A G E N D A

GARDEN GROVE PLANNING COMMISSION

February 16, 2023 - 7:00 PM

COMMUNITY MEETING CENTER
11300 STANFORD AVENUE

COVID-19 Information: Masks are not required, however, the public is encouraged to wear face masks in City facilities. Please do not attend this meeting if you have had direct contact with someone who has tested positive for COVID-19, or if you are experiencing symptoms such as coughing, sneezing, fever, difficulty breathing or have other flu-like symptoms.

Meeting Assistance: Any person requiring auxiliary aids and services, due to a disability, to address the Planning Commission, should contact the Department of Community & Economic Development at (714) 741-5312 or email planning@ggcity.org 72 hours prior to the meeting to arrange for special accommodations. (Government Code §5494.3.2).

Agenda Item Descriptions: Are intended to give a brief, general description of the item. The Planning Commission may take legislative action deemed appropriate with respect to the item and is not limited to the recommended action indicated in staff reports or the agenda.

Documents/Writings: Any revised or additional documents/writings related to an item on the agenda distributed to all or a majority of the Planning Commission within 72 hours of a meeting, are made available for public inspection at the same time (1) in the Planning Services Division Office at 11222 Acacia Parkway, Garden Grove, CA 92840, during normal business hours; and (1) at the Community Meeting Center at the time of the meeting.

Public Comments: Members of the public who attend the meeting in-person and would like to address the Planning Commission are requested to complete a yellow speaker card indicating their name and address, and identifying the subject matter they wish to address. This card should be given to the Recording Secretary before the meeting begins. General comments are made during "Oral Communications" and are limited to three (3) minutes and to matters the Planning Commission has jurisdiction over. Persons wishing to address the Planning Commission regarding a Public Hearing matter will be called to the podium at the time the matter is being considered. Members of the public who wish to comment on matters before the Commission, in lieu of doing so in person, may submit comments by emailing public-comment@ggcity.org no later than 3:00 p.m. the day of the meeting. The comments will be provided to the Commission as part of the meeting record.

PLEASE SILENCE YOUR CELL PHONES DURING THE MEETING.

REGULAR MEETING AGENDA

ROLL CALL: CHAIR RAMIREZ, VICE CHAIR LINDSAY
COMMISSIONERS ARESTEGUI, CUNNINGHAM, LEHMAN, PEREZ

PLEDGE OF ALLEGIANCE TO THE FLAG OF THE UNITED STATES OF AMERICA

A. ORAL COMMUNICATIONS - PUBLIC

B. APPROVAL OF MINUTES – December 15, 2022

C. PUBLIC HEARING(S) (Authorization for the Chair to execute Resolution shall be included in the motion.)

C.1. SITE PLAN NO. SP-122-2023
TENTATIVE PARCEL MAP NO. PM-2022-167

APPLICANT: STEVE HONG
LOCATION: SOUTHWEST CORNER OF WESTERN AVENUE AND LINCOLN WAY AT 7390 AND 7440 LINCOLN WAY

REQUEST: A request for Site Plan approval to construct a new 88,164 square foot shell industrial building following the demolition of a 76,500 square foot building at 7390 Lincoln Way and a 29,950 square foot building at 7440 Lincoln Way. Also, Tentative Parcel Map approval to consolidate 7390 Lincoln Way and 7440 Lincoln Way into a single parcel. The site is in the PUD-103-76 (REV. 2018) zone. The project is exempt from the CEQA pursuant to Government Code Section 15332 – In-Fill Development Projects – of the State CEQA Guidelines.

STAFF RECOMMENDATION: Approval of Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167, subject to the recommended conditions of approval.

C.2. SITE PLAN NO. SP-120-2023
VESTING PARCEL MAP NO. PM-2021-206

APPLICANT: DANNY WEI (INVESTEL)
LOCATION: WEST SIDE OF CHOISSER ROAD AND NORTH OF TWINTREE LANE AT 12233, 12235, 12237, AND 12239 CHOISSER ROAD

REQUEST: The applicant is requesting Planning Commission approval of (1) a Vesting Tentative Parcel Map to consolidate four existing parcels with a combined lot area of 28,793 square feet (0.66 acres) into a single lot to facilitate the development of a residential apartment complex and (2) a Site Plan for a six-story, 53 unit-residential apartment complex on the combined site. The proposed project includes six (6) affordable housing units, 5 units designated for "Very Low-Income" households, and one unit designated for "Low-Income" households. Inclusion of the 5 very low-income units qualifies the project for a density bonus, concessions, waivers, and reduced parking pursuant to the State Density Bonus Law, and the project has been designed to incorporate certain concessions and waivers of development standards pursuant to the State Density Bonus Law. The site is in the PUD-128-12 (Planned Unit Development) zone and International West Mixed Use Overlay Zone. In conjunction with this request, the City of Garden Grove Planning Commission

will also consider a determination that the proposed project is exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15332 – In-Fill Development Projects – of the State CEQA Guidelines.

STAFF RECOMMENDATION: Approval of Site Plan No. SP-120-2023 and Vesting Parcel Map No. PM-2021-206, subject to the recommended conditions of approval.

D. MATTERS FROM COMMISSIONERS

E. MATTERS FROM STAFF

F. ADJOURNMENT

GARDEN GROVE PLANNING COMMISSION
Community Meeting Center
11300 Stanford Avenue, Garden Grove, CA 92840

Meeting Minutes
Thursday, December 15, 2022

CALL TO ORDER: 7:08 p.m.

ROLL CALL:

Chair Ramirez
Vice Chair Lindsay
Commissioner Arestegui
Commissioner Cunningham
Commissioner Lehman
Commissioner Perez

Absent: Cunningham, Perez

PLEDGE OF ALLEGIANCE: Led by Chair Ramirez.

ORAL COMMUNICATIONS – PUBLIC – None.

November 17, 2022 and December 1, 2022 MINUTES:

Action: Received and filed.

Motion: Lehman Second: Lindsay

Ayes: (4) Arestegui, Lehman, Lindsay, Ramirez
Noes: (0) None
Absent: (2) Cunningham, Perez

CONTINUED PUBLIC HEARING – SITE PLAN NO. SP-119-2022 AND TENTATIVE TRACT MAP NO. TT-19129 FOR PROPERTY LOCATED ON THE SOUTH SIDE OF GARDEN GROVE BOULEVARD, BETWEEN NEWLAND STREET AND YOCKEY STREET, AT 8722 GARDEN GROVE BOULEVARD.

Applicant: NRI PORTFOLIOS, LLC
Date: December 15, 2022

Request: A request for Site Plan approval to demolish an existing auto dealership to construct a three-story townhome residential project consisting of twenty (20) units, which includes one (1) affordable housing unit for "very low-income" households, on a 36,945 square foot (0.85 acres) site. Pursuant to State Density Bonus law, the applicant is

requesting one (1) concession and one (1) waiver from the GGMU-2 (Garden Grove Boulevard Mixed Use 2) zone development standards: (1) a concession to allow the building to be constructed within the 45-degree encroachment plane required for mixed-use zoned properties abutting residentially zoned lots along the side yard setback; and (2), a waiver to deviate from the requirement of a boulevard garden plaza for properties in the GGMU zones for properties abutting the Garden Grove Boulevard right-of-way. Also, Tentative Tract Map approval to subdivide the subject property to facilitate the development of the project. The site is in the GGMU-2 (Garden Grove Boulevard Mixed Use 2) zone. The project is exempt from the CEQA pursuant to Government Code Section 15332 – In-Fill Development Projects – of the State CEQA Guidelines.

Action: Resolution No. 6053-22 was approved with an amendment to the Conditions of Approval. Two new conditions were added:

101. Consistent with Sight Distance Standards in accordance with City's Traffic Engineering Policy TE-13, 10'-0" of wrought iron fencing shall be provided at each side of the vehicular gate to provide clear and unobstructed visibility of the alley. The wrought iron fencing shall not be improved with any clinging vines or materials that limit visibility to the alley from motorists.

102. A speed hump shall be installed between the ground sensor and vehicular gate. The speed hump shall not encroach into any portions of the public alley.

One letter of support was submitted by the California Renters Legal Advocacy and Education Fund, and one letter of opposition, was submitted by Jesus and Monique Jaime (Walden Apartment Managers). Other than the applicant's representative, two people expressed concerns for safety in regard to the alley.

Motion: Lehman Second: Arestegui

Ayes: (4) Arestegui, Lehman, Lindsay, Ramirez
Noes: (0) None
Absent: (2) Cunningham, Perez

MATTERS FROM COMMISSIONERS: Commissioners wish everyone Happy Holidays and thanked Staff.

MATTERS FROM STAFF: Staff introduced new Urban Planner, Nick Lagura, then mentioned the period to apply for the Commission is now open through January 12th. Staff then stated that the January 5, 2023 meeting would be cancelled and two items were lined up for February.

ADJOURNMENT: At 7:35 p.m. to the next Meeting of the Garden Grove Planning Commission on Thursday, January 19, 2023, at 7:00 p.m. in the Community Meeting Center, 11300 Stanford Avenue, Garden Grove.

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Judith Moore, Recording Secretary

COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT STAFF REPORT

AGENDA ITEM NO.: C.1.	**SITE LOCATION:** Southwest corner of Western Avenue and Lincoln Way, at 7390 Lincoln Way and 7440 Lincoln Way
HEARING DATE: February 16, 2023	**GENERAL PLAN:** Industrial (I)
CASE NOS.: Site Plan No. SP-122-2023, Tentative Parcel Map No. PM-2022-167	**ZONE:** Planned Unit Development No. PUD-103-76, Revised 2018 (PUD-103-76 (REV. 2018))
PROPERTY OWNER: Scannell Properties #680, LLC	**CEQA DETERMINATION:** Exempt: Section 15332 – In-Fill Development Projects
APPLICANT: Steve Hong	**APN NOS.:** 131-021-36 & 131-021-37

REQUEST:

The applicant is requesting approval of a Tentative Parcel Map to consolidate 7390 Lincoln Way and 7440 Lincoln Way into a single parcel, and Site Plan approval to construct a new 88,164 square-foot shell industrial building on the consolidated lot, following the demolition of a 76,500 square-foot building at 7390 Lincoln Way, and a 29,950 square-foot building at 7440 Lincoln Way.

BACKGROUND:

The subject site is comprised of two (2) adjacent parcels, located at 7390 Lincoln Way, and 7440 Lincoln Way, totaling 4.051 acres. The western property at 7390 Lincoln Way (Assessor's Parcel No. 131-021-36), is currently improved with a 76,500 square-foot office building, originally constructed in 1985. The eastern property at 7440 Lincoln Way (Assessor's Parcel No. 131-021-37), is currently improved with a 29,950 square-foot office building, also constructed in 1985. Both properties have a General Plan Land Use designation of Industrial (I), and are in Sub-District 4 of Planned Unit Development No. PUD-103-76 (REV. 2018). The subject site abuts industrial and office use properties in PUD-103-76 (REV. 2018) to the south, west, and north across Lincoln Way. Across Western Avenue, to the east of the subject properties are industrial uses in the City of Stanton.

In 1976, the City approved Planned Unit Development No. PUD-103-76, rezoning 212 acres of agricultural and industrial properties for the development of an office/industrial complex, commonly referred to as the Irvine Industrial Complex. In 1981, Parcel Map No. PM-81-508 was approved for the creation of a 27.655 acre site from a larger, former ranch property. In 1982, Parcel Map No. PM-82-511 subdivided the resulting property from PM-81-508 further, creating the Lincoln Way cul-de-sac, and six (6) parcels along either side of the new street. Parcel Map No. PM-85-168 was approved in 1985, revising PM-82-511, and creating the subject properties in their current configuration. The existing office buildings on the subject properties were approved administratively, and constructed in 1985. In 2018, the City adopted

Ordinance No. 2898, revising the permitted uses in Sub-District 4 of PUD-103-76 to allow for general office uses. The 2018 ordinance revised the official zoning designation to the current zoning of PUD-103-76 (REV. 2018).

Both properties have a history of being occupied by light manufacturing, office, and laboratory uses. According to business license records, the building at 7390 Lincoln Way was most recently occupied by a medical laboratory. The building at 7440 Lincoln Way was most recently occupied by a real estate appraisal company office.

Now, the applicant is requesting to demolish both existing buildings at 7390 Lincoln Way and 7440 Lincoln Way. The requested Tentative Parcel Map will consolidate the two (2) properties into a single parcel. A new 88,164 gross square-foot shell industrial building will be constructed on the new parcel. A reciprocal access agreement will be recorded along the western property line to maintain circulation access for the subject property, and the adjoining property to the west (7330 Lincoln Way).

PROJECT STATISTICS:

	Proposed	PUD-103-76 (REV. 2018)
Minimum Lot Size	176,444 sq. ft. (4.051 acres)	27,500 sq. ft. (0.63 acres)
Setbacks Front (East) Rear (West) Street-Side (North) Interior Side (South)	 69’-7” 106’-8” 20’-6” 51-2”	 17-0” 0’-0” 20’-0” 0’-0”
Parking	90 spaces	43 spaces
Building Height	38’-0” to roof 48’-6” to parapet	60’-0”
Building Area	88,164 sq. ft.	N/A
Floor Area Ratio	0.50	*1.0 Maximum
Lot Coverage	48%	50% Maximum
Landscaping Area	15,715 sq. ft. (8.9%)	N/A

*Maximum FAR requirement is derived from the Industrial (I) land use of the General Plan.

DISCUSSION:

SITE PLAN:

Site Design and Circulation

The project will consist of constructing an 88,164 gross square-foot industrial building on a 4.051-acre property. The proposed building complies with all development standards of Planned Unit Development No. PUD-103-76 (REV. 2018), including, but not limited to, setbacks, lot coverage, building height, and parking requirements. The industrial building will be located approximately in the center of the site, with parking and landscaping surrounding, and fronting toward Western Avenue. The

entirety of the street frontages along both Lincoln Way and Western Avenue, save for driveway and pedestrian access points, will be landscaped.

The building features a main entrance, fronting toward the intersection of Lincoln Way and Western Avenue. At the main entrance will be a 3,500 square-foot office area. Directly above that area is another 3,500 square-foot mezzanine office area. The remaining 81,164 square feet of the building will consist of open floor area, intended for a warehouse/distribution type use. No tenant has been identified to date. All interior improvements, including any subdivision of the building, will be completed by the tenant(s) at a later date.

	1st Floor	**Mezzanine**
Office	3,500 sq. ft.	3,500 sq. ft.
Industrial Floor	81,164 sq. ft.	

Vehicle traffic can access the site via two (2) new driveways on Western Avenue, or via one (1) new driveway on Lincoln Way. A two-way drive aisle provides the vehicular circulation on-site, wrapping around the east, south, and west sides of the building, connecting the three (3) driveways, the truck docking area, and the parking area on the adjacent property to the west (7330 Lincoln Way). A reciprocal access agreement, will be recorded to preserve the vehicular access between the subject parcel, and to the 7330 Lincoln Way property to the west. Standard vehicular parking spaces are provided along the west, south, and east sides of the proposed building. The City's Engineering Division has reviewed the on- and off-site vehicle circulation, and has not raised any concerns with the project design.

A single row of nine (9) truck bays will flank the western side of the building. The docking bays connect directly into the open floor area, toward the center of the building. Outside, a truck turn-around and parking area is provided adjacent to the loading bays. Access to the trucking area will be provided via the primary drive aisle, connecting the Lincoln Way and Western Avenue driveways.

The design of the building will also provide new pedestrian access from Lincoln Way. Pedestrian access from Lincoln Way will pass through a landscaped area before reaching the main entrance of the building. A small plaza area is provided at the main entrance. This pedestrian access also connects to the accessible parking spaces in the parking lot.

Parking and Traffic

Parking requirements from PUD-103-76 (REV. 2018) for "Warehouse and Distribution Industry" stipulate one (1) parking space is required per 1,000 square feet of gross floor area for the first 20,000 square feet. The second 20,000 square feet is parked at a ratio of one (1) parking space per 2,000 square feet. Any area exceeding 40,000 square feet is parked at a rate of one (1) space per 4,000 square feet. According to the Municipal Code, incidental offices associated with the industrial use that do not exceed 30% of the gross floor area do not require additional parking.

The proposed building is approximately 88,164 gross square feet in size. Of that floor area, the office space totals approximately 7,000 square feet, or approximately 7.9% of the gross floor area. This does not exceed 30% of the gross floor area, and therefore does not require additional parking. In total, forty-three (43) parking spaces are required for the use. The first 20,000 square feet requires twenty (20) spaces, the next 20,000 square feet requires ten (10) spaces, and the remaining 48,164 square feet requires thirteen (13) spaces. The subject site provides 90 striped parking spaces, a surplus of forty-seven (47) spaces.

Landscaping

The subject PUD zone does not specify a minimum landscape area. The proposed site design, however, will provide a total of approximately 15,715 square feet of landscaping on-site (8.9% of the overall site). The landscaping is provided in a variety of areas across the site, including adjacent to the parking areas so as to limit their visual impacts. The on-site landscaping design will consist of a mixture of trees, shrubs, and groundcover.

PUD-103-76 (REV. 2018) does require, however, a minimum eighteen-foot (18'-0") landscape planter, excluding any necessary vehicular or pedestrian access points, along all street frontages, as measured from the face of curb. Along Lincoln Way, an approximately twenty-five foot (24'-10") planter is provided. An approximately twenty-six-foot (26'-6") landscape planter is provided along Western Avenue. Additionally, one (1) tree must be provided for every thirty feet (30'-0") of interior property boundary. The project provides a tree for every thirty feet (30'-0") along the southern, interior property boundary. In the parking lot, a minimum of one (1) tree is required for every five (5) parking spaces. With ninety (90) spaces provided, eighteen (18) trees are required. The project includes a total of seventy-two (72) trees. The proposed project complies with both tree planting requirements.

The applicant is required to submit a landscape and irrigation plan to the City that complies with the landscaping requirements of Title 9 of the Municipal Code, including the Landscape Water Efficiency Guidelines. All landscaping shall be watered by means of an automatic irrigation system meeting the City's Landscape Water Efficiency Guideline requirements. A separate landscape application will be submitted, and a building permit will be obtained for the proposed landscaping.

Building Architecture

Characterized by a rectangular footprint, flat roof, and large, vertical metal siding accentuating the corners of the building, the building takes on a contemporary design. The main entrance at the northeast corner of the building, and the southeast corner of the building feature vertical windows and storefronts glazed in shades of blue. Additional clerestory windows will be provided above the east and north sides of the building, helping illuminate the interior of the building, and helping to add contrast against the concrete walls. Painted concrete panels help articulate the sides of the building

At the highest point, the roof stands approximately thirty-eight feet (38'-0") tall. The building parapet extends to a maximum height of forty-eight-and-a-half feet (48'-6") at the highest point. Both the roof and the parapet are well within the maximum allowable building height of sixty feet (60'-0") for the subject PUD zone.

The building will be constructed in a tilt-up concrete style. Various scores in the concrete walls, metal siding, and various paint colors add visual intrigue. The neutral color scheme consists of shades of white, grey, and blue, which contributes to the building's contemporary design. Window and door trim are all constructed of metal, trimmed black and white to add contrast.

TENTATIVE PARCEL MAP:

Currently, the subject properties at 7390 Lincoln Way and 7440 Lincoln Way are adjoined, yet two distinct parcels. The properties provide reciprocal access between the parking areas for vehicular circulation. To accommodate the proposed building, the two properties will be consolidated via a Tentative Parcel Map. Reciprocal access will be maintained between the resulting property, and the existing property to the west, at 7330 Lincoln Way.

As a result of the parcel map, the consolidated property will ultimately total 4.051 acres. The new property meets the minimum 27,500 square-foot lot size required in PUD-103-76 (REV. 2018). After the Tentative Parcel Map, the new parcel will comply with the development standards pertaining to the PUD zone, General Plan, the City's Subdivision Ordinance, and the State's Subdivision Map Act.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA):

CEQA's Class 32 exemption applies to in-fill development projects (CEQA Guidelines §15332.). A project can qualify for a Class 32 exemption if the proposed project: (1) is consistent with applicable General Plan designation and all general plan policies, as well as with applicable zoning designation and regulations; (2) the proposed development occurs within City limits on a project site of no more than five (5) acres substantially surrounded by urban uses; (3) the project site has no value as habitat for endangered, rare, or threatened species; (4) the approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality; and (5) the site can be adequately served by all required utilities and public services (CEQA Guidelines §15332.).

The project is consistent with General Plan, and Planned Unit Development policies and regulations. The subject site is located fully within an urbanized area in the City, on a 4.051-acre site. The subject site was surveyed, and does not have any known habitat for endangered, threatened, or rare species of wildlife. Traffic, noise, air quality, and water quality studies have been prepared by licensed firms to study the impact of the proposed development, and no significant impacts have been identified. The traffic, noise, air quality, and water quality studies are appended to the Staff Report. Lastly, the Public Works Department has reviewed the proposed

development, and found that it can be adequately served by all required utilities and public services.

Consequently, it can be determined that the project can be exempted from further CEQA action under the Class 32 exemption.

RECOMMENDATION:

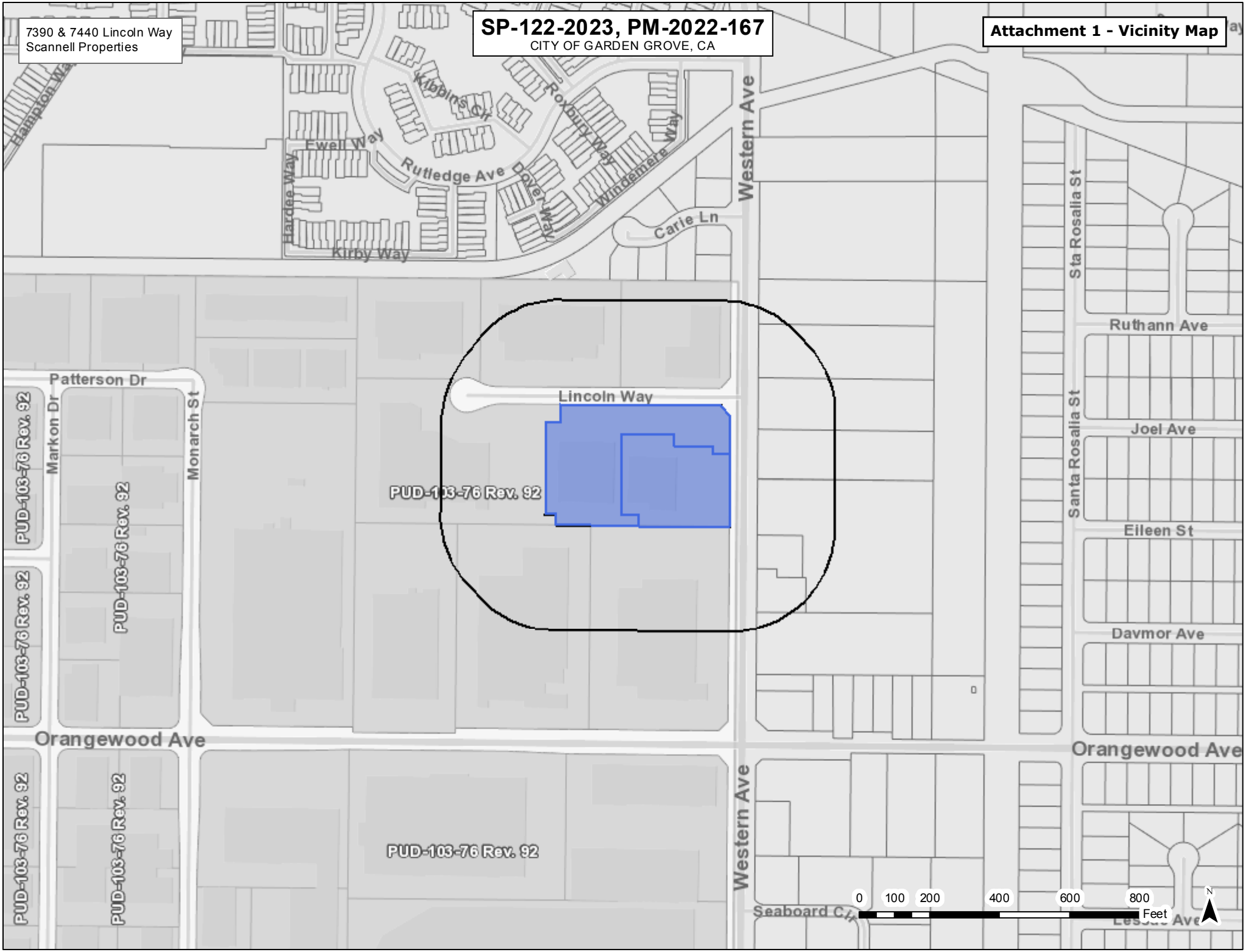
Staff recommends that the Planning Commission take the following action:

- Adopt Resolution No. 6057-23 approving Site Plan No. SP-122-2023, and Tentative Parcel Map No. PM-2022-167, subject to the recommended Conditions of Approval.

