kaamalam.com

Juaneño Band of Mission Indians, Acjachemen Nation- Belardes

Cultural Resource Director

On Tue, Jul 22, 2025 at 3:50 PM Gomez, Pedro <PGomez@santa-ana.org> wrote:

> Hello,
>
> Please find attached a copy of the AB 52 Consultation letter for the City of Santa Ana, California. A hard copy will also be mailed to you directly.
>
> Should you have any questions or require further information, please do not hesitate to contact Nancy Tran at (714) 667-2740 or via email at ntran5@santa-ana.org.
>
> Best,
>
> **Pedro Gomez, AICP**
>
> Principal Planner| Planning Division
>
> City of Santa Ana | Planning and Building Agency
>
> 20 Civic Center Plaza | Santa Ana, CA 92702

(714) 667-2790 | pgomez@santa-ana.org

www.santa-ana.org/pb

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Download the App:





Click here to report an issue directly from the City website.

Please note that I will be out of the office from July 30, 2025 through September 2025

THPO
Pala Band of Mission Indians

TRIBAL HISTORIC PRESERVATION OFFICE
PALA BAND OF MISSION INDIANS
PMB 50, 35008 Pala Temecula Road | Pala, CA 92059
Phone 760-891-3510 | www.palatribe.com

July 23, 2025

Pedro Gomez, AICP
Principal Planner| Planning Division
City of Santa Ana | Planning and Building Agency
20 Civic Center Plaza | Santa Ana, CA 92702
(714) 667-2790 | pgomez@santa-ana.org

Re: AB 52 Consultation for the Bella Terra Residential Community and Temple Project, Santa Ana, California

Dear Pedro Gomez:

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. It is, however, within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA) or it is situated in close proximity to the Reservation and information generated would likely be useful in better understanding regional culture and history. However, we decline AB-52 consultation at this time, but do not waive our right to request consultation under other applicable laws in the future.

We appreciate involvement with your initiative and look forward to working with you on future efforts. Pala is now offering tribal monitoring services. If you have questions or need additional information, please do not hesitate to contact the THPO Office by e-mail at THPO@palatribe.com.

Sincerely,

Shasta C. Gaughen, PhD
Tribal Historic Preservation Officer
Pala Band of Mission Indians