Maria Parra
Planning Services Manager

By: Priit Kaskla, AICP
Assistant Planner

Attachment 1: Vicinity Map
Attachment 2: Plans
Attachment 3: Tentative Parcel Map
Attachment 4: Traffic Study
Attachment 5: Hydrology Study
Attachment 6: Air Quality Study
Attachment 7: Noise Study


7390 & 7440 Lincoln Way
Scannell Properties
SP-122-2023, PM-2022-167
CITY OF GARDEN GROVE, CA
Attachment 1 - Vicinity Map
Kibbins Cir
Roxbury Way
Windemere Way
Ewell Way
Rutledge Ave
Dove Way
Hardee Way
Kirby Way
Carie Ln
Western Ave
Sta Rosalia St
Ruthann Ave
Santa Rosalia St
Joel Ave
Eileen St
Davmor Ave
Patterson Dr
Markon Dr
Monarch St
Lincoln Way
PUD-103-76 Rev. 92
Orangewood Ave
Seaboard Cir
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800
Feet
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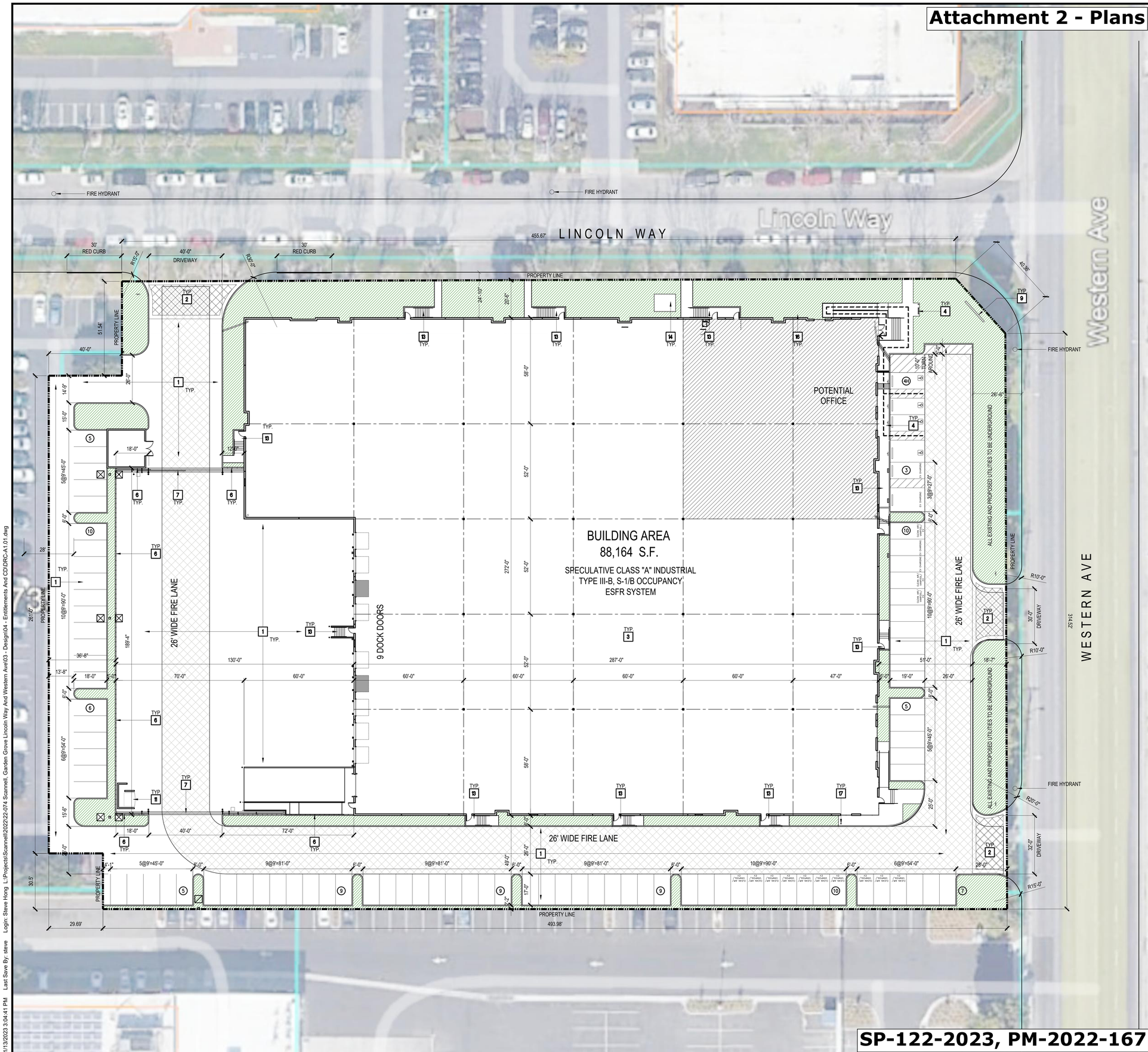

Attachment 2 - Plans

SP-122-2023, PM-2022-167

OVERALL SITE PLAN

TRUE NORTH

SCALE
1" = 20'-0"

1

APPLICANT/OWNER

JAY TANJUAN
24411 RIDGE ROUTE DRIVE SUITE 120 LAGUNA HILLS CA 92653
619-931-9144
JAY.TANJUAN@SCANNELLPROPERTIES.COM

PROJECT ADDRESS / APN

7390 LINCOLN WAY
GARDEN GROVE CA 92841

VICINITY MAP

PROJECT DESCRIPTION

NEW CONSTRUCTION FOR (1) SPECULATIVE 88,164 SF TYPE III-B, S-1/B OCCUPANCY WAREHOUSE WITH ESFR FIRE SPRINKLER SYSTEM. PROPOSED SITE IMPROVEMENTS CONSIST OF CONCRETE TILT SCREEN WALL, TRASH ENCLOSURE, PUMP HOUSE, SITE LIGHTING STANDARDS, WROUGHT IRON FENCE AND HARDSCAPE/LANDSCAPE IMPROVEMENTS PER CITY STANDARDS.

PROJECT DATA

Scannell, GARDEN GROVE

SITE AREA			176,444	SF
			4.051	Acres
BUILDING AREA				
1ST FLOOR	WAREHOUSE		81,164	SF
	OFFICE		3,500	SF
1ST TOTAL			84,664	SF
2ND FLOOR	OFFICE		3,500	SF
TOTAL			**88,164**	SF
PROJECT FACT				
	COVERAGE			0.48
	FAR			0.50
	CLEAR HEIGHT			36'
ZONING				
ZONE ORDINANCE				PUD-103-76
MAX BUILDING HEIGHT				60'
SET BACK				
	FRONT	17'		
	SIDE	0'		
	REAR	0'		
PARKING REQ				
	AUTO PARKING			
	SIZE			9'X19'
	WAREHOUSE	1ST 20K @1/1000 SF		20
	WAREHOUSE	2ND 20K @1/2000 SF		10
	WAREHOUSE	ABV. 40K @ 1/4000 SF		13
	TOTAL			43
	Office included with 10% of GFA			
PROJECT PROVIDED				
PARKING PROVIDED				
	AUTO PARKING			
	STANDARD	9'X19' OR 17'+2' OH		96

GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINES UNLESS NOTED OTHERWISE,
2. ENTIRE PROJECT SHALL BE PERMANENTLY MAINTAINED WITH A SMART AUTOMATIC IRRIGATION SYSTEM.
3. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING SITE DRAINAGE, TOPOGRAPHY AND UTILITIES.
4. FOR PAVING SECTIONS, CONCRETE CURBS, SWALES AND GUTTERS SEE CIVIL DRAWINGS.
5. PROPERTY LINE ARE REFERENCE ONLY. REFER TO CIVIL DRAWINGS FOR HORIZONTAL CONTROL.
6. LANDSCAPE AREAS SHALL BE DELINEATED WITH A MIN. 6" CONCRETE CURB.

KEYNOTES

1	SITE PAVING WITH HEAVY BROOM FINISH. SEE CIVIL FOR PAVEMENT THICKNESS
2	DECORATIVE PAVEMENT AT ENTRY - W/ SAW CUT PATTERN AND DRIVE CUT PER CITY OF GARDEN GROVE STANDARD
3	PRIMARY BUILDING
4	PEDESTRIAN CONCRETE WALKWAY WITH MEDIUM BROOM FINISH
5	NOT USED.
6	WROUGHT IRON FENCE 7'H FT
7	7'H BLACK PAINTED VEHICULAR ROLLING GATE WITH KNOX PAD LOCK. MANUALLY OPERATED. PROVIDE CONDUITS FOR FUTURE OPERATOR
8	5'-6" X 6' X 4" THICK CONCRETE LANDING PAD AT ALL EXTERIOR MANDOORS WITH MEDIUM BROOM FINISH.
9	FUTURE MONUMENT SIGN WITH ELEC. CONDUITS
10	NOT USED.
11	TRASH ENCLOSURE PER GG-STD-B-502
12	NOT USED.
13	EXTERIOR CONCRETE STAIR
14	APPROXIMATE LOCATION OF ELEC. TRANSFORMER WITH BOLLARD PROTECTION AND LANDSCAPE SCREENING
15	NOT USED.
16	SHORT TERM - BICYCLE RACK 8% OF PARKING STALL
17	DESIGNATED SMOKING AREA - 25' AWAY FROM ANY ENTRY

LEGEND

▭	STANDARD PARKING STALL 9' X 19' OR WITH 17' WITH 2' OVERHANG
CLEAN AIR/ VANPOOL/EV	CLEAN AIR, VANPOOL / EV 9' X19'
♿ ▨	ADA PARKING VAN 12' X 19' OR STANDARD 9' X 19' WITH 5' CLR AISLE
▬ ▬ ▬	PROPERTY LINE
■■■■■	ACCESSIBLE PATH OF TRAVEL. MAX 5% SLOPE AND MAX 2% CROSS SLOPE WITH 48" MIN. CLEAR, UNLESS NOTED OTHERWISE WITH ADA ACCESSIBLE RAMP
▨	LANDSCAPE, SEE LANDSCAPE DRAWINGS

SKH
ARCHITECT

4590 MACARTHUR BLVD. SUITE 500
IRVINE CALIFORNIA 92660
PROJECT MANAGER: STEVE HONG
714 - 822 - 1171, STEVE@SKHARCHITECT.COM

LICENSED ARCHITECT
STEVE K. HONG
NO. C-33677
REN. 12-31-23
STATE OF CALIFORNIA

CONSULTANTS

STRUCTURAL ENGINEER
HSA & ASSOCIATES, INC.
1906 W. GARVEY AVE S. SUITE 200
WEST COVINA CA, 91790
MAIN: (626) 521-9931 EXT. 48
DIRECT: (626) 521-9920
EMAIL: RGERGES@HSAASSOCIATES.COM
ATTN: RAFIK GERGES

MECHANICAL, PLUMBING, ELECTRICAL ENGINEERING
RPM ENGINEERS INC.
102 DISCOVERY, IRVINE CA 92618
949-450-1229
EMAIL: JOHNNYL@RPMPE.COM
ATTN: JOHNNY LAI

CIVIL ENGINEER
THIENES ENGINEERING
14349 FIRESTONE BLVD
LA MIRADA CA 90639
714-521-4811
SAKARIN@THIENESENG.COM
ATTN: SAKARIN SRIVONGE

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7390 LINCOLN WAY

7390 LINCOLN WAY
GARDEN GROVE CA 92841

SCANNELL
PROPERTIES

24411 RIDGE ROUTE DRIVE SUITE
120 LAGUNA HILLS CA 92653

No.	ISSUANCE	DATE

JOB No.
22-074

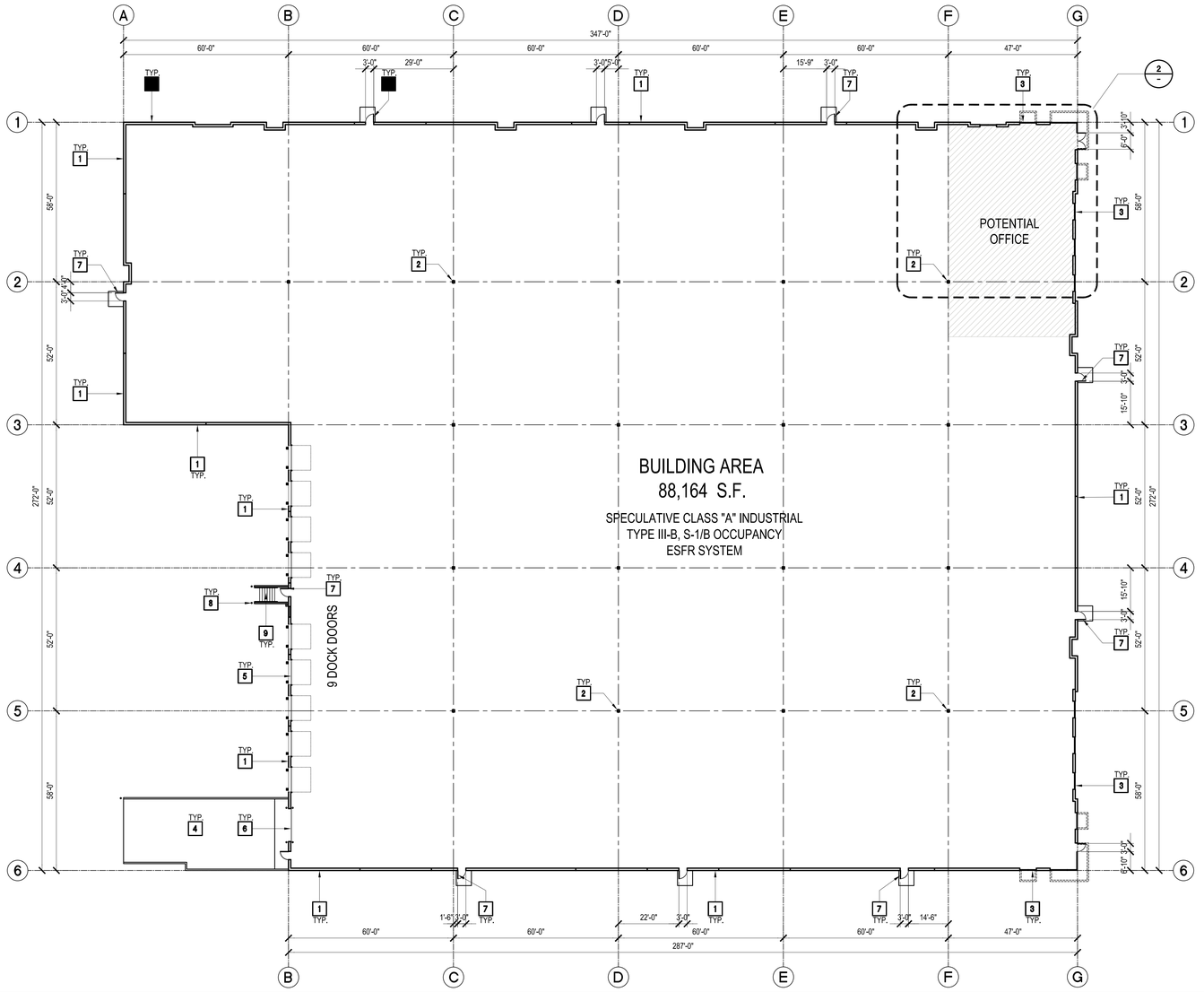
DRAWN
STEVE HONG

CHECKED
STEVE HONG

SHEET TITLE
ARCHITECTURAL
OVERALL SITE PLAN

SHEET NUMBER
DRC-A1.01

Plot Date: 1/13/2023 3:04:41 PM Last Save By: steve Login: Steve Hong L:\Projects\Scannell\2022\22-074 Scannell, Garden Grove Lincoln Way And Western Ave\03 - Design\04 - Entitlements And CD\DRC-A1.01.dwg

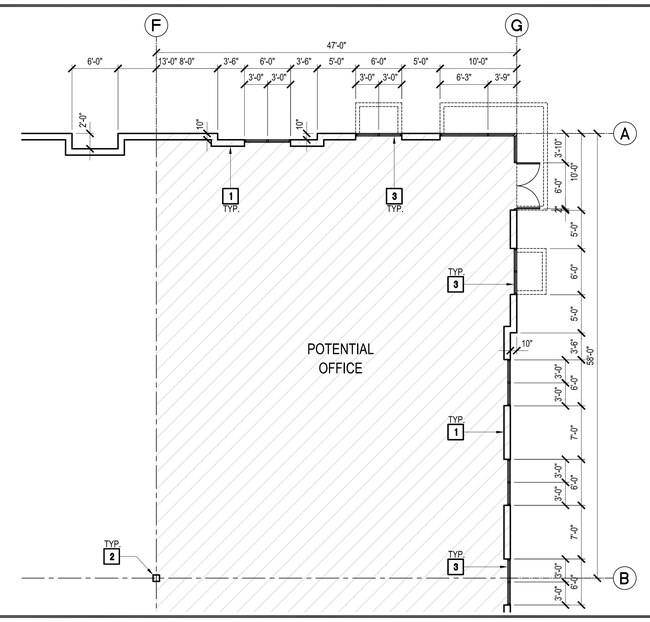


OVERALL FLOOR PLAN

TRUE NORTH

SCALE 1" = 20'-0"

1



ENLARGED FLOOR PLAN

TRUE NORTH

SCALE 1/8" = 1'-0"

2

GENERAL NOTES

1. REFER TO CIVIL DRAWINGS FOR SLAB ON GRADE FINISH FLOOR ELEVATION ANY DIRECTION OF SLOPE IF ANY.
2. SLOPE POUR STRIP $\frac{1}{2}$" TO EXTERIOR AT ALL MAN DOORS AND DOCK DOORS. SEE STRUCTURAL DRAWINGS FOR POUR STRIP LOCATIONS.
3. ALL DIMENSIONS ARE TO FACE OF CONCRETE PANEL WALL, GRID LINE OR FACE OF STUD UNLESS NOTED OTHERWISE.
4. REFER TO CIVIL DRAWINGS FOR POINT CONNECTION TO OFF-SITE UTILITIES AND CONTRACTOR TO VERIFY ACTUAL UTILITY LOCATIONS.
5. CONTRACTOR TO PROTECT AND KEEP FLOOR SLAB CLEAN. ALL EQUIPMENT TO BE DIAPERED INCLUDING CARS AND TRUCKS TO PREVENT OIL SPILLS.
6. CONCRETE SLAB TO HAVE STEEL FLOAT TROWEL BURNISHED FINISH.
7. ALL FLOOR SLAB NAIL OR BRACE FRAME HOLES SHALL BE FILLED WITH APPROVED 2 PART EPOXY COMPOUND TO MATCH CONCRETE COLOR.
8. PROVIDE MM-EP-90 AT CONTROL/EXPANSION JOINTS AT THE SPEEDBAY ONLY.

PAINT NOTES

1. INTERIOR CONCRETE WALL: SINGLE COAT OF ACRYLIC PAINT ON INTERIOR WALLS. SHERWIN WILLIAMS, "SNOWBOUND" SW 7004 - FLAT SHEEN.
2. ALL STRUCTURAL STEEL MEMBER INCLUDING COLUMNS, LEDGERS, JOISTS, GIRDERS SHALL RECEIVE LIGHT GRAY SHOP PRIMER. ANY FIELD WELDS SHALL BE TOUCHED UP TO MATCH SHOP PRIMER.
3. STRUCTURAL COLUMNS SHALL, SHALL RECEIVE A COAT OF OSHA YELLOW SAFETY WARNING COLOR, PAINT UP TO 12' ABOVE FINISH FLOOR.
4. ARCHITECTURAL COATINGS REQUIRE USE OF HVLP SPRAYING EQUIPMENT OR MINIMUM TRANSFER RATE OF AT LEAST 50% OR MANUAL APPLICATION TECHNIQUE.
5. PAINT SHALL BE OF "SUPER COMPLIANT" LOW VOC PER SCAQMD RULE 1113.

KEYNOTES

1. CONCRETE TILT UP PANEL.
2. STRUCTURAL STEEL BUILDING COLUMN
3. STOREFRONT SYSTEM AND GLAZING SEE ELEVATION FOR SPECIFICATION
4. CONCRETE RAMP WITH 42" H CONC. TILT UP GUARD WALL OR BUILDING WALL
5. 9'X10' X 24 GA OVER HEAD ROLL UP DOOR, COUNTER BALANCED WITH 24" X 6" VISION PANEL. STANDARD GRADE WITH WHITE FACTORY FINISH
6. 12'X14' X 24 GA OVER HEAD ROLL UP DOOR, COUNTER BALANCED WITH 24" X 6"VISION PANEL STANDARD GRADE WITH WHITE FACTORY FINISH.
7. 3'X7' HOLLOW METAL DOOR AND FRAME.
8. PROTECTIVE BOLLARD
9. CONCRETE STAIR
10. LONG TERM INTERIOR BICYCLE RACK
11. ROOF ACCESS LADDER
12. ELECTRICAL ROOM

LEGEND

15MIL VAPOR BARRIER "STEGO" WRAP OR EQUAL OVER COMPACTED NATIVE UNLESS NOTED OTHERWISE BY GEOTECH REPORT.
EXIT SIGN

ACCESSIBLE MEANS OF EGRESS WITH ILLUMINATED EXIT SIGN AND TACTILE EXIT SIGN, CONNECT TO PUBLIC WAY OR TO A SAFE DISPERSAL AREA 1028.5. SEE SITE PLAN

SIGN: "NOT ACCESSIBLE EXIT" WITH ACCESSIBLE DIRECTIONAL SIGN AND "FIRE DEPARTMENT ACCESS ONLY, DO NOT BLOCK"

EXITING NOTES:
BUILDING IS SPECULATIVE FOR HIGH PILE STORAGE. PER CBC 3206.6.1 FIRE DEPARTMENT ACCESS DOORS ARE REQUIRED AT NO GREATER THAN 125' O.C. REQUIRED NUMBER OF ACCESSIBLE MEANS OF EGRESS ARE PROVIDED PER CHAPTER 10 OF CBC AND ANY DOORS PROVIDED GREATER THAN THE REQUIRED ARE COURTESY EXITS AND ARE NOT REQUIRED TO BE MADE ACCESSIBLE. THESE COURTESY EXITS ARE ALSO USED FOR FIRE DEPARTMENT ACCESS.

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LICENSED ARCHITECT
STEVE K. HONG
NO. C-35577
REN. 12-31-23
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SCANNELL PROPERTIES

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No.	ISSUANCE	DATE

JOB No.
22-034

DRAWN STEVE HONG
CHECKED STEVE HONG

SHEET TITLE
ARCHITECTURAL FLOOR PLAN
OVERALL FLOOR PLAN

SHEET NUMBER
DRC-A2.01

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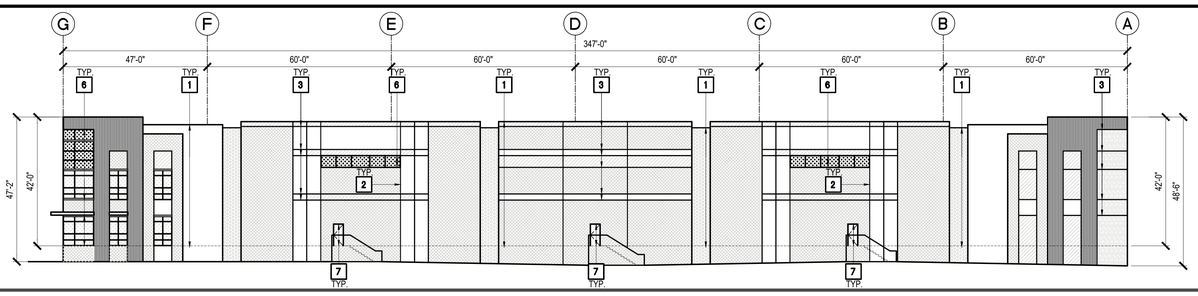
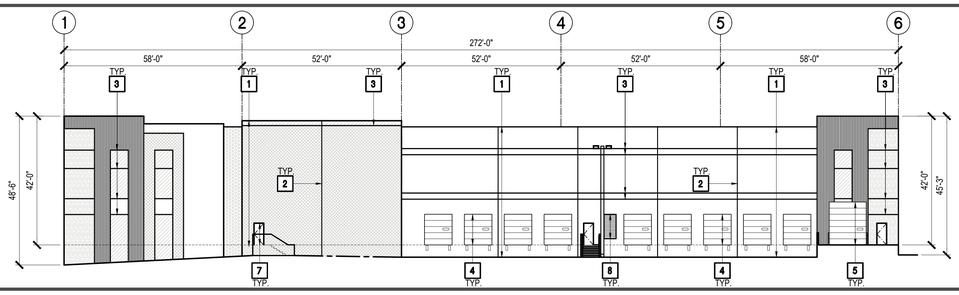
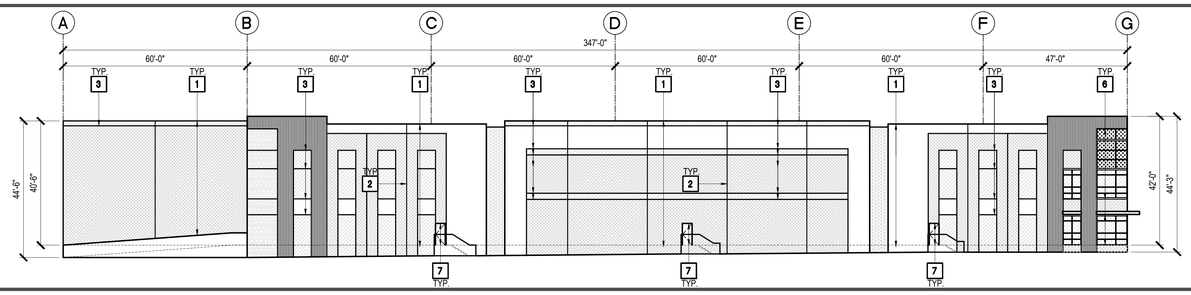


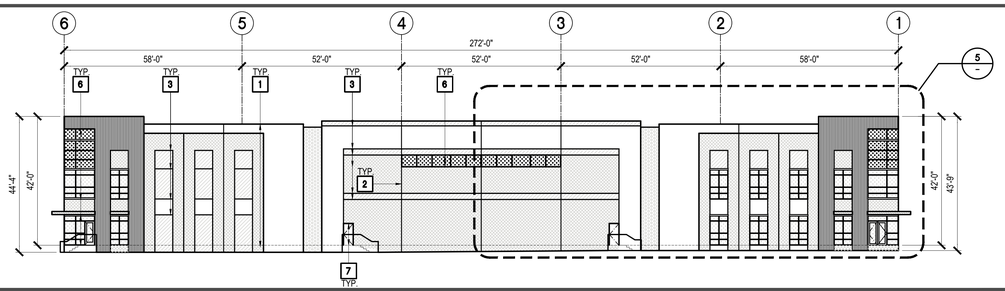
NORTH ELEVATION — SCALE 1" = 20'-0" — 1



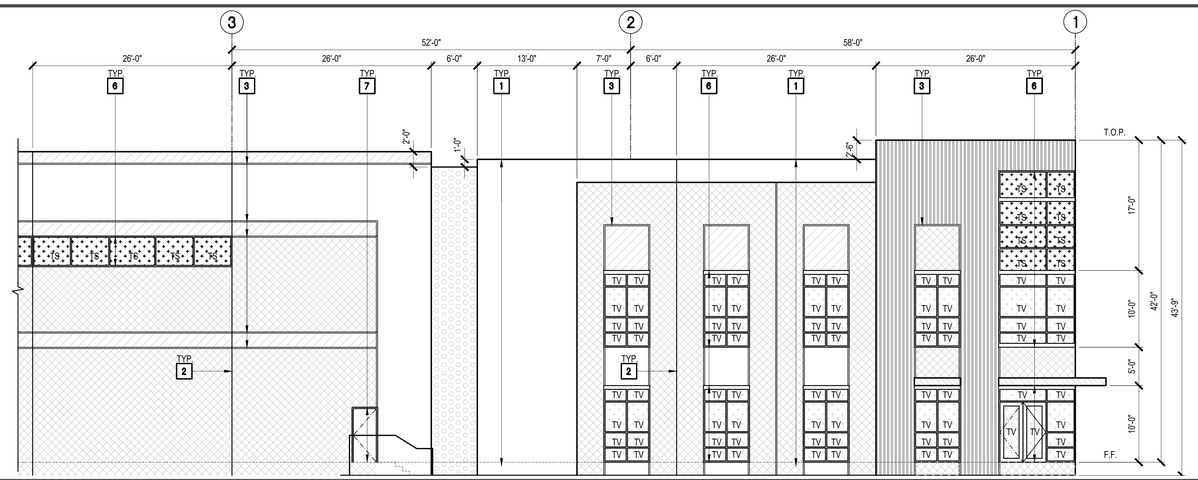
WEST ELEVATION — SCALE 1" = 20'-0" — 2



SOUTH ELEVATION — SCALE 1" = 20'-0" — 3



EAST ELEVATION — SCALE 1" = 20'-0" — 4



ENLARGED EAST ELEVATION — SCALE 1/8" = 1'-0" — 5

GENERAL NOTES

1. ALL PAINT COLOR CHANGES TO OCCUR AT INSIDE CORNERS UNLESS NOTED OTHERWISE.
2. ALL PAINT FINISHES ARE TO BE FLAT UNLESS NOTED OTHERWISE.
3. STOREFRONT CONSTRUCTION: GLASS, METAL ATTACHMENTS AND LINTELS SHALL BE DESIGNED TO RESIST WIND EXPOSURE "C" WINDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO INSTALLATION.
4. CONTRACTOR SHALL FULL PAINT ONE CONCRETE PANEL WITH SELECTED COLORS. ARCHITECT AND OWNER SHALL APPROVE PRIOR TO PAINT REMAINDER OF BUILDING.
5. BACK SIDE OF PARAPETS TO HAVE SMOOTH FINISH AND BE PAINTED WITH ELASTOMERIC PAINT.
6. FOR SPANDREL GLAZING, ALLOW SPACE BEHIND SPANDREL TO BREATH BY PROVIDING A MINIMUM ¾" DIAMETER HOLE ON THE CORNER.
7. USE ADHESIVE BACK WOOD STRIPS FOR ALL REVEAL FORMS.
8. FIRST COAT OF PAINT TO BE ROLLED-ON AND THE SECOND COAT TO BE SPRAYED ON.
9. WATER BLAST EXTERIOR FACE OF BUILDING WALLS PRIOR TO PAINT.
10. ALL CONCRETE PANEL JOINTS SHALL BE CLEARED OF DEBRIS BY PRESSURING WASHING THE CAVITY AND GRIND ANY SHARP EDGES PRIOR TO APPLY PANEL CAULK JOINT.
11. ALL EXTERIOR DOORS AND LOUVERS SHALL BE FABRICATED AND WEATHER STRIPPED TO WITHSTAND WIND EXPOSURE "C"
12. CONTRACTOR TO PROVIDE MOCK UP PAINT FOR OWNER AND ARCHITECT'S APPROVAL PRIOR TO COMMENCING THE WORK.

KEYNOTES

1. CONCRETE TILT UP WALL, SEE PAINT AND FINISH LEGEND BELOW
2. CONCRETE PANEL JOINT
3. PAINTED CONCRETE REVEAL.
4. 9' X 10' OVER HEAD DOCK HIGH DOOR
5. 12' X 14' OVER HEAD GRADE LEVEL DOOR
6. ALUMINUM STOREFRONT GLAZING SYSTEM. SEE GLAZING LEGEND
7. 3'X7' HOLLOW METAL DOOR AND FRAME.
8. 4'X8' PAINTED METAL LOUVER
9. ROOF DRAIN

GLAZING LEGEND

BLUE TEMPERED VISION GLASS

BLUE TEMPERED CONCRETE BACKED SPANDREL GLASS

OFFICE / POTENTIAL OFFICE AREAS:
VITROGLAZING, VISTACOOL (2) PACIFICA + SOLARBAN 60 (3)
VLT: 26, SHGC: 0.17, U VALUE: 0.29
1" INSULATED UNIT WITH ½" AIRSPACE AND (2) ¼" UNITS

WAREHOUSE GLAZING AREA:
SINGLE PANE ¼" VITROGLAZING VISTALCOOL PACIFICA.

COLOR / FINISH LEGEND

- SHERWIN WILLIAMS XXXXXXXX
- SHERWIN WILLIAMS XXXXXXXX
- SHERWIN WILLIAMS XXXXXXXX
- SHERWIN WILLIAMS XXXXXXXX
- SHERWIN WILLIAMS XXXXXXXX
- SHERWIN WILLIAMS XXXXXXXX
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ELEVATIONS
SHEET NUMBER
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NORTH ELEVATION

WEST ELEVATION

SOUTH ELEVATION

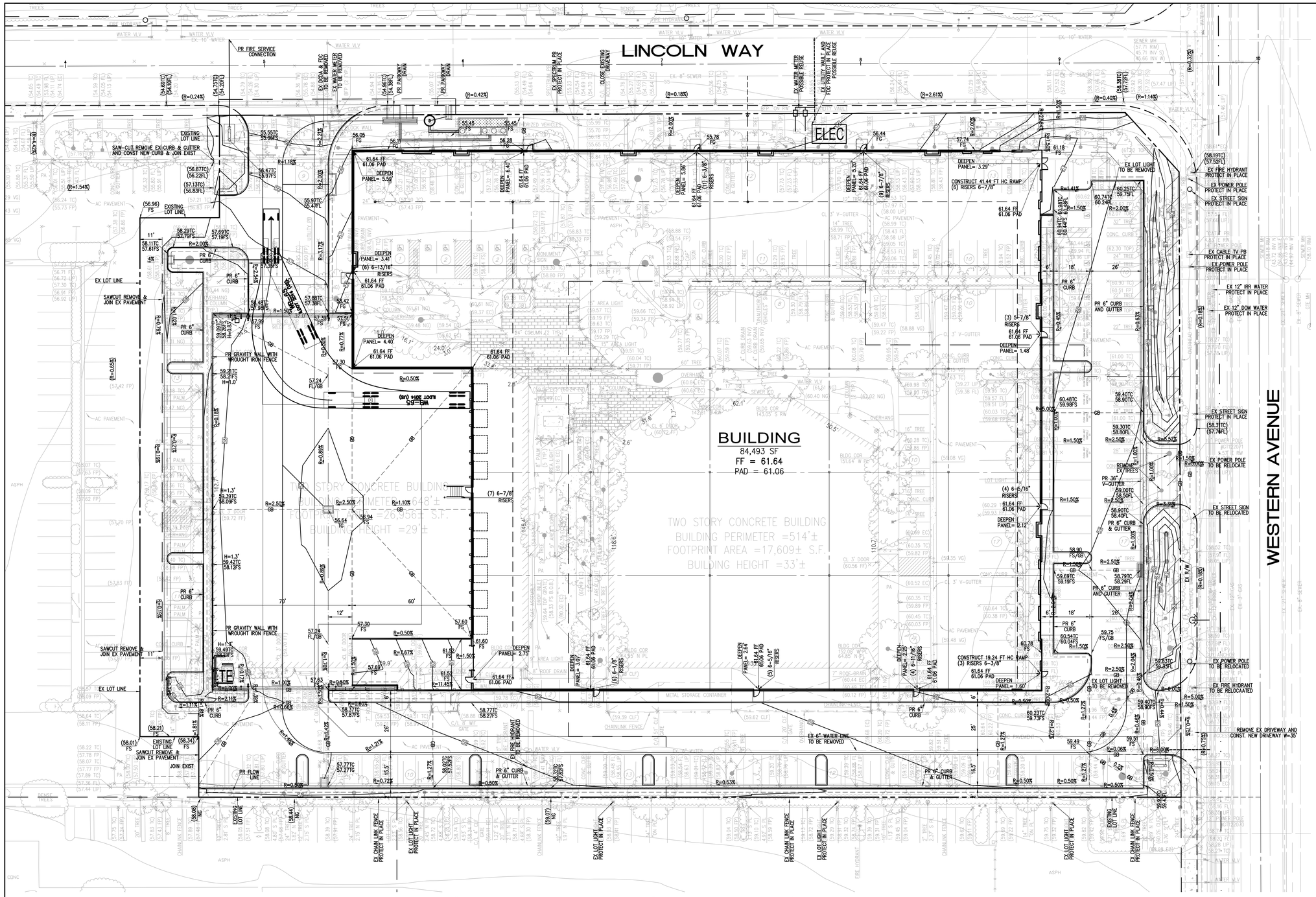
EAST ELEVATION

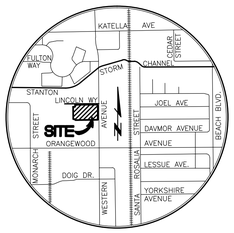
COLORED ELEVATION DESIGN

7390 LINCOLN WAY
GARDEN GROVE, CA 92841

LHA

SCANNELL PROPERTIES





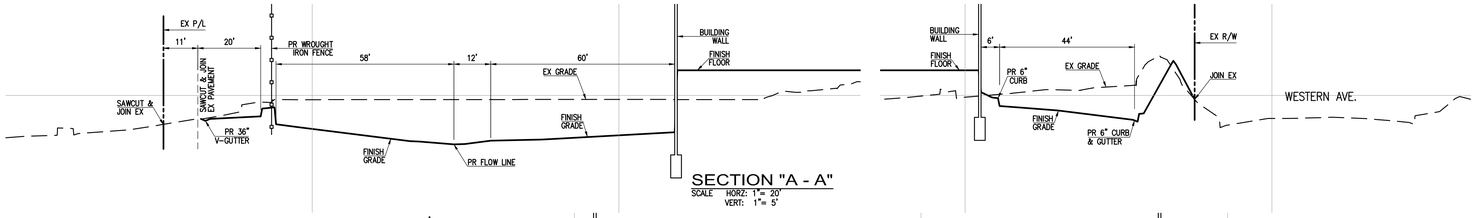
VICINITY MAP
N.T.S.

5/9/2022

EARTHWORK BALANCE CALCULATIONS

PROJECT: SWC LINCOLN WAY & WESTERN AVE
JOB# 4103

K.	SITE AREA:	173,100	SF
L.	SUBSIDENCE FACTOR:	0.063	
M.	SHRINKAGE FACTOR:	5.0	%
N.	SITE STRIPPING FACTOR:	0.1	
O.	3' BLDG OVEREX	9,996	CY
	1' SITE OVEREX	3,079	CY
A.	CALCULATED CUT:	5,130	CY
B.	FOOTING, CHAMBERS AND UTILITY SPOILS	1,306	CY
		-	CY
B1.		-	CY
C.	**TOTAL CUT: (A+B)**	6,436	CY
D.	CALCULATED FILL:	4,553	CY
E.	EX ONSITE PAVEMENT 5% BULKING	(135)	CY
F.	SUBSIDENCE: (LxK)/27=	401	CY
G.	SHRINKAGE: (M/100)C=	322	CY
H.	SITE STRIPPING	641	
I.	OVEREXCAVATION SHRINKAGE	654	CY
J.	**TOTAL FILL: (D+E+F+G+H)=**	6,435	CY
K.	**TOTAL (IMPORT) OR EXPORT:**	0	CY



SECTION "A - A"
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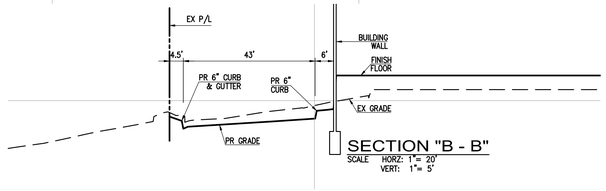
VERT: 1"= 5'



SECTION "B - B"
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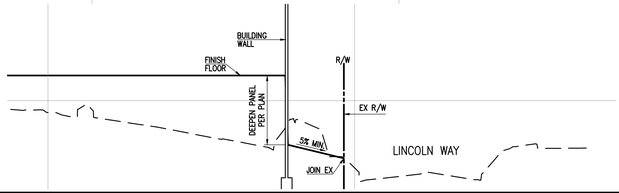
VERT: 1"= 5'



SHEET INDEX

0 10 20 40 60
SCALE: 1" = 20'

PREPARED FOR:

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Last Update: 5/23/22
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CITY OF GARDEN GROVE
PUBLIC WORKS DEPARTMENT

CONCEPTUAL GRADING PLAN
LINCOLN WAY INDUSTRIAL BUILDING
7440 LINCOLN WAY, GARDEN GLOVE, CA

Designed by		Approved by	Date
Date			
Checked by			
Date			
Designed by		Public Works Director	R.C.E. XXXXX
Date			
Checked by			
Date			

Sheet 1 of 3 Sheets

JN: 4103

EX FIRE HYDRANT
PR 10" FIRE SERVICE CONNECTION
EX FIRE SERVICE & DCDA TO BE REMOVED
EX 10"ACP WATER PER CITY OF GARDEN GLOVE DWG # A-1451.2, W-324
EX TEL PB PROTECT IN PLACE
EX 8"VCP SEWER PER CITY OF GARDEN GLOVE DWG # A-1451.2, W-324
EX FIRE HYDRANT
PR 2" DOMESTIC METER & BACK FLOW DEVICE
EX WATER METER TO BE REMOVED
PR 2" IRRIGATION METER & BACK FLOW DEVICE
EX FIRE SERVICE TO BE REMOVED

LINCOLN WAY

PR 10" DCDA FIRE SERVICE
BMP DEVICES SEE SHT 3
EX 6" SEWER LATERAL FIELD VERIFY LINE & GRADE
ELEC
45.86 INV-8"S
45.66 INV-8"S
S=0.0028
45.71 INV-8"S
(46.25) INV-8"S
(48.68) INV-6"S
56.74 INV-6"S
S=0.0346
S=0.0115
55.10 INV-6"S
S=0.0100
S=0.0100
56.74 INV-6"S
59.14 INV-6"S
55.38 INV-6"S
S=0.0043
FEX FIRE HYDRANT PROTECT IN PLACE
EX 8"VCP SEWER PROTECT IN PLACE
EX SEWER MANHOLE PROTECT IN PLACE
44.97 INV-8"S
PR SD LINE SEE SHT 3
PR FIRE LINE
S=0.0100
BUILDING
88,164 SF
FF = 61.64
PAD = 61.06
TWO STORY CONCRETE BUILDING
BUILDING PERIMETER =514'±
FOOTPRINT AREA =17,609± S.F.
BUILDING HEIGHT =33'±
TWO STORY CONCRETE BUILDING
BUILDING PERIMETER =648'±
FOOTPRINT AREA =26,956± S.F.
BUILDING HEIGHT =29'±
PR SD LINE SEE SHT 3
PR FIRE LINE
59.14 INV-6"S
59.14 INV-6"S
PR SD LINE SEE SHT 3
PR FIRE LINE
PR FIRE LINE
EX 6" WATER LINE TO BE REMOVED
PR 10" DCDA FIRE SERVICE
PR SD LINE SEE SHT 3
EX 8" SEWER
EX 21" SEWER
EX 3" GAS LINE
EX 12" GAS LINE
PR FIRE HYDRANT NEW LOCATION
PR STREET LIGHT
EX POWER POLE & STREET LIGHT TO BE RELOCATED
EX FIRE HYDRANT TO BE RELOCATE
REMOVE EX 6" WATER LINE INSTALL 10" FIRE SERVICE
EX 12" WATER PROTECT IN PLACE

WESTERN AVENUE

SCALE: 1" = 20'

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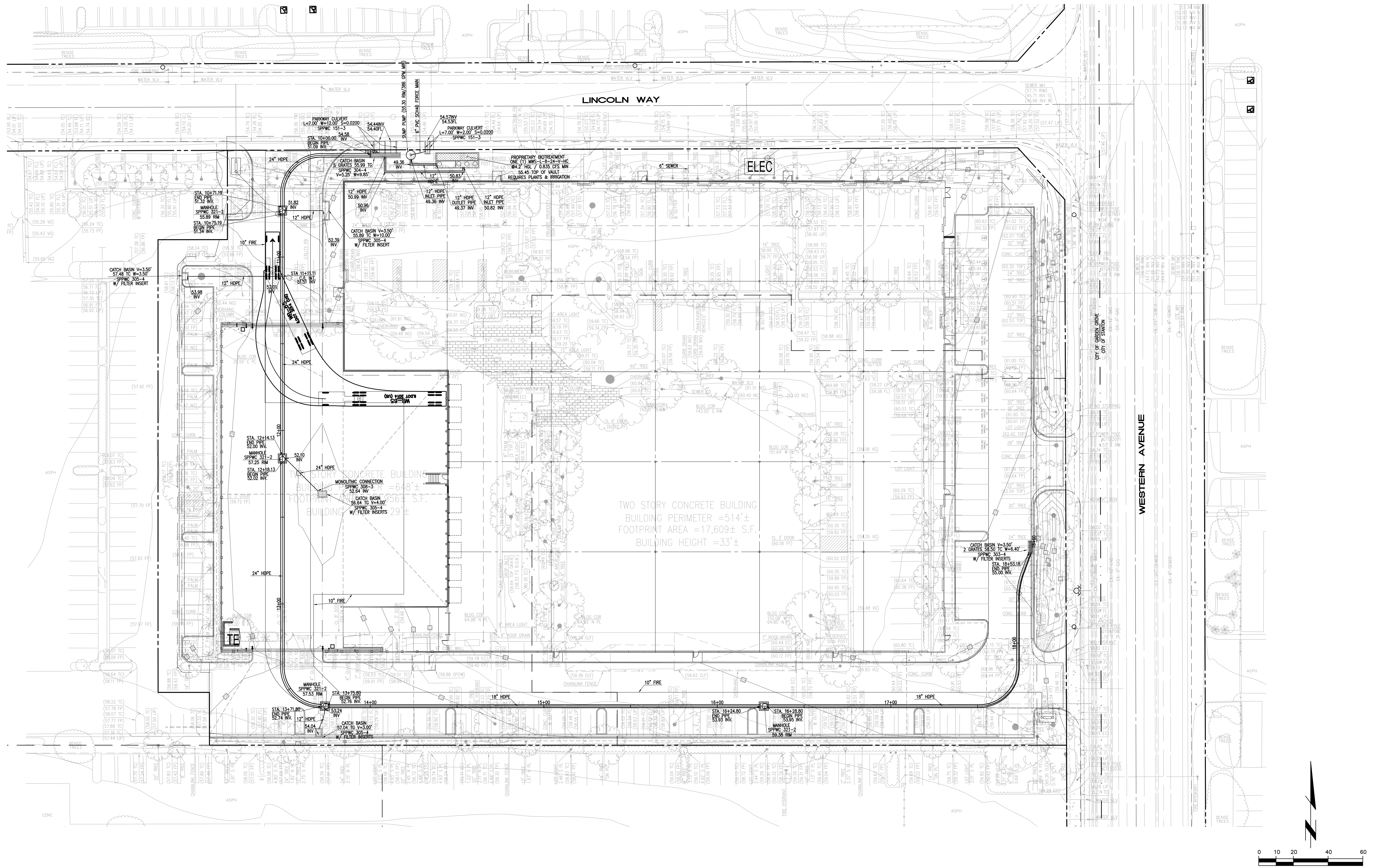
CITY OF GARDEN GROVE
PUBLIC WORKS DEPARTMENT

CONCEPTUAL UTILITY PLAN
LINCOLN WAY INDUSTRIAL BUILDING
7440 LINCOLN WAY, GARDEN GLOVE, CA

Designed by
Date
Checked by
Date
Designed by
Date
Checked by
Date
Approved by Date
Public Works Director R.C.E. XXXXX
Sheet 2 of 3 Sheets

JN: 4103



CITY OF GARDEN GROVE
PUBLIC WORKS DEPARTMENT

CONCEPTUAL STORM DRAIN PLAN

LINCOLN WAY INDUSTRIAL BUILDING
7440 LINCOLN WAY, GARDEN GLOVE, CA

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Last Update: 6/3/22
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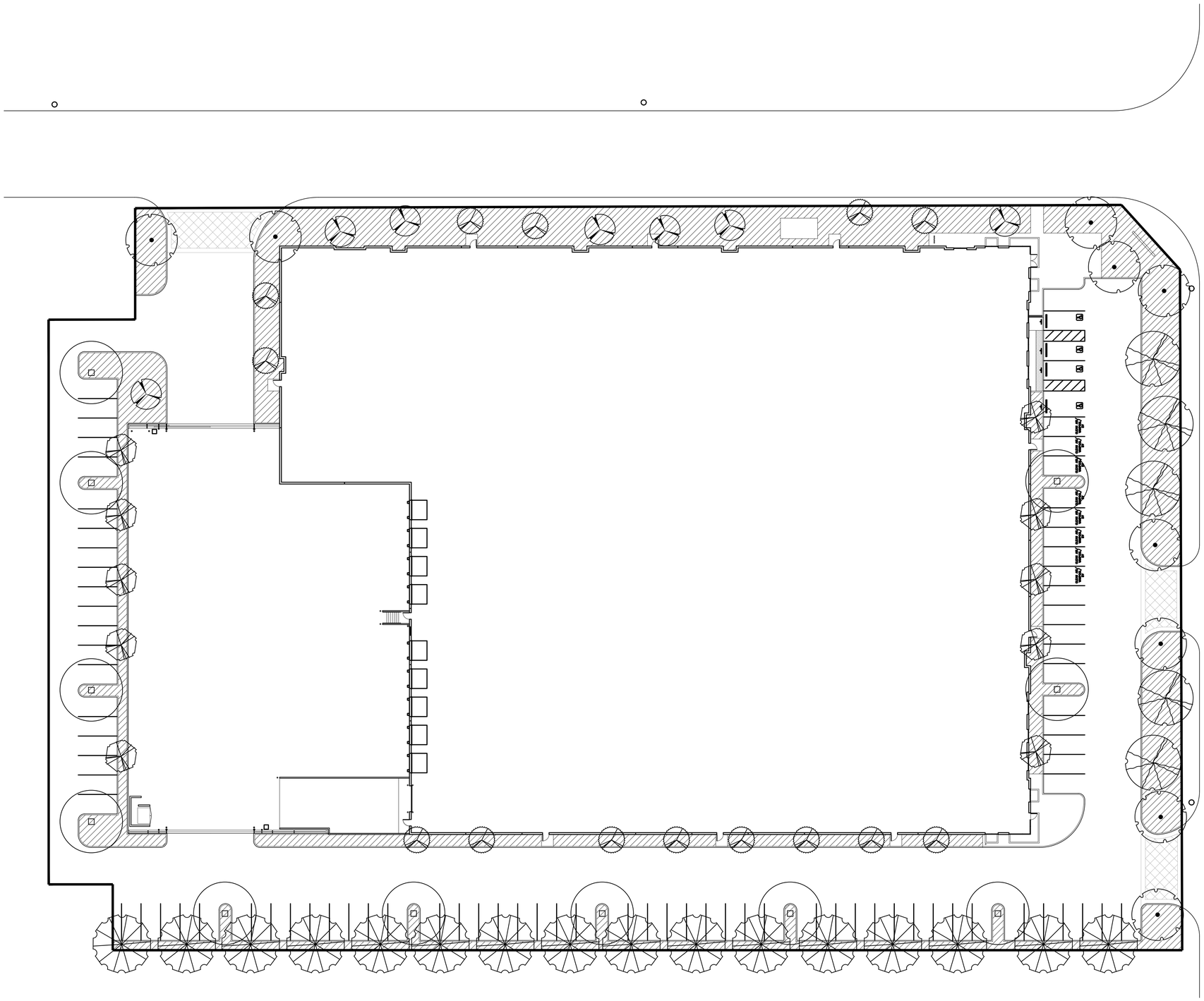
Designed by ______
Date ______
Checked by ______
Date ______
Designed by ______
Date ______
Checked by ______
Date ______

Approved by Date ______

Public Works Director R.C.E. XXXXX

Sheet 3 of 3 Sheets

JN: 4103



PLANTING LEGEND

TREES					
SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
	Chitalpa tashkentensis Chitalpa	24" Box	16	L	Standard
	Lagerstroemia i 'Muskogee' Crape Myrtle	24" Box	14	M	Multi
	Magnolia g. 'Samuel Sommer' Magnolia	24" Box	5	M	Standard
	Magnolia g. 'Little Gem' Magnolia	24" Box	7	M	Standard
	Olea europaea Olive	36" Box	9	L	Multi
	Rhus lancea African Sumac	24" Box	11	L	Standard
	Tristania conferta Brisbane Box	15 Gal	10	M	Standard

SHRUBS				
SYMBOL	BOTANICAL/COMMON NAME	SIZE	WUCOLS	SPACING
	Acca sellowiana Pineapple Gauva	5 Gal	L	3' OC
	Callistemon 'Little John' Dwarf Bottle Brush	5 Gal	L	3' OC
	Cistus 'Sunset Pink' Sunset Pink Rockrose	5 Gal	L	3' OC
	Elaeagnus pungens Silverberry	5 Gal	L	4' OC
	Ligustrum j. Texanum Texas Privet	5 Gal	M	3' OC
	Rhaphiolepis i. 'Springtime' Indian Hawthorn	5 Gal	L	3' OC
	Rosmarinus o. 'Tuscan Blue' Rosemary	5 Gal	L	3' OC
	Salvia greggii Autumn Sage	5 Gal	L	3' OC
	Salvia leucantha Mexican Sage	5 Gal	L	4' OC
	Westringia fruticosa Coast Rosemary	5 Gal	L	5' OC
	Dianella tasmanica Dianella	5 Gal	M	3' OC
	Dietes bicolor Fortnight Lily	5 Gal	M	3' OC
	Muhlenbergia capillaris Pink Muhly	5 Gal	M	3' OC
	Muhlenbergia rigens Deer Grass	5 Gal	M	4' OC
	Salvia c. 'Allen Chickering' Allen Chickering Sage	5 Gal	L	4' OC
	Leonotis leonurus Lion's Ear	5 Gal	L	4' OC
	Salvia microphylla Hot Lips Sage	5 Gal	L	3' OC

ACCENTS				
SYMBOL	BOTANICAL/COMMON NAME	SIZE	WUCOLS	SPACING
	Agave 'Blue Flame' Blue Flame Agave	5 Gal	L	3' OC
	Agave 'Blue Glow Blue Glow Agave	5 Gal	L	3' OC
	Agave victoria-reginae Agave	5 Gal	L	3' OC
	Aloe striata Coral Aloe	1 Gal	L	2' OC
	Dasylerion wheeleri Desert Spoon	5 Gal	L	4' OC
	Echeveria 'Ruffles' Ruffles Echeveria	5 Gal	L	1' OC
	Hesperaloe parviflora Red Yucca	5 Gal	L	3' OC

GROUNDCOVER				
SYMBOL	BOTANICAL/COMMON NAME	SIZE	SPACING	WUCOLS
	Hemerocallis hybridus-Yellow Yellow Day Lily	1 Gal	24" O.C.	M
	Rosmarinus o. 'Huntington Carpet' Prostrate Rosemary	1 Gal	48" O.C.	L
	Sesleria autumnalis Moor Grass	1 Gal	18" O.C.	M
	Trachelopspermum jasminiodes Star Jasmine	1 Gal	24" O.C.	M
	Carissa m. 'Green Carpet' Prostrate Natal Plum	1 Gal	36" O.C.	M
	Lantana 'Gold Mound' Yellow Lantana	1 Gal	36" O.C.	L
	Myoporum parvifolium Myoporum	1 Gal	36" O.C.	L

N

0 10' 20' 40'

Lincoln - Garden Grove

22-088
07.29.22

Garden Grove, California

HUNTER LANDSCAPE
711 FEE ANA STREET PLACENTIA, CA 92870
714.986.2400 FAX 714.986.2408

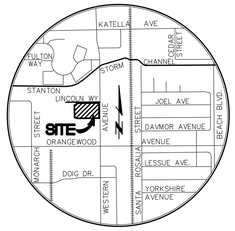
TENTATIVE PARCEL MAP NO. 2022-167

IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA
BEING A SUBDIVISION OF PARCELS 2 AND 3 OF PARCEL MAP NO. 85-168, AS PER MAP FILED IN BOOK 218 OF PARCEL MAPS, PAGES 35 AND 37, RECORDS OF SAID COUNTY.

Attachment 3 - Tentative Parcel Map

DATE OF PREPARATION: 8-30-2022
NET ACREAGE: 4.051
ALL EXISTING BUILDINGS SHOWN HEREON WILL BE REMOVED
ALL UTILITY BOXES AND STRUCTURES TO BE CONSTRUCTED UNDERGROUND

0 15 30 60 90
SCALE: 1"=30'



VICINITY MAP
N.T.S.

LEGAL DESCRIPTION:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL A:

PARCEL 2, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, OF PARCEL MAP NO. 85-168, FILED IN BOOK 218, PAGES 35 THROUGH 37 OF PARCEL MAPS, RECORDER OF SAID COUNTY.

EXCEPT ANY RIGHTS TO OIL, GAS, OR OTHER HYDROCARBON PRODUCTS IN THE LAND TAKEN IN THE DECLARATION OF TAKING RECORDED FEBRUARY 24, 1943 AS INSTRUMENT NO. 4393 IN BOOK 1177, PAGE 540 OF OFFICIAL RECORDS, PROVIDED, HOWEVER, THAT THE OWNER MAY NOT PERFORM ANY OPERATIONS ON THE SURFACE OF SAID LAND, SUCH AS DRILLING, EXPLORING OR EXTRACTION OF SUCH MINERALS, WITHOUT THE WRITTEN CONSENT OF THE IRVINE INDUSTRIAL COMPLEX, A CALIFORNIA CORPORATION, AS SET FORTH IN AN INSTRUMENT RECORDED FEBRUARY 24, 1943 AS INSTRUMENT NO. 4393 IN BOOK 1177, PAGE 540 OF OFFICIAL RECORDS, AND VARIOUS INSTRUMENT OF RECORD.

ALSO EXCEPTING THEREFROM, ALL OIL, OIL RIGHTS, MINERALS, MINERAL RIGHTS, NATURAL GAS, NATURAL GAS RIGHTS, AND OTHER HYDROCARBONS BY WHATSOEVER NAME KNOWN THAT, GEOTHERMAL STEAM, AND ALL PRODUCTS DERIVED FROM ANY OF THE FOREGOING, THAT MAY BE WITHIN OR UNDER THE LAND, TOGETHER WITH THE PERPETUAL RIGHT OF DRILLING, MINING, EXPLORING AND OPERATING THEREFOR, AND STORING IN AND REMOVING THE SAME FROM SAID LAND OR ANY OTHER LAND, INCLUDING THE RIGHT TO WHIPSTOCK OR DIRECTIONALLY DRILL AND MINE FROM LANDS OTHER THAN THE LAND, OIL OR GAS WELLS, TUNNELS AND SHAFTS INTO, THROUGH OR ACROSS THE SUBSURFACE OF THE LAND, AND TO BOTTOM SUCH WHIPSTOCKED OR DIRECTIONALLY DRILLED WELLS, TUNNELS AND SHAFTS UNDER AND BENEATH OR BEYOND THE EXTERIOR LIMITS THEREOF, AND TO REDRILL, RETUNNEL, EQUIP, MAINTAIN, REPAIR, DEEPEN AND OPERATE ANY SUCH WELLS OR MINES, WITHOUT, HOWEVER, THE RIGHT TO DRILL, MINE, STORE, EXPLORE AND OPERATE THROUGH THE SURFACE OR THE UPPER (500) FEET OF THE SUBSURFACE OF THE LAND, AS RESERVED BY THE IRVINE COMPANY, A MICHIGAN CORPORATION, IN THE DEED RECORDED AUGUST 15, 1977 AS INSTRUMENT NO. 23857 IN BOOK 12336, PAGE 195 OF OFFICIAL RECORDS.

PARCEL B:

AN EASEMENT FOR DRAINAGE WATER AND OTHER MATTER, AS SET FORTH IN THAT CERTAIN GRANT OF EASEMENT RECORDED NOVEMBER 6, 1985 AS INSTRUMENT NO. 85-429771 OF OFFICIAL RECORDS OF ORANGE COUNTY, CALIFORNIA, OVER THAT PORTION OF PARCEL 3 OF PARCEL MAP NO. 82-511 AS SHOWN ON A MAP FILED IN BOOK 177, PAGES 21, 22 AND 23 OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID ORANGE COUNTY, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID PARCEL 3; THENCE NORTH 89° 08' 51" EAST 6.70 FEET ALONG THE SOUTHERLY LINE OF SAID PARCEL 3 TO THE TRUE POINT OF BEGINNING; THENCE NORTH 0° 51' 9" WEST 76.36 FEET; THENCE NORTH 89° 08' 51" EAST 13.00 FEET; THENCE SOUTH 0° 51' 9" EAST 38.52 FEET; THENCE SOUTH 45° 51' 9" EAST 35.36 FEET; THENCE SOUTH 0° 51' 9" EAST 12.84 FEET TO SAID SOUTHERLY LINE; THENCE SOUTH 89° 8' 51" WEST 38.00 FEET ALONG SAID SOUTHERLY LINE TO THE TRUE POINT OF BEGINNING.

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL C:

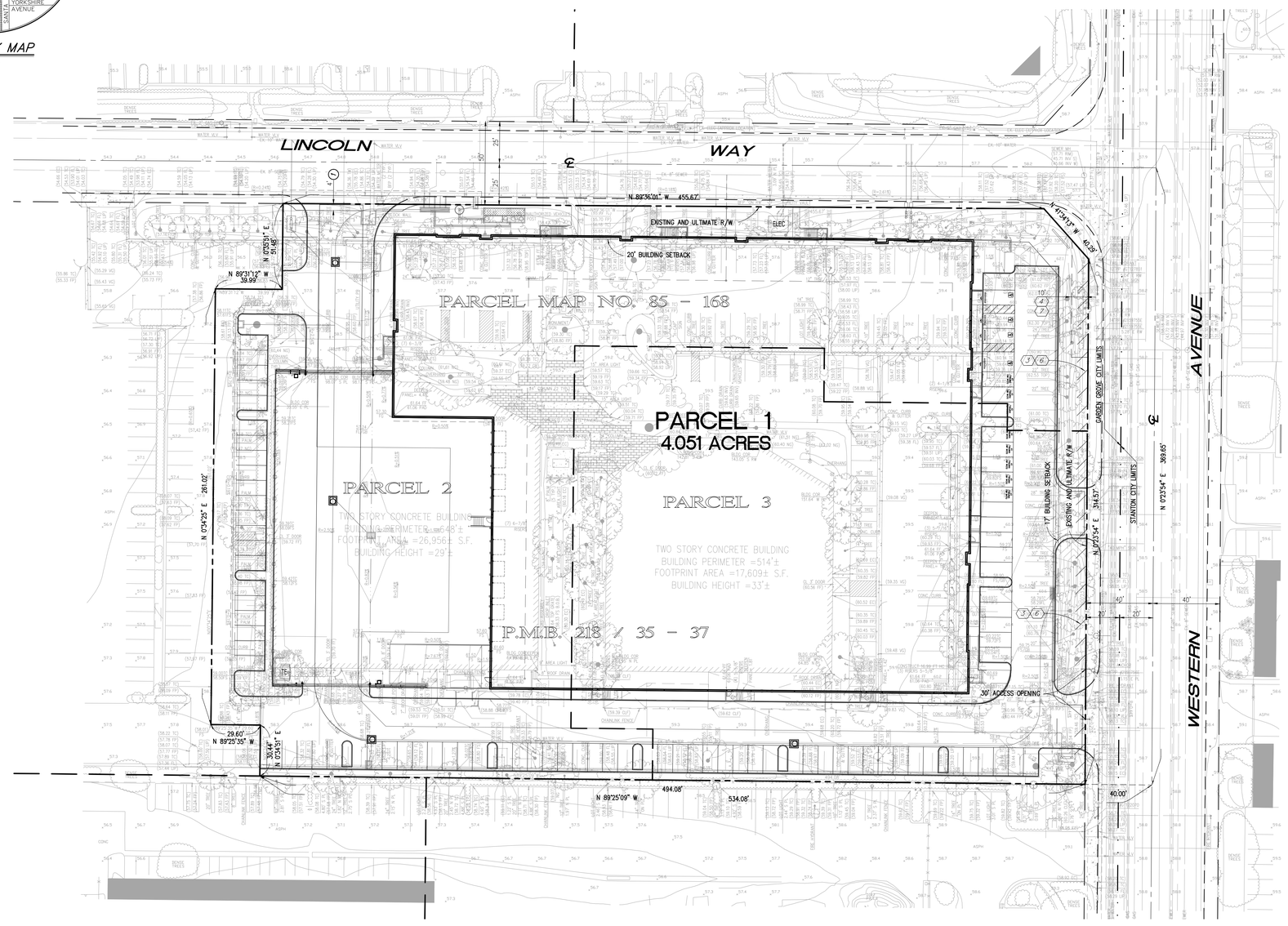
PARCEL 3 OF PARCEL MAP NUMBER 85-168 FILED IN BOOK 218 PAGE(S) 35 TO 37 OF PARCEL MAPS, AS MAY HAVE BEEN AMENDED BY THAT CERTIFICATE OF CORRECTION EXECUTED BY THE CITY OF GARDEN GROVE, RECORDED APRIL 20, 1987 AS INSTRUMENT NO. 1987-213745, RECORDS OF ORANGE COUNTY, CALIFORNIA.

EXCEPT ANY RIGHTS TO OIL, GAS, OR OTHER HYDROCARBON PRODUCTS IN THE LAND TAKEN IN THE DECLARATION OF TAKING RECORDED FEBRUARY 24, 1943 IN BOOK 1177 PAGE 540 OF OFFICIAL RECORDS, PROVIDED, HOWEVER, THAT THE OWNER MAY NOT PERFORM ANY OPERATIONS ON THE SURFACE OF SAID LANDS, SUCH AS DRILLING, EXPLORATION OR EXTRACTION OF SUCH MINERALS, WITHOUT THE WRITTEN CONSENT OF THE IRVINE INDUSTRIAL COMPLEX, A CALIFORNIA CORPORATION, AS SET FORTH IN AN INSTRUMENT RECORDED FEBRUARY 24, 1943 IN BOOK 1177, PAGE 540 OF OFFICIAL RECORDS, AND VARIOUS INSTRUMENTS OF RECORD.

ALSO EXCEPTING THEREFROM, ALL OIL, OIL RIGHTS, MINERALS, MINERAL RIGHTS, NATURAL GAS, NATURAL GAS RIGHTS, AND OTHER HYDROCARBONS BY WHATSOEVER NAME KNOWN THAT, GEOTHERMAL STEAM, AND ALL PRODUCTS DERIVED FROM ANY OF THE FOREGOING, THAT MAY BE WITHIN OR UNDER THE PARCEL OF LAND HEREINABOVE DESCRIBED, TOGETHER WITH THE PERPETUAL RIGHT OF DRILLING, MINING, EXPLORING AND OPERATING THEREFOR, AND STORING IN AND REMOVING THE SAME FROM SAID LAND OR ANY OTHER LAND, INCLUDING THE RIGHT TO WHIPSTOCK OR DIRECTIONALLY DRILL AND MINE FROM LANDS OTHER THAN THOSE HEREINABOVE DESCRIBED, OIL OR GAS WELLS, TUNNELS AND SHAFTS INTO, THROUGH OR ACROSS THE SUBSURFACE OF SAID LAND, AND TO BOTTOM SUCH WHIPSTOCKED OR DIRECTIONALLY DRILLED WELLS, TUNNELS AND SHAFTS UNDER AND BENEATH OR BEYOND THE EXTERIOR LIMITS THEREOF, AND TO REDRILL, RETUNNEL, EQUIP, MAINTAIN, REPAIR, DEEPEN AND OPERATE ANY SUCH WELLS OR MINES, WITHOUT, HOWEVER, THE RIGHT TO DRILL, MINE STORE, EXPLORE AND OPERATE THROUGH THE SURFACE OF THE UPPER (500) FEET OF THE SUBSURFACE OF THE HEREINABOVE DESCRIBED LAND, AS RESERVED BY THE IRVINE COMPANY, A MICHIGAN CORPORATION, IN THE DEED RECORDED AUGUST 15, 1977 IN BOOK 12336, PAGE 195 OF OFFICIAL RECORDS.

PARCEL D:

A NONEXCLUSIVE EASEMENT FOR INGRESS AND EGRESS OVER THE DRIVEWAY AREAS LOCATED ON PARCEL 1 AS SHOWN ON PARCEL MAP NO. 85-168 FILED IN BOOK 218 PAGE 35 THROUGH 37 INCLUSIVE OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF ORANGE COUNTY, CALIFORNIA.



BUILDING TABULATION:

SITE AREA		176,444	SF
		4.051	Acres
BUILDING AREA			
1ST FLOOR	WAREHOUSE	81,164	SF
	OFFICE	3,500	SF
1ST TOTAL		84,664	SF
2ND FLOOR	OFFICE	3,500	SF
TOTAL		**88,164**	SF
PROJECT FACT			
	COVERAGE		0.48
	FAR		0.50
	CLEAR HEIGHT		36'
ZONING			
ZONE ORDINANCE			PUD-103-76
MAX BUILDING HEIGHT			60'
SET BACK			
	FRONT	17'	
	SIDE	0'	
	REAR	0'	
PARKING REQUIREMENT			
	AUTO PARKING		
	SIZE		9'X19'
	WAREHOUSE	1ST 20K @1/1000 SF	20
	WAREHOUSE	2ND 20K @1/2000 SF	10
	WAREHOUSE	ABV. 40K @ 1/4000 SF	13
	TOTAL		43
	Office included with 10% of GFA		
PROJECT PROVIDED			
PARKING PROVIDED			
	AUTO PARKING		
	STARNDARD	9'X19' OR 17'+2' OH	97

APNs:

131-021-36, 37

EXISTING EASEMENTS:

(1) COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED NOVEMBER 12, 1976 AS BOOK 11959, PAGE 1121 OF OFFICIAL RECORDS.
(NO PLOTTABLE EASEMENTS; AFFECTS THE PROPERTY)

(2) COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED AUGUST 15, 1977 AS BOOK 12336, PAGE 195 OF OFFICIAL RECORDS.
(NO PLOTTABLE EASEMENTS; AFFECTS THE PROPERTY)

(3) ABUTTER'S RIGHTS OF INGRESS AND EGRESS TO OR FROM WESTERN AVENUE, HAVE BEEN DEDICATED OR RELINQUISHED ON THE MAP OF PARCEL MAP NO. 85-168 ON FILE IN BOOK 218, PAGE 35 TO 37, OF PARCEL MAPS.
(ACCESS RIGHTS PLOTTED HEREON AS ⟍⟍⟍)

(4) AN EASEMENT IN FAVOR OF GARDEN GROVE SANITARY DISTRICT FOR SEWER LINES AND INCIDENTAL PURPOSES, RECORDED JUNE 09, 1983 AS INSTRUMENT NO. 83-244182 OF OFFICIAL RECORDS. AFFECTS AS DESCRIBED THEREIN.
(PLOTTED HEREON)

(5) THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "RECIPROCAL EASEMENT AGREEMENT" RECORDED OCTOBER 07, 1988 AS INSTRUMENT NO. 88-514842 OF OFFICIAL RECORDS.
(EASEMENTS FOR INGRESS AND EGRESS OVER DRIVEWAY AREAS, BLANKET IN NATURE)

(6) AN EASEMENT FOR DRIVEWAY AND INCIDENTAL PURPOSES SHOWN OR DEDICATED ON THE MAP OF PARCEL MAP NO. 85-168 RECORDED FEBRUARY 18, 1987 AND ON FILE IN BOOK 218, PAGE 35, OF PARCEL MAPS.
(ACCESS RIGHTS PLOTTED HEREON AS ⟍⟍⟍)

(7) COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED OCTOBER 07, 1988 AS INSTRUMENT NO. 1988-514842 OF OFFICIAL RECORDS.

PROPOSED EASEMENT:

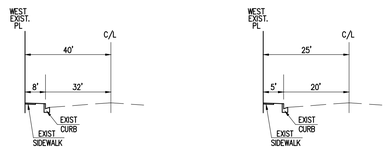
(1) AN EASEMENT FOR DRIVEWAY PURPOSES, TO BE DEDICATED AS AN EASEMENT TO THE CITY OF GARDEN GROVE ON THE PARCEL MAP.

LEGEND:

CL	CENTERLINE	CONCRETE
CONC	CONCRETE	
DRN	DRAIN	
DRWY	DRIVEWAY	
ELEC MTRS	ELECTRIC METERS	TREE
GA	GUY ANCHOR	
GM	GAS METER	
PA	PLANTER AREA	
PL	PROPERTY LINE	
PP	POWER POLE	PALM TREE
SDMH	STORM DRAIN MANHOLE	
SMH	SEWER MANHOLE	
STLT	STREET LIGHT	
WDF	WOOD FENCE	
WM	WATER METER	
WV	WATER VALVE	

1006 — INDICATES PROPOSED CONTOUR
1006 — INDICATES EXISTING CONTOUR
1006.21 EC / NG (1006.21) — INDICATES EXISTING DESCRIPTION/ELEVATION
DISTINCTIVE BORDER
EXISTING PARCEL LINES

STREET SECTIONS:



ZONING:

ZONING INFORMATION:
(THE FOLLOWING ZONE DESIGNATIONS ARE PER CITY OF GARDEN GROVE DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT / PLANNING SERVICES DIVISION)
GENERAL PLAN DESIGNATION: INDUSTRIAL
ZONE DESIGNATION: PUD-103-76, (REV. 2018) INDUSTRY SUBDISTRICT

UTILITY PROVIDERS:

WATER & SEWER
CITY OF GARDEN GROVE
13802 NEWHOPE ST
GARDEN GROVE, CA 92843
PHONE: (714) 741-5561
CONTACT: TOMMY SON

TELEPHONE:
FRONTIER COMMUNICATIONS
7352 SLATER AVENUE
HUNTINGTON BEACH, CA 92647
PHONE: (714) 375-6705
CONTACT: ROMAN MENDOZA

CABLE:
CHARTER COMMUNICATIONS
1777 CENTER COURT DRIVE NORTH, 8TH FLOOR
CERRITOS, CA 90703
PHONE: (562) 677-0325
CONTACT: ANA DIAZ

GAS:
SO. CALIF. GAS COMPANY
1919 S. STATE COLLEGE BLVD
ANAHEIM, CA 92806
PHONE: (800) 427-2200
CONTACT: KATRINA REGAN

ELECTRIC:
SCE
1241 S. GRAND AVENUE
SANTA ANA, CA 92705
PHONE: (714) 796-9886
CONTACT: JOSIAH PURDY

DIGALERT — DIAL TOLL FREE 1-800-422-4133 AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT(SOC) OF SOUTHERN CALIFORNIA

Last Update:10/5/22
O:\4100-4199\4103\TPM\4103_TPM.dwg

REVISIONS

NO.	DESCRIPTION	DATE
A	REVISION PER NEW EASEMENT AND COMMENTS PER PLAN CHECK	10/05/2022
B	"	"
C	"	"
D	"	"
E	"	"
F	"	"
G	"	"
H	"	"
I	"	"
J	"	"
K	"	"

APPLICANT:
SCANNELL PROPERTIES
8801 RIVER CROSSING BLVD., SUITE 300
INDIANAPOLIS, IN 46240
(619) 931-9144

ARCHITECT:
LPA
4590 MACARTHUR BLVD. SUITE 500
NEWPORT BEACH, CA 92660
PHONE: (714) 822-1171

CIVIL ENGINEER:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

SURVEYOR:
PREPARED UNDER THE DIRECTION OF:
BRIAN L. THIENES
P.L.S. NO. 5750
10/05/22
DATE
PROFESSIONAL LAND SURVEYOR — BRIAN L. THIENES — NO. 5750 — STATE OF CALIFORNIA

CITY OF GARDEN GROVE

TENTATIVE PARCEL MAP NO. 2022-167

BEING A SUBDIVISION OF PARCELS 2 AND 3 OF PARCEL MAP NO. 85-168, AS PER MAP FILED IN BOOK 218 OF PARCEL MAPS, PAGES 35 AND 37, RECORDS OF SAID COUNTY.

SP-122-2023, PM-2022-167

Kimley»Horn

October 28, 2022

Dai Vu
City Traffic Engineer
City of Garden Grove
11222 Acacia Parkway
Garden Grove, CA 92840

RE: *Traffic Memorandum for the Proposed 7390 & 7440 Lincoln Way Industrial Project in the City of Garden Grove*

Dear Mr. Vu:

Kimley-Horn and Associates, Inc. is submitting this Traffic Memorandum to the City of Garden Grove to provide the trip generation and VMT screening for the proposed 7390 & 7440 Lincoln Way Industrial Project in the City of Garden Grove. The proposed trip generation and VMT screening for the project is presented below.

PROJECT DESCRIPTION

The project site is located at 7390 and 7440 Lincoln Way in the City of Garden Grove. The project site is currently occupied by two office buildings totaling 44,565 square feet. The project will involve the demolition of the existing uses and the construction of an 88,164-square-foot warehouse building. A copy of the project site plan is provided on Attachment 1.

Vehicular access provisions for the project site would be provided via two full-movement driveways on Western Avenue and one full-movement driveway on Lincoln Way.

TRIP GENERATION COMPARISON

Trip generation estimates for the existing and proposed uses are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) trip rates for General Office Building (ITE Land Use 710) and Warehousing (ITE Land Use 150).

Trip generation rates and the resulting trip generation rates for the existing and proposed uses are summarized on Attachment 2. The existing use is estimated to generate 483 daily trips, with 68 trips in the morning peak hour, and 64 trips in the evening peak hour.

The proposed project is estimated to generate 151 daily trips, with 15 trips in the morning peak hour, and 15 trips in the evening peak hour. Passenger car equivalent (PCE) factors were then applied to the truck types, based on the number of axles (1.5 PCE for 2-axle trucks, 2.0 PCE for 3-axle trucks, and 3.0 for 4+ axle trucks) to determine the total PCE volumes generated by the proposed industrial use.

After applying PCE factors, the proposed project is estimated to generate 208 daily PCE trips, with 19 PCE trips in the morning peak hour, and 20 PCE trips in the evening peak hour.

When comparing the existing and proposed project trip generation, the proposed project generates 276 fewer trips on a daily basis, with 49 fewer total trips in the morning peak hour and 44 fewer total trips in the evening peak hour.

Based on the trip generation comparison, the proposed project trip generation estimates are materially less than the estimated trips for the existing site.

JURISDICTIONAL REQUIREMENTS

Per the City of Garden Grove *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (TIA Guidelines; dated May 2020), a traffic study would be required for a proposed project when either the AM or PM peak hour trip generation from the proposed development is expected to exceed 50 vehicle trips.

Since the project is expected to generate 276 fewer net PCE trips on a daily basis, with 49 fewer net PCE trips in the morning peak hour, and 44 fewer net PCE trips in the evening peak hour, a traffic study would not be required.

VEHICLE MILES TRAVELED (VMT) ANALYSIS

The City's TIA Guidelines provide details on appropriate screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed level analysis. Screening thresholds are broken into the following three steps:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Project Type Screening

Transit Priority Area (TPA) Screening

Projects located within a TPA may be presumed to have a less than significant impact. A TPA is defined as a half-mile area around an existing major transit stop of an existing stop along a high-quality transit corridor. 'Major transit stop' means a site containing an existing rail station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and evening peak commute periods. A 'high-quality transit corridor' means a corridor with a fixed route bus service with service intervals no longer than 15 minutes during the peak commute hours.

City staff provided a City TPA map, which was prepared as part of the City of Garden Grove TIA Guidelines and is provided in Attachment 3. Review of the map indicates the project site is located within a TPA. However, this presumption may not be appropriate if the project meets the following criteria:

Criteria	Project	Criteria Met?
1. Has a Floor Area Ratio (FAR) of less than 0.75	FAR = 0.5	Yes
2. Includes more parking for use by residents, customers, or employees of the project than required by the City	Required – 43 Provided - 97	Yes
3. Is inconsistent with the applicable Sustainable Communities Strategies (as determined by the lead agency, with input from the Southern California Association of Governments [SCAG])	The project is consistent.	No
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units	The project does not replace affordable housing	No

Based on the criteria noted above, the project has a FAR of less than 0.75 and provides more parking than required by the City. As a result, the project does not meet the Transit Priority Area screening.

TPA Screening is not met.

Low VMT Area Screening

For this screening in Garden Grove, the OCTAM travel forecasting model was used to measure VMT performance for individual traffic analysis zones (TAZs). TAZs are geographic polygons similar to Census block groups used to represent areas of homogenous travel behavior. Total daily VMT per service population (population plus employment) was estimated for each TAZ.

City staff provided a Low VMT Areas map of the City, which was prepared as part of the City of Garden Grove TIA Guidelines and is provided in Attachment 3 (previously mentioned). Review of the Low VMT Area map indicates that the project is not located within a low VMT area (< -15% below County Average).

Low VMT Area Screening is not met.

Project Type Screening

Some project types have been identified as having the presumption of a less than significant impact, including projects generating less than 110 daily vehicle trips. As mentioned previously, the project is estimated to generate 151 daily trips. As such, the project cannot be presumed to create a less-than-significant transportation impact.

The Project Type Screening is not met.

Based on review of the VMT screening thresholds, the project does not meet any of the applicable screening thresholds. A VMT assessment for the proposed project is provided below.

VMT ASSESSMENT

A VMT comparison of the existing and proposed uses was completed based on the trip generation estimates for the site. The City's guidelines reference VMT per service population (population plus employment) metric. Both the existing and proposed uses for the project site are employment-based. As such, service population would be the same as employment for both office and warehouse uses. Therefore, VMT per employee metric has been used for the VMT assessment.

The VMT assessment is based on the following trip length assumption (consistent with the County of Orange *Updated Transportation Implementation Manual* [November 2020])

- 24.1 VMT/employee

The trip generation values were then converted to number of employees for each use using the ITE Trip Generation Manual (11th Edition). The number of employees for the existing and proposed land uses were calculated to be:

- Existing office building = 145 employees
- Proposed warehouse building = 30 employees

Employee calculations are provided in Attachment 4. The existing VMT, based on the applicable number of employees and VMT assumptions noted above, is provided in Table 1 below.

TABLE 1: Existing VMT

Existing Site	Daily VMT
44,565 SF of Office	3,495

The proposed project VMT, based on the applicable number of employees and VMT assumptions noted above, is provided in Table 2 below.

TABLE 2: Proposed Project VMT

Proposed Project	Daily VMT
88,164 SF of Warehouse	723

Compared to the existing VMT for the site, the proposed project would generate less VMT and would not increase the total VMT. Therefore, the VMT of the proposed project would be considered less-than-significant, and no further analysis is required.

Please contact me if you have any questions or comments.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Trevor Briggs, P.E.
Project Engineer

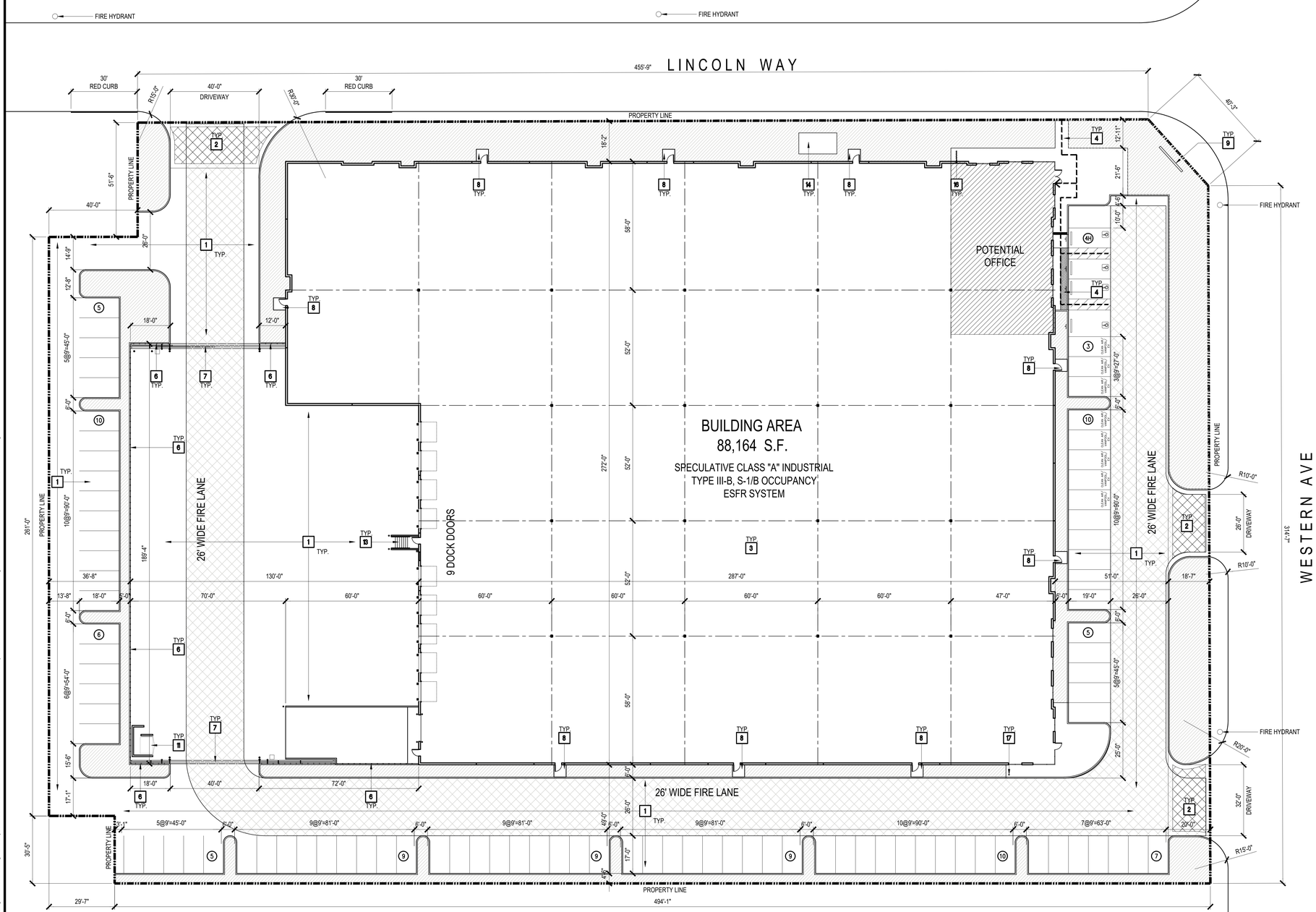
APPROVED:

By:

_____.

Dai Vu
City Traffic Engineer, City of Garden Grove

ATTACHMENT 1 - SITE PLAN



APPLICANT/OWNER

JAY TANJUAN
24411 RIDGE ROUTE DRIVE SUITE 120 LAGUNA HILLS CA 92653
619-931-9144
JAY.TANJUAN@SCANNELLPROPERTIES.COM

PROJECT ADDRESS / APN

7390 LINCOLN WAY
GARDEN GROVE CA 92841

VICINITY MAP

PROJECT DESCRIPTION

NEW CONSTRUCTION FOR (1) SPECULATIVE 88,164 SF TYPE III-B, S-1/B OCCUPANCY WAREHOUSE WITH ESFR FIRE SPRINKLER SYSTEM. PROPOSED SITE IMPROVEMENTS CONSIST OF CONCRETE TILT SCREEN WALL, TRASH ENCLOSURE, PUMP HOUSE, SITE LIGHTING STANDARDS, WROUGHT IRON FENCE AND HARDSCAPE/LANDSCAPE IMPROVEMENTS PER CITY STANDARDS.

PROJECT DATA

Scannell, GARDEN GROVE

SITE AREA		176,444	SF
		4.051	Acres
BUILDING AREA			
1ST FLOOR	WAREHOUSE	81,164	SF
	OFFICE	3,500	SF
1ST TOTAL		84,664	SF
2ND FLOOR	OFFICE	3,500	SF
TOTAL		**88,164**	SF
PROJECT FACT			
	COVERAGE		0.48
	FAR		0.50
	CLEAR HEIGHT		36'
ZONING			
ZONE ORDINANCE			PUD-103-76
MAX BUILDING HEIGHT			60'
SET BACK			
	FRONT	17'	
	SIDE	0'	
	REAR	0'	
PARKING REQUIREMENT			
	AUTO PARKING		
	SIZE		9'X19'
	WAREHOUSE	1ST 20K @1/1000 SF	20
	WAREHOUSE	2ND 20K @1/2000 SF	10
	WAREHOUSE	ABV. 40K @ 1/4000 SF	13
	TOTAL		43
	Office included with 10% of GFA		
PROJECT PROVIDED			
PARKING PROVIDED			
	AUTO PARKING		
	STARNDARD	9'X19' OR 17'+2' OH	97

GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINES UNLESS NOTED OTHERWISE.
2. ENTIRE PROJECT SHALL BE PERMANENTLY MAINTAINED WITH A SMART AUTOMATIC IRRIGATION SYSTEM.
3. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING SITE DRAINAGE, TOPOGRAPHY AND UTILITIES.
4. FOR PAVING SECTIONS, CONCRETE CURBS, SWALES AND GUTTERS SEE CIVIL DRAWINGS.
5. PROPERTY LINE ARE REFERENCE ONLY. REFER TO CIVIL DRAWINGS FOR HORIZONTAL CONTROL.
6. LANDSCAPE AREAS SHALL BE DELINEATED WITH A MIN. 6" CONCRETE CURB.

KEYNOTES

1. SITE PAVING WITH HEAVY BROOM FINISH. SEE CIVIL FOR PAVEMENT THICKNESS
2. DECORATIVE PAVEMENT AT ENTRY - W/ SAW CUT PATTERN
3. PRIMARY BUILDING
4. PEDESTRIAN CONCRETE WALKWAY WITH MEDIUM BROOM FINISH
5. NOT USED.
6. WROUGHT IRON FENCE 8'H FT 8'H BLACK PAINTED VEHICULAR ROLLING GATE WITH KNOX PAD
7. LOCK. MANUALLY OPERATED. PROVIDE CONDUITS FOR FUTURE OPERATOR
8. 5'-6" X 6' X 4" THICK CONCRETE LANDING PAD AT ALL EXTERIOR MANDOORS WITH MEDIUM BROOM FINISH.
9. FUTURE MONUMENT SIGN WITH ELEC. CONDUITS
10. NOT USED.
11. TRASH ENCLOSURE PER GG-STD-B-502
12. NOT USED.
13. EXTERIOR CONCRETE STAIR
14. APPROXIMATE LOCATION OF ELEC. TRANSFORMER WITH BOLLARD PROTECTION AND LANDSCAPE SCREENING
15. NOT USED.
16. SHORT TERM - BICYCLE RACK 8% OF PARKING STALL
17. DESIGNATED SMOKING AREA - 25' AWAY FROM ANY ENTRY

LEGEND

- STANDARD PARKING STALL 9' X 19' OR WITH 17' WITH 2' OVERHANG
- CLEAN AIR, VANPOOL / EV 9' X19'
- ADA PARKING VAN 12' X 19' OR STANDARD 9' X 19' WITH 5' CLR AISLE
- PROPERTY LINE
- ACCESSIBLE PATH OF TRAVEL. MAX 5% SLOPE AND MAX 2% CROSS SLOPE WITH 48" MIN. CLEAR, UNLESS NOTED OTHERWISE WITH ADA ACCESSIBLE RAMP
- LANDSCAPE, SEE LANDSCAPE DRAWINGS

LHA
4590 MacArthur Blvd Suite 500 Newport Beach, CA 92660

4590 MACARTHUR BLVD. SUITE 500
NEWPORT BEACH CA 92660
PROJECT MANAGER: STEVE HONG
714 - 822 - 1171, STEVE@LHARCHS.COM

LICENSED ARCHITECT
STEVE K. HONG
NO. C-33677
REN 12-31-22
STATE OF CALIFORNIA

CONSULTANTS

CIVIL ENGINEER
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714-521-4811
SAKARIN@THIENESENG.COM
ATTN: SAKARIN SRIVONGE

LANDSCAPE ARCHITECT
HUNTER LANDSCAPE INC.
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PLACENTIA CA 92870
WILLC@HUNTERLANDSCAPE.NET
ATTN: WILL COCHRAN

7390 LINCOLN WAY

7390 LINCOLN WAY
GARDEN GROVE CA 92841

SCANNELL PROPERTIES

24411 RIDGE ROUTE DRIVE SUITE
120 LAGUNA HILLS CA 92653

No.	ISSUANCE	DATE

JOB No.
22-034

DRAWN STEVE HONG
CHECKED STEVE HONG

SHEET TITLE
ARCHITECTURAL SITE PLAN
OVERALL SITE PLAN

SHEET NUMBER
DRC-A1.01

OVERALL SITE PLAN

TRUE NORTH

SCALE 1" = 20'-0"

1

ATTACHMENT 2

SUMMARY OF PROJECT TRIP GENERATION

7390 & 7440 LINCOLN WAY INDUSTRIAL PROJECT

TRIP GENERATION RATES

ITE Land Use	ITE Code	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
General Office Building	710	KSF	10.840	1.338	0.182	1.520	0.245	1.195	1.440
Warehousing	150	KSF	1.71	0.13	0.04	0.17	0.05	0.13	0.18

EXISTING TRIP GENERATION

Project Land Use	Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
General Office Building	44.565	KSF	483	60	8	68	11	53	64

PROJECT TRIP GENERATION

Project Land Use		Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Warehousing		88.164	KSF	151	12	3	15	4	11	15
Passenger Vehicles	73.00%			110	9	2	11	3	8	11
Trucks	27.00%			41	3	1	4	1	3	4

PROJECT TRIPS - PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [1]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	73.00%	110	1.0	110	9	2	11	3	8	11
2-Axle Trucks	7.13%	11	1.5	17	1	0	1	0	1	1
3-Axle Trucks	6.17%	9	2.0	18	1	0	1	0	1	1
4+ Axle Trucks	13.70%	21	3.0	63	5	1	6	2	5	7
Total Truck PCE Trips				98	7	1	8	2	7	9
Total Project PCE Trips				208	16	3	19	5	15	20
Net Difference (Proposed Minus Existing)				-276	-44	-5	-49	-6	-38	-44

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

PCE = Passenger Car Equivalent

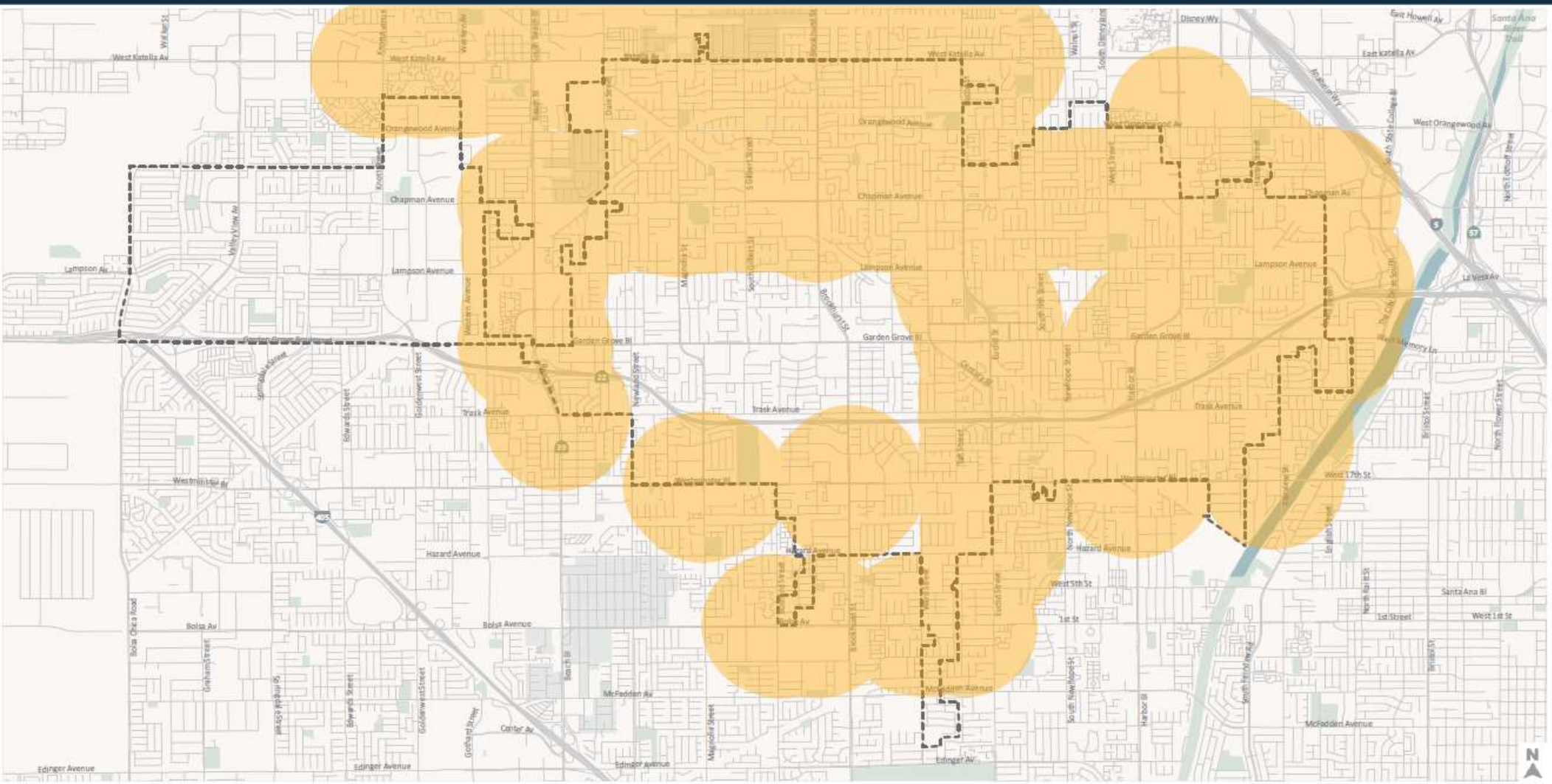
KSF = Thousand Square Feet

[1] Passenger Vehicle and Truck splits taken from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition Supplement

[2] Truck mix percentages were caclucated based on a ratio between the ITE truck splits and the Truck Trip Generatuon Study - City of Fontana, August 2003

ATTACHMENT 3

Garden Grove Transit Priority Areas (TPAs)



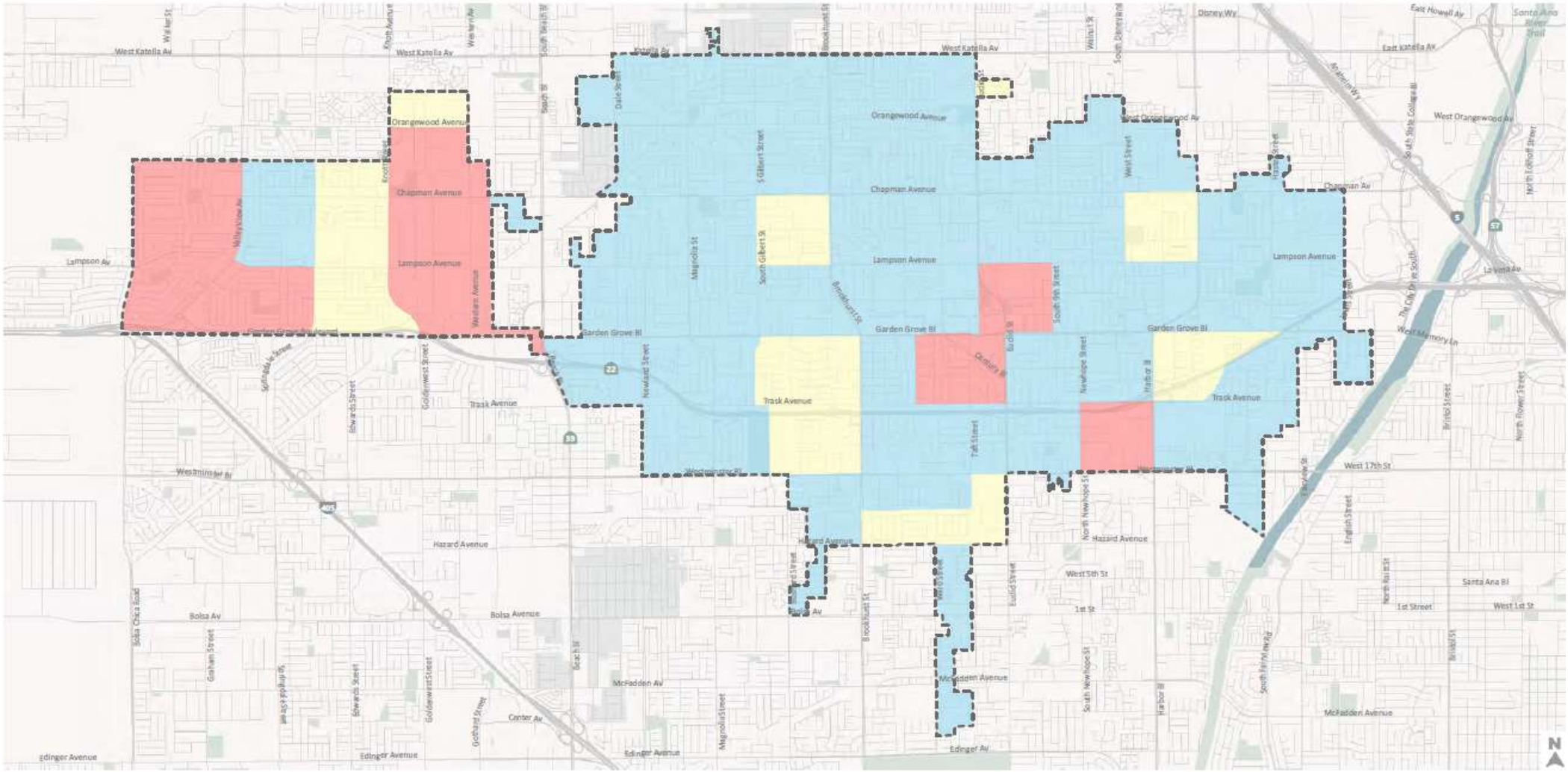
Transit Priority Area

City Boundary

City Boundary

Appendix A-1
Transit Priority Area

Garden Grove Low VMT Areas
15% Below Countywide Comparison



City Boundary
<-15% below County Average
0 to -15% below County Average
Higher than County Average

Appendix B-2
OD Method: Daily VMT per Service Population Compared to County Average (2012)

ATTACHMENT 4 EMPLOYEE CALCULATIONS		
	Existing	Proposed
Office Daily Emp Rate[1]	3.33	-
WH Daily Emp Rate[1]	-	5.05
Daily Trips	483	151
# of Employees	145	30
VMT/employee[2]	24.1	24.1
VMT	3495	723

[1] Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edtion

[2] 2020 Updated Transportaion Implementation Manual - County of Orange

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

December 13, 2022

Attn: City of Garden Grove
11222 Acacia Parkway
Garden Grove, CA 92840

RE: 7440 Lincoln Way, Garden Grove –Water Quality Impacts Discussion

To Whom It May Concern,

This letter serves to describe the potential water quality impacts of the proposed Lincoln Way Industrial Building at 7440 Lincoln Way, Garden Grove.

The project site encompasses approximately 4.05 acres. The existing site is developed and consists of two (2) two-story concrete buildings, which will be demolished. Proposed improvements to the site include the construction of one (1) commercial/industrial building with a truck yard on the westerly side of the building. Vehicle parking will be located on the easterly, southerly, and westerly sides of the building. The remainder of the site will consist of landscaping. The proposed work will result in an 8% increase in impervious footprint of the project site. The table below provides a comparison of the site pervious and impervious conditions prior to and following construction.

	Existing vs. Proposed Conditions			
	Pervious		**Impervious**	
	Area (acres)	**Percentage (%)**	**Area (acres)**	**Percentage (%)**
Existing Conditions	0.81	20	3.24	80
Proposed Conditions	0.49	12	3.56	88

	Potentially Significant Impacts	Less Than Significant with Mitigation Impact	Less Than Significant Impact	No Impact
HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?			**X**	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table level?			**X**	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			**X**	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			**X**	
e) 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?			**X**	
f) Otherwise substantially degrade water quality?			**X**	
g) Place housing within a 100-year flood hazard area as mapped on the federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				**X**
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				**X**
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			**X**	
j) Inundation by seiche, tsunami, or mudflow?			**X**	

Discussion: The discussion below is based on the Preliminary Hydrology Report and the Preliminary Water Quality Management Plan (PWQMP), prepared by Thienes Engineering, Inc. The PWQMP is a site-specific post-construction water quality management program intended to comply with the requirements of the local National Pollutant Discharge Elimination System (NPDES) Stormwater Program. It proposes to address pollutants of concern of the proposed project through the implementation of applicable Best Management Practices (BMPs).

a) Violate any water quality standards or waste discharge requirements?

Less than Significant Impact. Federal and state regulations and programs are designed to protect and enhance water quality, such as the Clean Water Act, the Porter-Cologne Water Quality Control Act, the NPDES Program, the Municipal Stormwater Permitting Program, and the Water Quality Control Plan for the Santa Ana River Basin. The proposed project would be required to comply with these requirements, in addition to the water quality requirements of the City of Garden Grove Municipal Code, Garden Grove Sanitary District, and the Garden Grove Public Works Water Service Division.

Pursuant to the Clean Water Act, the discharge of pollutants to waters of the U.S. from any point source is unlawful, unless the discharge is in compliance with a NPDES permit. Municipal and industrial stormwater discharges are also regulated under the NPDES program. The California State Water Resources Board maintains the California NPDES program through the Regional Water Quality Control Boards.

Construction activities that disturb one acre of land or more must apply for coverage under the State Water Resources Control Board General Construction Activity Stormwater Permit. To obtain coverage, a SWPPP must be prepared describing BMPs for erosion and sediment controls (i.e., short repeat cycles of irrigation water timing, use of mulch in planter areas), runoff water quality monitoring, waste disposal requirements, post-construction control measures and non-stormwater management controls must be prepared. The proposed project, which will disturb approximately 4.05 acres of land, would be required to obtain coverage under the General Construction Activity Stormwater Permit and a Stormwater Pollution Prevention Plan (SWPPP) would be required. Construction activities for the proposed project would include activities such as clearing and grading that would expose surface soils and could result in sediment and runoff in downstream receiving waters along with other miscellaneous waste. The control of construction-related pollutants, however, would be achieved through the implementation of BMPs identified in the SWPPP as required by the General Construction Activity Stormwater Permit.

According to the Preliminary Hydrology Report and the PWQMP, the existing project site is developed with approximately 80 percent of impervious area. The site is predominantly flat and drainage surface flows towards Lincoln Way via street curb to a catch basin, then conveyed northerly via a public storm drain to the Stanton Storm Channel, and ultimately flows to the Anaheim Bay.

The proposed project would consist of 88 percent of impervious area. The proposed condition maintains this drainage pattern with a proposed parkway culvert that discharges site flows to Lincoln Way, where they will enter the same existing storm drain. Since the existing 100-year peak flow rate of 16.2 cubic feet per second (cfs) is comparable to the proposed 100-year peak flow rate of 16.6 cfs, the proposed improvements will not increase the risk of flooding or exceed the capacity of the existing 39-inch RCP and Stanton Storm Channel.

Although impervious surfaces would be increased with implementation of the proposed project, no alteration of a course or stream would occur. Furthermore, the Preliminary Hydrology Report and the PWQMP prepared for the proposed project would ensure compliance with the NPDES Stormwater Program and include BMPs that would ensure no substantial alteration of the existing drainage pattern at the project site would occur. Due to a high groundwater elevation, infiltration at the site was deemed

infeasible. Instead of addressing the Design Capture Volume (DCV), the proposed improvements will treat the Stormwater Quality Design Flow (SQDF), through a flow-based Modular Wetland System (MWS) in order to meet the North Orange County WQMP requirements. The SQDF is computed to achieve 80 percent average annual capture efficiency, determined by exhibits found in the Orange County Technical Guidance Document (OCTGD). The summary of the water quality calculations is shown in the table below.

SQDF Summary Table – DA 1 DMA A							
Drainage Area (acres)	Tc (mins)	i (in/hr)	imp	C	SQDF (cfs)	Modular Wetlands	
						Model	Total Treatment (cfs)
3.69	5.0	0.2625	0.95	0.86	0.835	MWS-L-8-24-V	0.860

The proposed drainage will be collected using roof downspouts, catch basins, and storm drain that will convey flows to the MWS. The MWS unit incorporates a pre-treatment chamber that includes separation and pre-filter cartridges before biofiltration treatment occurs. In the primary treatment chamber, proprietary engineered media is utilized to biofilter flows. Biofiltered flows then enter an underdrain system, which conveys treated stormwater to the discharge chamber. Once there, flows exit the system via an outlet pipe to the proposed sump pump and is discharged onto Lincoln Way via a parkway culvert.

Also, the PWQMP incorporates non-structural and structural source control BMPs, as defined in the Orange County Drainage Area Management Plan (DAMP). For example, the non-structural BMPs proposed for source control and reduction/elimination of pollutants include providing educational environmental awareness materials to all employees and contractors during the initial hiring and orientation process, and annually thereafter; providing restrictions to all employees, contractors, etc. on certain activities conducted on the project site, such as vehicle washing, maintenance or repair outside of designated areas, hosing down of paved areas, and keeping dumpster lids open; maintaining common area landscape with efficient landscape and irrigation practices; and implementing trash management and litter control procedures to reduce pollution of drainage water. The structural BMPs include providing storm drain system labeling and signage on grate and drain inlets to alert the public to the destination of pollutants discharged into storm water; and using efficient irrigation systems and landscape design to minimize the runoff of excess irrigation water into the storm drain system.

The incorporation of BMPs prescribed in the WQMP would minimize impervious areas in addition to reducing potential pollutants that enter the surface flows as a result of project implementation, to the maximum extent practicable, as required by the Regional Water Quality Control Board. Prior to the commencement of grading and construction activities, a final WQMP would be prepared. With implementation of the SWPPP, WQMP, and BMPs, the construction and operation of the proposed project would not violate any water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff or otherwise substantially degrade water quality, nor would it substantially alter the existing drainage pattern of the project site or area. Therefore, impacts would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table level?

Less than Significant Impact. The City's sources of water supply consist of groundwater and imported surface water. In the recent past the City has received its water supply from its groundwater wells that access the Orange County Groundwater Basin and from imported water from the Metropolitan Water District of Southern California (Metropolitan).

According to the Orange County Infiltration Study performed by Pace, the groundwater table at the site is expected to be between 5 to 10 feet below ground surface. During the geotechnical investigation, groundwater was encountered at approximately 12 feet below ground surface. Due to the presence of a shallow groundwater table, infiltration BMPs were not proposed. Since the project does not propose infiltration BMPs, the site is not expected to pose any significant impacts to the groundwater table. The proposed MWS will treat the required SQDF from the proposed impervious cover. Therefore, impacts would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. According to the Preliminary Hydrology Report and the PWQMP, the existing project site is developed. The site is predominantly flat and drainage surface flows towards Lincoln Way via street curb to a catch basin, then conveyed northerly via a public storm drain to the Stanton Storm Channel, and ultimately flows to the Anaheim Bay. The proposed condition maintains this drainage pattern with a proposed parkway culvert that discharges site flows to Lincoln Way, where they will enter the same existing storm drain. Since the existing 100-year peak flow rate of 16.2 cfs is comparable to the proposed 100-year peak flow rate of 16.6 cfs, the proposed improvements will not increase the risk of flooding or exceed the capacity of the existing 39-inch RCP and Stanton Storm Channel.

During construction/soil disturbance activities, the project will obtain coverage under the General Construction Activity Stormwater Permit and an Erosion Control Plan (ECP) and SWPPP will be developed to minimize erosion, sedimentation and siltation from these activities. Therefore, impacts would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less than Significant Impact. According to the Preliminary Hydrology Report and the PWQMP, the existing project site is developed. The site is predominantly flat and drainage surface flows towards Lincoln Way via street curb to a catch basin, then conveyed northerly via a public storm drain to the Stanton Storm Channel, and ultimately flows to the Anaheim Bay. The proposed condition maintains this drainage pattern with a proposed parkway culvert that discharges site flows to Lincoln Way, where they will enter the same existing storm drain. Since the existing 100-year peak flow rate of 16.2 cfs is comparable to the

proposed 100-year peak flow rate of 16.6 cfs, the proposed improvements will not increase the risk of flooding or exceed the capacity of the existing 39-inch RCP and Stanton Storm Channel. Therefore, impacts would be less than significant.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact. As mentioned in the previous responses above, the proposed condition maintains the drainage pattern with a proposed parkway culvert that discharges site flows to Lincoln Way, where they will enter the same existing storm drain. Since the existing 100-year peak flow rate of 16.2 cfs is comparable to the proposed 100-year peak flow rate of 16.6 cfs, the proposed improvements will not increase the risk of flooding or exceed the capacity of the existing 39-inch RCP and Stanton Storm Channel.

The proposed use for the site includes light industrial warehouse activities and the expected land use pollutants may include suspended solids, sediment, nutrients, heavy metals, pathogens, pesticides, oil and grease, toxic organic compounds, and trash and debris. The project proposes catch basin filter inserts and a biofiltration BMP to mitigate the expected pollutants. The proposed drainage will be collected using roof downspouts, catch basins, and storm drain that will convey flows to the biofiltration BMP. The biofiltration BMP unit incorporates a pre-treatment chamber that includes separation and pre-filter cartridges before biofiltration treatment occurs. In the primary treatment chamber, proprietary engineered media is utilized to biofilter flows. Biofiltered flows then enter an underdrain system, which conveys treated stormwater to the discharge chamber. Once there, flows exit the system via an outlet pipe to the proposed sump pump and is discharged onto Lincoln Way via a parkway culvert. The minimum volume treated was computed to achieve 80 percent average annual capture efficiency, determined by exhibits found in the OCTGD. Therefore, impacts would be less than significant.

f) Otherwise substantially degrade water quality?

Less than Significant Impact. As mentioned in the previous response, the proposed use for the site includes light industrial warehouse activities and the expected land use pollutants may include suspended solids, sediment, nutrients, heavy metals, pathogens, pesticides, oil and grease, toxic organic compounds, and trash and debris. The project proposes catch basin filter inserts and a biofiltration BMP to mitigate the expected pollutants. The proposed drainage will be collected using roof downspouts, catch basins, and storm drain that will convey flows to the biofiltration BMP. The biofiltration BMP unit incorporates a pre-treatment chamber that includes separation and pre-filter cartridges before biofiltration treatment occurs. In the primary treatment chamber, proprietary engineered media is utilized to biofilter flows. Biofiltered flows then enter an underdrain system, which conveys treated stormwater to the discharge chamber. Once there, flows exit the system via an outlet pipe to the proposed sump pump and is discharged onto Lincoln Way via a parkway culvert. The minimum volume treated was computed to achieve 80 percent average annual capture efficiency, determined by exhibits found in the OCTGD. Therefore, impacts would be less than significant.

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

No Impact. The project does not propose housing. Additionally, the project site is located in Zone X, Areas of 1 percent annual chance with average depth less than one foot or with drainage areas of less than one square mile, according to the Flood Insurance Rate Map (06059C0141J) (FIRM) from the Federal Emergency Management Agency (FEMA). Therefore, there is no impact.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. The project does not propose structures which would impede or redirect flood flows. Additionally, the project site is located in Zone X, Areas of 1 percent annual chance with average depth less than one foot or with drainage areas of less than one square mile, according to the Flood Insurance Rate Map (06059C0141J) (FIRM) from FEMA Therefore, there is no impact.

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

Less than Significant Impact. With regards to a flood hazard, the project site is located in Zone X, Areas of 1 percent annual chance with average depth less than one foot or with drainage areas of less than one square mile, according to the Flood Insurance Rate Map (06059C0141J) (FIRM) from FEMA Therefore, there is no impact.

However, the entire City falls within the Prado Dam inundation area and the proposed project would be subject to flows due to failure or overflow at Prado Dam. However, the City's Local Hazard Mitigation Plan (LHMP) concluded that it is unlikely a dam failure will occur in the future that would impact the City as there have been no recorded events of dam failure in or around the City and Prado Dam has not been at risk of failure in the past. Therefore, impacts would be less than significant.

j) Inundation by seiche, tsunami, or mudflow?

Less than Significant Impact. According to the City's LHMP, tsunami and seiches hazards were excluded from the plan as the City is not on the coast or next to a large body of water. Thus, the proposed project is not located in a tsunami or seiche zone. Additionally, the LHMP, the likelihood of mudslides occurring in the project site area are relatively low due to the land use type and the surrounding topography. Therefore, impacts would be less than significant.

In conclusion, mitigations are implemented throughout the various stages of the project to minimize any anticipated effects on the site's stormwater quality. Please don't hesitate to contact me if you have any questions or comments (kristie@thieneseng.com / 714-521-4811 x282).

Respectfully Submitted,
Thienes Engineering, Inc.

Kristie Ferronato, PE
Project Manager

Attachment 6 - Air Quality Study

Air Quality Assessment
7390 & 7440 Lincoln Way Industrial Project
City of Garden Grove, California

Prepared by:

Kimley-Horn and Associates, Inc.
1100 W. Town and Country Road, Suite 700
Orange, California 92868
Contact: Ms. Danielle Millar
714.939.1030

November 2022

TABLE OF CONTENTS

LIST OF ABBREVIATED TERMS

AQMP	air quality management plan
AB	Assembly Bill
ADT	average daily traffic
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAAQS	California Ambient Air Quality Standards
CCAA	California Clean Air Act
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
cy	cubic yards
DPM	diesel particulate matter
EPA	Environmental Protection Agency
FCAA	Federal Clean Air Act
H_2S	hydrogen sulfide
Pb	lead
LST	localized significance threshold
µg/m^3	micrograms per cubic meter
mg/m^3	milligrams per cubic meter
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
O_3	ozone
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SRA	source receptor area
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCAG	Southern California Association of Governments
sf	square foot
SO_{4-2}	sulfates
SO_2	sulfur dioxide
TAC	toxic air contaminant
C_2H_3Cl	vinyl chloride
VOC	volatile organic compound

1 INTRODUCTION

This report documents the results of an Air Quality Assessment completed for the 7390 & 7440 Lincoln Way Industrial Project (Project). The purpose of this Air Quality Assessment is to evaluate the potential construction and operational emissions associated with the Project and determine the level of impact the Project would have on the environment.

1.1 Project Location

The Project is a proposed warehouse distribution building to be located at 7390 and 7440 Lincoln Way in the City of Garden Grove (City), California; refer to **Exhibit 1: Regional Vicinity** and **Exhibit 2: Site Vicinity**. The Project site is zoned Planned Unit Development Industrial (PUD(I)) zone (PUD-103-76 Rev. 92) and located within the Industrial land use designation in the City's General Plan. The Project site is surrounded by industrial uses; refer to **Exhibit 2**.

1.2 Project Description

The Project site is currently developed with two occupied office buildings totaling 71,202 square feet. The Project would involve the demolition of the existing uses and the construction of an 88,164 square foot warehouse building with potential office space, parking, and landscaping on approximately 4.05 net acres; refer to **Exhibit 3: Site Plan**. The warehouse building would include 81,164 sf of warehouse space and 7,000 sf of ancillary office space, the latter on two levels, and 9 dock doors. Employee parking and landscaping would be provided along the property boundaries and building frontages. Trucks and passenger vehicles would access the Project site from three driveways: two on Western Avenue and one on Lincoln Way.

Hours of Operation

The tenant(s) of the warehouse facility has not been identified; therefore, the precise nature of facility operations cannot be determined at this time. Any future occupant would be required to adhere to the pertinent City regulations. For the purposes of this analysis, to provide a reasonable worst case analysis, the hours of operation are assumed to be 7 days a week, 24 hours per day.

Construction Activities

Construction of the proposed Project is expected to commence in June 2023 with a construction duration of approximately 7.5 months and would be completed in one phase. Total grading for the proposed Project is estimated to require approximately 6,436 cubic yards of cut and approximately 6,435 cubic yards of fill. Therefore, earthwork would be balanced on-site and no import/export would be required. Construction activities would occur consistent with City permitted construction hours (7:00 a.m. – 10:00 p.m.), with the exception of a few nighttime concrete pours.

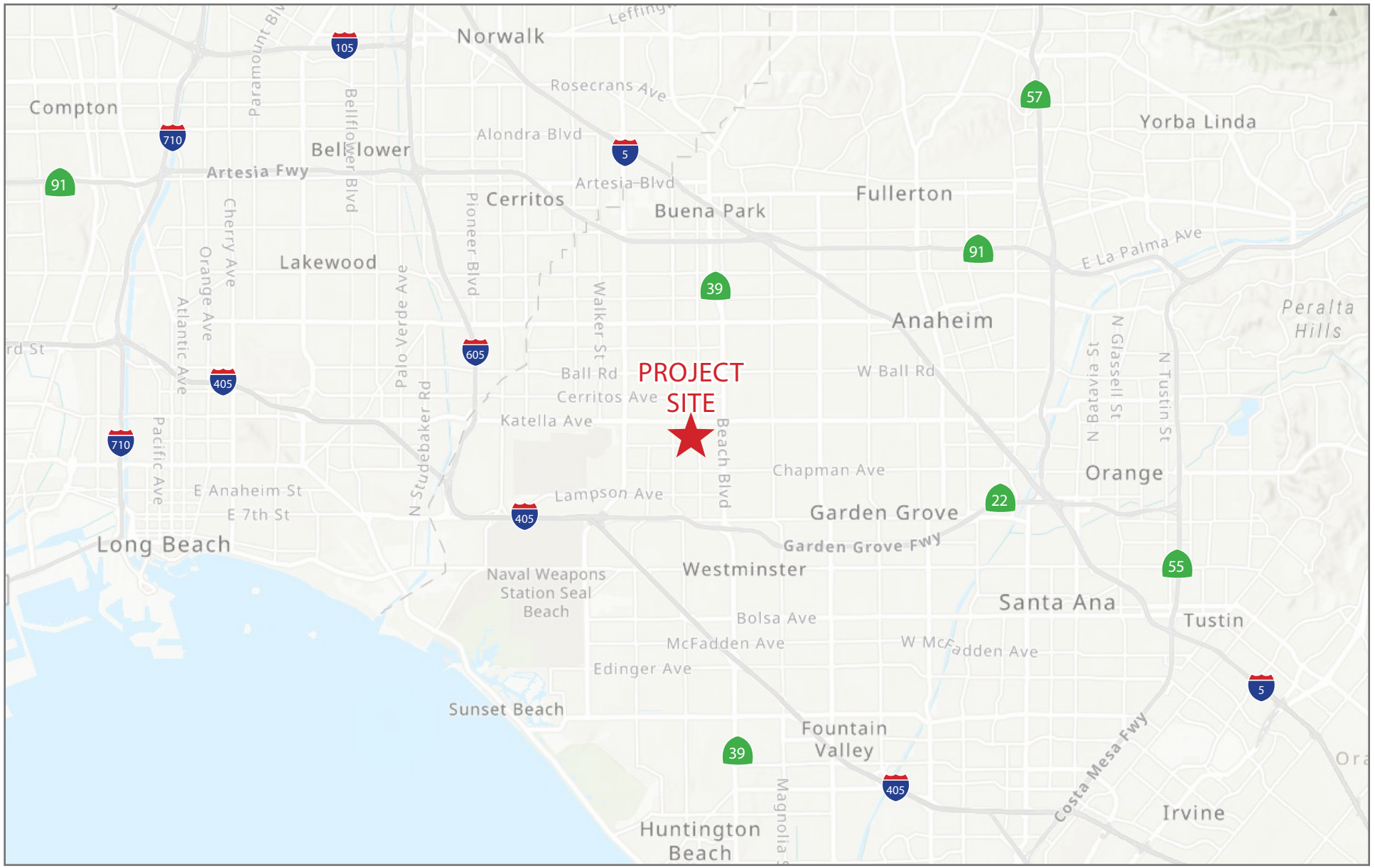


EXHIBIT 1: Regional Vicinity

7390 & 7440 Lincoln Way Industrial Project

City of Garden Grove

Not to Scale

Kimley»Horn

Expect More. Experience Better.

EXHIBIT 2: Site Vicinity

7390 & 7440 Lincoln Way Industrial Project

City of Garden Grove

Not to Scale

Kimley»Horn

Expect More. Experience Better.

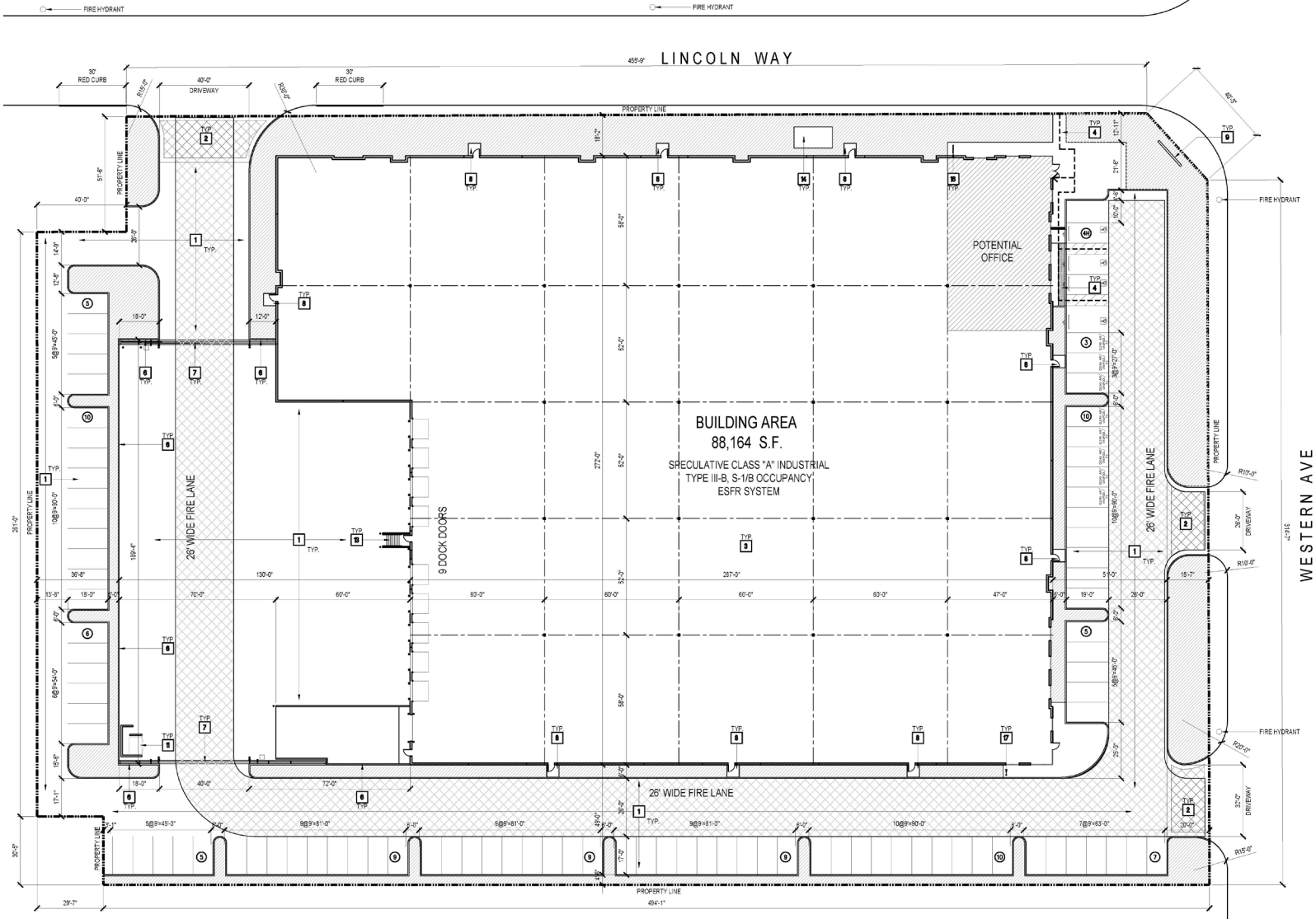


EXHIBIT 3: Site Plan

7390 & 7440 Lincoln Way Industrial Project

City of Garden Grove

Not to Scale

Kimley»Horn

Expect More. Experience Better.

2 ENVIRONMENTAL SETTING

2.1 Climate and Meteorology

The California Air Resources Board (CARB) divides the State into 15 air basins that share similar meteorological and topographical features. The Project site is located within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, as well as all of Orange County. The SCAB is on a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean on the southwest and high mountains forming the remainder of the perimeter.[1] Air quality in this area is determined by such natural factors such as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

The SCAB is part of a semi-permanent high-pressure zone in the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. This usually mild weather pattern is occasionally interrupted by periods of extreme heat, winter storms, and Santa Ana winds. The annual average temperature throughout the 6,645-square-mile SCAB ranges from low 60 to high 80 degrees Fahrenheit with little variance. With more oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

Contrasting the steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rainfall occurs between the months of November and April. Summer rainfall is reduced to widely scattered thundershowers near the coast, with slightly heavier activity in the east and over the mountains.

Although the SCAB has a semiarid climate, the air closer to the Earth's surface is typically moist because of the presence of a shallow marine layer. Except for occasional periods when dry, continental air is brought into the SCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog are frequent and low clouds known as high fog are characteristic climatic features, especially along the coast. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SCAB.

Wind patterns across the SCAB are characterized by westerly or southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Wind speed is typically higher during the dry summer months than during the rainy winter. Between periods of wind, air stagnation may occur in both the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During winter and fall, surface high-pressure systems over the SCAB, combined with other meteorological conditions, result in very strong, downslope Santa Ana winds. These winds normally continue for a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

In addition to the characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which air pollutants are mixed. These inversions are the marine inversion and the radiation inversion. The height of

[1] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.

the base of the inversion at any given time is called the "mixing height." The combination of winds and inversions is a critical determinant leading to highly degraded air quality for the SCAB in the summer and generally good air quality in the winter.

2.2 Air Pollutants of Concern

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by State and federal laws. These regulated air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants.

Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead are primary air pollutants. Of these, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. For example, the criteria pollutant ozone (O_3) is formed by a chemical reaction between ROG and NO_X in the presence of sunlight. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants. Sources and health effects commonly associated with criteria pollutants are summarized in **Table 1: Air Contaminants and Associated Public Health Concerns**.

Table 1: Air Contaminants and Associated Public Health Concerns

Pollutant	Major Man-Made Sources	Human Health Effects
Particulate Matter (PM_{10} and $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases/volatile organic compounds (ROG or VOC)[1] and nitrogen oxides (NO_X) in the presence of sunlight. Motor vehicle exhaust industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to O_3. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead (Pb)	Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline, metals	Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as

Table 1: Air Contaminants and Associated Public Health Concerns		
Pollutant	**Major Man-Made Sources**	**Human Health Effects**
	processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.	seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ.
Notes: [1] Volatile Organic Compounds (VOCs or Reactive Organic Gases [ROG]) are hydrocarbons/organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).		
Source: California Air Pollution Control Officers Association (CAPCOA), *Health Effects*, http://www.capcoa.org/health-effects/, Accessed July 14, 2022.		

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne substances that can cause short-term (acute) or long-term (i.e. chronic, carcinogenic or cancer causing) adverse human health effects (i.e. injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes more than 200 compounds, including particulate emissions from diesel-fueled engines.

CARB identified diesel particulate matter (DPM) as a toxic air contaminant. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. These stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Existing ambient air quality levels, historical trends, and projections near the Project site are documented by measurements made by the South Coast Air Quality Management District (SCAQMD), the air pollution regulatory agency in the SCAB that maintains air quality monitoring stations which collect ambient air quality measurements.

Pollutants of concern in the SCAB are O_3, PM_{10}, and $PM_{2.5}$. The closest air monitoring station to the Project that monitors ambient concentrations of these pollutants is the Anaheim Monitoring Station (located approximately 4.3 miles to the northeast). Local air quality data from 2018 to 2020 are provided in **Table 2: Ambient Air Quality Data**, which lists the monitored maximum concentrations and number of

exceedances of California Ambient Air Quality Standards (CAAQS or National Ambient Air Quality Standards (NAAQS) for each year.

Table 2: Ambient Air Quality Data

Criteria Pollutant	2018	2019	2020
Ozone (O_3) [1]			
1-hour Maximum Concentration (ppm)	0.112	0.096	0.142
8-hour Maximum Concentration (ppm)	0.071	0.082	0.097
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	1	1	6
NAAQS 8-hour (>0.070 ppm)	1	1	15
Carbon Monoxide (CO) [1]			
1-hour Maximum Concentration (ppm)	2.309	2.441	2.312
Number of Days Standard Exceeded			
NAAQS 1-hour (>35 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) [2]			
1-hour Maximum Concentration (ppm)	66.0	59.4	70.9
Number of Days Standard Exceeded			
NAAQS 1-hour (>0.100 ppm)	0	0	0
CAAQS 1-hour (>0.18 ppm)	0	0	0
Particulate Matter Less Than 10 Microns (PM_{10}) [1]			
National 24-hour Maximum Concentration	94.6	127.6	74.8
State 24-hour Maximum Concentration	94.6	127.1	74.5
State Annual Average Concentration (CAAQS=20 µg/m^3)	27.7	24.4	—
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 µg/m^3)	0	0	0
CAAQS 24-hour (>50 µg/m^3)	2	4	5
Particulate Matter Less Than 2.5 Microns ($PM_{2.5}$) [1]			
National 24-hour Maximum Concentration	63.1	36.1	60.2
State 24-hour Maximum Concentration	68.0	37.1	64.8
Number of Days Standard Exceeded			
NAAQS 24-hour (>35 µg/m^3)	7	4	12

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; ppm = parts per million; µg/m^3 = micrograms per cubic meter; – = not measured

[1] Measurements taken at the Anaheim Monitoring Station at 1630 Pampas Lane, Anaheim, California 92802 (CARB#30178)

Source: All pollutant measurements are from the CARB Aerometric Data Analysis and Management system database (https://www.arb.ca.gov/adam) except for CO, which were retrieved from the CARB Air Quality and Meteorological Information System (https://www.arb.ca.gov/aqmis2/aqdselect.php).

2.3 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive receptors that are in proximity to localized sources of toxics are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptors are the multi-family residences located approximately 360 feet to the north of the Project site.

3 REGULATORY SETTING

3.1 Federal

Federal Clean Air Act

Air quality is federally protected by the Federal Clean Air Act (FCAA) and its amendments. Under the FCAA, the United States Environmental Protection Agency (EPA) developed the primary and secondary NAAQS for the criteria air pollutants including O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead. Proposed projects in or near nonattainment areas could be subject to more stringent air-permitting requirements. The FCAA requires each state to prepare a State Implementation Plan to demonstrate how it will attain the NAAQS within the federally imposed deadlines.

The EPA can withhold certain transportation funds from states that fail to comply with the planning requirements of the FCAA. If a state fails to correct these planning deficiencies within two years of Federal notification, the EPA is required to develop a Federal implementation plan for the identified nonattainment area or areas. The provisions of 40 Code of Federal Regulations Parts 51 and 93 apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan. The EPA has designated enforcement of air pollution control regulations to the individual states. Applicable NAAQS are summarized in **Table 3: State and Federal Ambient Air Quality Standards**.

3.2 State of California

California Air Resources Board

CARB administers air quality policy in California. The CAAQS were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in **Table 3**, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates.

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for the preparation of the State Implementation Plan for meeting NAAQS for the State of California. Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events such as wildfires, volcanoes, etc. are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment. The applicable CAAQS are summarized in **Table 3**.

Table 3: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standards[1]	Federal Standards[2]
Ozone (O_3) [2, 5, 7]	8 Hour	0.070 ppm (137 µg/m³)	0.070 ppm
	1 Hour	0.09 ppm (180 µg/m³)	NA
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)
	1 Hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m³)	0.10 ppm[11]
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)
Sulfur Dioxide (SO_2) [8]	24 Hour	0.04 ppm (105 µg/m³)	0.14 ppm (365 µg/m³)
	1 Hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)
	Annual Arithmetic Mean	NA	0.03 ppm (80 µg/m³)
Particulate Matter (PM_{10}) [1, 3, 6]	24-Hour	50 µg/m³	150 µg/m³
	Annual Arithmetic Mean	20 µg/m³	NA
Fine Particulate Matter ($PM_{2.5}$) [3, 4, 6, 9]	24-Hour	NA	35 µg/m³
	Annual Arithmetic Mean	12 µg/m³	12 µg/m³
Sulfates (SO_{4-2})	24 Hour	25 µg/m³	NA
Lead (Pb) [10, 11]	30-Day Average	1.5 µg/m³	NA
	Calendar Quarter	NA	1.5 µg/m³
	Rolling 3-Month Average	NA	0.15 µg/m³
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m³)	NA
Vinyl Chloride (C_2H_3Cl) [10]	24 Hour	0.01 ppm (26 µg/m³)	NA

Notes:
ppm = parts per million; µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; – = no information available.

1 California standards for O_3, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e. all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. Measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe carbon monoxide standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.

2 National standards shown are the "primary standards" designed to protect public health. National standards other than for O_3, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour O_3 standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour O_3 standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m_3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m³.

3 Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard. NAAQS are set by the EPA at levels determined to be protective of public health with an adequate margin of safety.

4 On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour O_3 concentration per year, averaged over three years, is equal to or less than 0.070 ppm. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the O_3 level in the area.

5 The national 1-hour O_3 standard was revoked by the EPA on June 15, 2005.

6 In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}.

7 The 8-hour California O_3 standard was approved by the CARB on April 28, 2005 and became effective on May 17, 2006.

8 On June 2, 2010, the EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following EPA initial designations of the new 1-hour SO_2 NAAQS.

9 In December 2012, EPA strengthened the annual $PM_{2.5}$ NAAQS from 15.0 to 12.0 µg/m³. In December 2014, the EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

10 CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.

11 National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.

Source: South Coast Air Quality Management District, *Air Quality Management Plan*, 2016; California Air Resources Board, *Ambient Air Quality Standards*, May 6, 2016.

3.3 Regional

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is ensuring that CAAQS and NAAQS are attained and maintained in the SCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, and many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The SCAQMD is also the lead agency in charge of developing the AQMP, with input from the Southern California Association of Governments (SCAG) and CARB. The AQMP is a comprehensive plan that includes control strategies for stationary and area sources, as well as for on-road and off-road mobile sources. SCAG has the primary responsibility for providing future growth projections and the development and implementation of transportation control measures. CARB, in coordination with federal agencies, provides the control element for mobile sources.

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. The purpose of the AQMP is to set forth a comprehensive and integrated program that would lead the SCAB into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update to the SCAQMD's commitments towards meeting the federal 8-hour O_3 standards. The AQMP incorporates the latest scientific and technological information and planning assumptions, including the 2016 *Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) and updated emission inventory methodologies for various source categories.

The SCAQMD has published the *CEQA Air Quality Handbook* (approved by the SCAQMD Governing Board in 1993 and augmented with guidance for Localized Significance Thresholds [LSTs] in 2008). The SCAQMD guidance helps local government agencies and consultants to develop environmental documents required by California Environmental Quality Act (CEQA) and provides identification of suggested thresholds of significance for criteria pollutants for both construction and operation (see discussion of thresholds below). With the help of the *CEQA Air Quality Handbook* and associated guidance, local land use planners and consultants are able to analyze and document how proposed and existing projects affect air quality in order to meet the requirements of the CEQA review process. The SCAQMD periodically provides supplemental guidance and updates to the handbook on their website.

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Under federal law, SCAG is designated as a Metropolitan Planning Organization and under State law as a Regional Transportation Planning Agency and a Council of Governments.

The state and federal attainment status designations for the SCAB are summarized in **Table 4: South Coast Air Basin Attainment Status**. The SCAB is currently designated as a nonattainment area with respect to the State O_3, PM_{10}, and $PM_{2.5}$ standards, as well as the national 8-hour O_3 and $PM_{2.5}$ standards. The SCAB is designated as attainment or unclassified for the remaining CAAQS and NAAQS.

Table 4: South Coast Air Basin Attainment Status

Pollutant	State	Federal
Ozone (O_3) (1 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Ozone (O_3) (8 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Particulate Matter ($PM_{2.5}$) (24 Hour Standard)	–	Non-Attainment (Serious)
Particulate Matter ($PM_{2.5}$) (Annual Standard)	Non-Attainment	Non-Attainment (Moderate)
Particulate Matter (PM_{10}) (24 Hour Standard)	Non-Attainment	Attainment (Maintenance)
Particulate Matter (PM_{10}) (Annual Standard)	Non-Attainment	–
Carbon Monoxide (CO) (1 Hour Standard)	Attainment	Attainment (Maintenance)
Carbon Monoxide (CO) (8 Hour Standard)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Nitrogen Dioxide (NO_2) (Annual Standard)	Attainment	Attainment (Maintenance)
Sulfur Dioxide (SO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO_2) (24 Hour Standard)	Attainment	–
Lead (Pb) (30 Day Standard)	–	Unclassifiable/Attainment
Lead (Pb) (3 Month Standard)	Attainment	–
Sulfates (SO_{4-2}) (24 Hour Standard)	Attainment	–
Hydrogen Sulfide (H_2S) (1 Hour Standard)	Unclassified	–

Source: South Coast Air Quality Management District, *Air Quality Management Plan*, 2016; United States Environmental Protection Agency, *Nonattainment Areas for Criteria Pollutants (Green Book)*, 2022.

The following is a list of SCAQMD rules that are required of construction activities associated with the Project:

- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.

b) All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.

c) All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

- **Rule 2305 (Warehouse Indirect Source Rule)** - Rule 2305 was adopted by the SCAQMD Governing Board on May 7, 2021 to reduce NO_X and particulate matter emissions associated with warehouses and mobile sources attracted to warehouses. This rule applies to all existing and proposed warehouses over 100,000 square feet located in the SCAQMD. Rule 2305 requires warehouse operators to track annual vehicle miles traveled associated with truck trips to and from the warehouse. These trip miles are used to calculate the warehouses WAIRE (Warehouse Actions and Investments to Reduce Emissions) Points Compliance Obligation. WAIRE Points are earned based on emission reduction measures and warehouse operators are required to submit an annual WAIRE Report which includes truck trip data and emission reduction measures. Reduction strategies listed in the WAIRE menu include acquire zero emission (ZE) or near zero emission (NZE) trucks; require ZE/NZE truck visits; require ZE yard trucks; install on-site ZE charging/fueling infrastructure; install onsite energy systems; and install filtration systems in residences, schools, and other buildings in the adjacent community. Warehouse operators that do not earn a sufficient number of WAIRE points to satisfy the WAIRE Points Compliance Obligation would be required to pay a mitigation fee. Funds from the mitigation fee will be used to incentivize the purchase of cleaner trucks and charging/fueling infrastructure in communities nearby.

3.4 Local

City of Garden Grove General Plan

The Air Quality Element of the *City of Garden Grove General Plan* (General Plan) is intended to protect the public's health and welfare by implementing measures that allow the SCAB to attain Federal and State air quality standards. To achieve this goal, the Air Quality Element sets forth a number of programs to reduce current pollution emissions and to require new development to include measures to comply with air quality standards. Applicable General Plan air quality goals and policies include the following:

Air Quality Element

Goal AQ-1: Air quality that meets the standards set by the State and Federal governments.

AQ-IMP-1B: Encourage and assist employers in developing and implementing work trip reduction plans, employee ride sharing, modified work schedules, preferential carpool and vanpool parking, or any other trip reduction approach that is consistent with the Air Quality Management Plan for the South Coast Air Basin.

Goal AQ-2: Increased awareness and participation throughout the community in efforts to reduce air pollution and enhance air quality.

Policy AQ-2.2: Promote and encourage ride sharing activities within the community.

Policy AQ-2.3: Continue to improve existing sidewalks, bicycle trails, and parkways, and require sidewalk and bicycle trail improvements and parkways for new development or redevelopment projects.

AQ-IMP-2A: Establish additional park-and-ride facilities for work and non-work trip reductions.

AQ-IMP-2B: Require new development or redevelopment projects to provide pedestrian and bicycle trails access to nearby shopping and employment centers.

AQ-IMP-2C: Encourage companies that ship or receive high volumes of goods by commercial truck to limit operations to non-peak traffic periods.

Goal AQ-4: Efficient development that promotes alternative modes of transportation, while ensuring that economic development goals are not sacrificed.

Policy AQ-4.1: Review site developments to ensure pedestrian safety and promote nonautomotive users.

AQ-IMP-4C: Require sidewalks through parking lots, bicycle racks near building entrances and other provisions for the safety and convenience of pedestrian and bicycle riders at all commercial, mixed use, and production facilities.

Goal AQ-6: Increased energy efficiency and conservation.

AQ-IMP-6D: Require new development to comply with the energy use guidelines in Title 24 of the California Administrative Code).

Goal AQ-7: Reduced particulate emissions from paved and unpaved roads, parking lots, and building construction.

Policy AQ-7.2: Continue to work towards the reduction of particulate emission from grading, construction, street cleaning, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles, to the extent possible, to assist the region in meeting State and Federal standards.

Policy AQ-7.5: Reduce reactive organic compounds and particulate emissions.

AQ-IMP-7B: Continue to enforce rules and measures of the South Coast Air Quality Management District.

4 SIGNIFICANCE CRITERIA AND METHODOLOGY

4.1 Air Quality Thresholds

Based upon the criteria derived from State CEQA Guidelines Appendix G, a project normally would have a significant effect on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable state or federal ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

SCAQMD Thresholds

The significance criteria established by SCAQMD may be relied upon to make the above determinations. According to the SCAQMD, an air quality impact is considered significant if the Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality during construction and operational activities of land use development projects, as shown in **Table 5: South Coast Air Quality Management District Emissions Thresholds**.

Table 5: South Coast Air Quality Management District Emissions Thresholds

Criteria Air Pollutants and Precursors	Maximum Pounds Per Day	
	Construction-Related	Operational-Related
Reactive Organic Gases (ROG)	75	55
Carbon Monoxide (CO)	550	550
Nitrogen Oxides (NO_X)	100	55
Sulfur Oxides (SO_X)	150	150
Coarse Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55

Source: South Coast Air Quality Management District, *South Coast AQMD Air Quality Significance Thresholds,* April 2019.

Localized Carbon Monoxide

In addition to the daily thresholds listed above, development associated with the Project would also be subject to the CAAQS and NAAQS. These are addressed though an analysis of localized CO impacts. The significance of localized impacts depends on whether ambient CO levels near the Project site are above CO CAAQS and NAAQS (the more stringent CAAQS are 20 ppm for 1-hour and 9 ppm for 8-hour). The SCAB has been designated as attainment under the 1-hour and 8-hour CAAQS and NAAQS.

Localized Significance Thresholds

In addition to the CO hotspot analysis, the SCAQMD developed LSTs for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (off-site mobile source emissions are not included in the LST

analysis). LSTs represent the maximum emissions that can be generated at a project without expecting to cause or substantially contribute to an exceedance of the most stringent CAAQS or NAAQS. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects that disturb 5 acres or less on a single day. The City of Garden Grove is located within SCAQMD SRA 17. LSTs associated with the 100-meter threshold are provided in **Table 6: Localized Significance Thresholds for Construction/Operations** for informational purposes and to demonstrate that the thresholds increase as acreages increase.

Table 6: Localized Significance Thresholds for Construction/Operations

Project Size	Maximum Pounds Per Day			
	NO_X	CO	PM_{10}	$PM_{2.5}$
1 Acre	98/98	1,128/1,128	28/7	9/2
2 Acres	125/125	1,547/1,547	35/9	11/3
5 Acres	180/180	2,498/2,498	55/14	15/4

NO_X = Nitrogen Oxides; CO = Carbon Monoxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less

Note: Based on a receptor distance of 100 meters in SRA 17.
Source: South Coast Air Quality Management District, *Localized Significance Threshold Methodology,* July 2008.

4.2 Methodology

This air quality impact analysis considers the Project's construction and operational impacts. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod). CalEEMod is a Statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Air quality impacts were assessed according to methodologies recommended by CARB and the SCAQMD.

Construction equipment, trucks, worker vehicles, and ground-disturbing activities associated with Project construction would generate emissions of criteria air pollutants and precursors. Daily regional construction emissions are estimated by assuming construction occurs at the earliest feasible date (i.e., a conservative estimate of construction activities) and applying off-road, fugitive dust, and on-road emissions factors in CalEEMod.

Project operations would result in emissions of area sources (landscape maintenance equipment, emergency generators, etc.), energy sources (natural gas usage and off-site electricity generation), and mobile sources (motor vehicles from Project generated vehicle trips). Each of these sources are described below.

- **Area Source Emissions**. Area source emissions would be generated due to on-site equipment, architectural coatings, and landscape maintenance equipment.

- **Energy Source Emissions**. Energy source emissions would be generated due to electricity and natural gas usage associated with the Project. Primary uses of electricity and natural gas by the Project would be for miscellaneous warehouse equipment, space heating and cooling, water heating, ventilation, lighting, appliances, and electronics.

- **Mobile Source Emissions**. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$); however, CO tends to be a localized pollutant, dispersing rapidly at the source.

  Project-generated increases in operational emissions would be predominantly associated with motor vehicle use and are based on the *Traffic Memorandum for the Proposed 7390 & 7440 Lincoln Way Industrial Project* (Traffic Memo) prepared by Kimley-Horn (July 2022). Trip generation within the Traffic Memo and have been incorporated into CalEEMod, as recommended by the SCAQMD. Per the Traffic Memo, using the Warehousing trip generation rate (Institute of Transportation Engineers [ITE] code 150) the Project would generate 151 daily vehicle trips with approximately 27 percent trucks (i.e., 41 daily truck trips). Employee commute trip lengths use CalEEMod default lengths for projects in Orange County and truck trip lengths are assumed to be 33.2 miles one way.[2] It should be noted that the aforementioned daily trips do not account for the deduction in daily trips generated from the existing office buildings.

- **Off-Road Emissions**. Operational off-road emissions would be generated by off-road cargo handling equipment used during operational activities. For this Project it was assumed that the warehouse would include two forklifts and one yard truck per SCAQMD data.[3]

- **Emergency Backup Generators**. As the Project warehouse is speculative, it is unknown whether emergency backup generators would be used. Backup generators would only be used in the event of a power failure and would not be part of the Project's normal daily operations. Nonetheless, emissions associated with this equipment were included to be conservative. Emissions from an emergency backup generator for the proposed warehouse building were calculated separately from CalEEMod; refer to **Appendix A**. However, CalEEMod default emissions rates were used. If backup generators are required, the end user would be required to obtain a permit from the SCAQMD prior to installation. Emergency backup generators must meet SCAQMD's Best Available Control Technology (BACT) requirements and comply with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines), which would minimize emissions.

As discussed above, the SCAQMD provides significance thresholds for emissions associated with proposed Project construction and operations. The proposed Project's construction and operational emissions are compared to the daily criteria pollutant emissions significance thresholds in order to determine the significance of a project's impact on regional air quality.

The localized effects from the Project's on-site emissions were evaluated in accordance with the SCAQMD's LST Methodology, which uses on-site mass emissions rate look-up tables and project-specific modeling. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS and are developed based

[2] California Air Resources Board, *Appendix B: Emissions Estimation Methodology for On-Road Diesel-Fueled Heavy-Duty Drayage Trucks at California Ports and Intermodal Rail Yards*, 2007. Available at: https://ww3.arb.ca.gov/msei/onroad/downloads/drayage_trucks/appbf.pdf

[3] SCAQMD, *High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results*, June 2014.

on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

5 POTENTIAL IMPACTS

5.1 Air Quality Analysis

Threshold 5.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan that demonstrates the means to attain the federal standards. The State Implementation Plan must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under State law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment regarding the CAAQS and NAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Project site is within the SCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the FCAA, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. To reduce such emissions, the SCAQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, the CARB, the SCAG, and the EPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2016 RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project is subject to the SCAQMD's AQMP.

Criteria for determining consistency with the AQMP are as follows:

- **Consistency Criterion No. 1**: The project will not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2**: The project will not exceed the assumptions in the AQMP or increments based on the years of the project build-out phase.

According to the SCAQMD's *CEQA Air Quality Handbook*, the purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with CAAQS and NAAQS.

The violations to which Consistency Criterion No. 1 refers are CAAQS and NAAQS. As shown in **Table 7: Construction-Related Emissions** and **Table 8: Operational Emissions**, the Project would not exceed construction or operation emission standards. Therefore, the Project would not contribute to an existing air quality violation. Thus, the Project is consistent with the first criterion.

Concerning Consistency Criterion No. 2, the AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project is consistent with the land use

designation and development density presented in the City's General Plan and therefore would not exceed the population or job growth projections used by the SCAQMD to develop the AQMP. Thus, the Project is consistent with the second criterion.

Based on these criteria, the Project would not conflict with or obstruct implementation of the AQMP and impacts would be less than significant.

Level of Significance: Less than significant impact.

Threshold 5.2 Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable state or federal ambient air quality standard?

Construction Emissions

Construction associated with the Project would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the Project area include O_3-precursor pollutants (i.e. ROG and NO_X) and PM_{10} and $PM_{2.5}$. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Construction results in the temporary generation of emissions resulting from site grading, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation and grading activities as well as weather conditions and the appropriate application of water.

Construction activities associated with the Project are estimated to be completed within 7.5 months. Construction-generated emissions associated the Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See **Appendix A: Air Quality Modeling Data** for more information regarding the construction assumptions used in this analysis. Predicted maximum daily construction-generated emissions for the Project are summarized in in **Table 7: Construction-Related Emissions**.

Fugitive dust emissions may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the Project vicinity. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), are applicable to the Project and were applied in CalEEMod to minimize fugitive dust emissions. Rule 1113 provides specifications on painting practices and regulates the ROG content of paint. The Project would be required to comply with SCAQMD rules and regulations, including SCAQMD Rules 402, 403, and 1113. As shown in **Table 7**, construction emissions would not exceed SCAQMD threshold for all criteria pollutants. Therefore, impacts would be less than significant.

Table 7: Construction-Related Emissions						
Construction Year	**Maximum Pounds Per Day**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Year 1 (2023)	23.47	36.14	50.19	0.09	8.74	4.96
Year 2 (2024)	22.07	24.19	33.76	0.06	2.43	1.38
Maximum Emissions	*23.47*	*36.14*	*50.19*	*0.09*	*8.74*	*4.96*
SCAQMD Thresholds	***75***	***100***	***550***	***150***	***150***	***55***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
ROG = Reactive Organic Gases; NO_X = Nitrogen Oxides; CO = Carbon Monoxide; SO_2 = Sulfur Dioxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less						
Notes: SCAQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: properly maintain mobile and other construction equipment; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. Refer to **Appendix A** for Model Data Outputs.						
Source: CalEEMod version 2020.4.0. Refer to **Appendix A** for model outputs.						

Operational Emissions

Project-generated emissions would be primarily associated with motor vehicle use and area sources, such as the use of landscape maintenance equipment, emergency generators, and architectural coatings. Long-term operational emissions attributable to the Project are summarized in **Table 8: Operational Emissions**. **Table 8** shows that operational (i.e., area, energy, mobile, off-road, and emergency generators) emissions would not exceed SCAQMD thresholds for all criteria pollutants. It should be noted that emissions depicted in **Table 8** conservatively do not account for reductions associated with the existing office buildings. Therefore, the Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation. As a result, operational air quality impacts would be less than significant.

Table 8: Operational Emissions						
Source	**Maximum Pounds Per Day**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area	2.01	<0.01	0.02	<0.01	<0.01	<0.01
Energy	0.01	0.09	0.08	<0.01	0.01	0.01
Mobile – Trucks	0.10	5.17	1.67	0.03	1.25	0.38
Mobile – Passenger Cars	0.32	0.25	3.50	0.01	0.99	0.27
Off-Road[2]	1.60	9.93	135.89	0.02	0.27	0.23
Emergency Generators	1.69	4.71	4.30	0.01	0.25	0.25
Total Emissions	*5.72*	*20.16*	*145.46*	*0.07*	*2.77*	*1.14*
SCAQMD Thresholds	***55***	***55***	***550***	***150***	***150***	***55***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
ROG = Reactive Organic Gases; NO_X = Nitrogen Oxides; CO = Carbon Monoxide; SO_2 = Sulfur Dioxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less						
Note: Total values are from CalEEMod and may not add up 100% due to rounding. 1. The highest values between summer and winter results were used as a worst-case scenario. 2. Off-road emissions include one yard truck and two forklifts. Emissions were calculated with CARB OFFROAD 1.0.2.						
Source: CalEEMod version 2020.4.0. Refer to **Appendix A** for model outputs.						

Cumulative Short-Term Emissions

The SCAB is designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for CAAQS and nonattainment for O_3 and $PM_{2.5}$ for NAAQS. Appendix D of the SCAQMD's *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (2003) notes that projects that result in emissions that do not exceed the project-specific SCAQMD regional thresholds of significance should result in a less than significant impact on a cumulative basis unless there is other pertinent information to the contrary. Therefore, if a project is estimated to result in emissions that do not exceed the thresholds, the project's contribution to the cumulative impact on air quality in the SCAB would not be cumulatively considerable. As shown in **Table 7** above, Project construction-related emissions would not exceed the SCAQMD significance thresholds for criteria pollutants. Therefore, the proposed Project would not generate a cumulatively considerable contribution to air pollutant emissions during construction.

The SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to the FCAA mandates. All construction within the SCAB must comply with all applicable SCAQMD Rules. This analysis, therefore, assumed fugitive dust controls would be utilized during construction, including frequent water applications. SCAQMD rules, mandates, and compliance with adopted AQMP emissions control measures would also be imposed on construction projects throughout the SCAB, which would include related projects. Compliance with SCAQMD rules and regulations would further reduce the Project construction-related impacts. Therefore, Project-related construction emissions, combined with those from other projects in the area, would not substantially deteriorate local air quality. Construction emissions associated with the Project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Cumulative Long-Term Impacts

The SCAQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, individual project emissions contribute to existing cumulatively significant adverse air quality impacts. The SCAQMD developed the operational thresholds of significance based on the level above which individual project emissions would result in a cumulatively considerable contribution to the SCAB's existing air quality conditions. Therefore, a project that exceeds the SCAQMD operational thresholds would also be a cumulatively considerable contribution to a significant cumulative impact. As shown in **Table 8**, the Project operational emissions would not exceed the SCAQMD thresholds. Therefore impacts would be less than significant.

Level of Significance: Less than significant impact.

Threshold 5.3 Would the Project expose sensitive receptors to substantial pollutant concentrations?

Localized Construction Significance Analysis

The nearest sensitive receptors are the multi-family residences located approximately 360 feet to the north of the Project site. To identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the Final Localized Significance Threshold Methodology (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific emissions.

Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, **Table 9: Equipment-Specific Site Preparation Rates**, is used to determine the maximum daily disturbed acreage for comparison to LSTs. The appropriate SRA for the localized significance thresholds is the Central Orange County (SRA 17) since this area includes the Project site. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects that disturb areas less than or equal to 5 acres in size. Project construction is anticipated to disturb a maximum of 3.5 acres in a single day. As the LST guidance provides thresholds for projects disturbing 1-, 2-, and 5-acres in size and the thresholds increase with size of the site, the LSTs for a 3.5-acre threshold were interpolated and utilized for this analysis.

Table 9: Equipment-Specific Site Preparation Rates

Construction Phase	Equipment Type	Equipment Quantity	Acres Graded per 8-Hour Day	Operating Hours per Day	Acres Graded per Day
Site Preparation	Tractors	4	0.5	8	2
	Graders	0	0.5	8	0.0
	Dozers	3	0.5	8	1.5
	Scrapers	0	1.0	8	0.0
				Total Acres Graded per Day	**3.5**

Source: CalEEMod version 2020.4.0. Refer to **Appendix A** for model outputs.

The SCAQMD's methodology states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs." Therefore, only emissions included in the CalEEMod "on-site" emissions outputs were considered. The nearest sensitive receptors are the multi-family residences located approximately 360 feet to the north of the Project site. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. As the nearest sensitive uses are located approximately 360 feet (110 meters) to the north of the Project site, the LST values for 100 meters (328 feet) were used. **Table 10: Localized Significance of Construction Emissions**, presents the results of localized emissions during each construction phase. **Table 10** shows that emissions of these pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, localized construction emissions would be less than significant.

Table 10: Localized Significance of Construction Emissions

Construction Activity	Maximum Pounds Per Day			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	23.56	23.36	3.15	1.34
Site Preparation	27.52	18.24	8.55	4.91
Grading	17.94	14.75	3.40	1.98
Infrastructure Improvements	10.34	15.45	0.51	0.47
Building Construction	14.38	16.24	0.70	0.66
Paving	8.79	12.19	0.44	0.40
Architectural Coating	1.30	1.81	0.07	0.07
Building Construction, Paving, Infrastructure Improvements, and Architectural Coating	34.82	45.69	1.72	1.60
Maximum Daily Emissions	*34.82*	*45.69*	*8.55*	*4.91*

Table 10: Localized Significance of Construction Emissions				
Construction Activity	**Maximum Pounds Per Day**			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
SCAQMD Localized Screening Threshold (adjusted for 3.5 acres at 100 meters)	***153***	***2,023***	***45***	***13***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**
NO_X = Nitrogen Oxides; CO = Carbon Monoxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less				
Source: CalEEMod version 2020.4.0. Refer to **Appendix A** for model outputs.				

Localized Operational Significance Analysis

According to the SCAQMD LST methodology, LSTs would apply to the operational phase of a project only if it includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g. warehouse or transfer facilities). Since the Project includes development of a warehouse building, the operational phase LST protocol is conservatively applied to both the area source and on-site truck idling mobile source emissions. The CalEEMod model outputs do not separate on- and off-site emissions for mobile sources. Therefore, this analysis conservatively assumes each truck would travel one mile on the project site for each one-way truck trip. Based on the CARB *Emissions Estimation Methodology for On-Road Diesel-Fueled Heavy-Duty Drayage Trucks at California Ports and Intermodal Rail Yards*, a truck trip length of 33.2 miles has been modeled in CalEEMod.[4] Therefore, the on-site mobile emissions represent approximately three percent of the truck trip length modeled in CalEEMod.

As the closest receptors are located approximately 360 feet to the north of the Project site, as explained above, the LST thresholds for 100 meters were utilized in this analysis. Additionally, the interpolated LST threshold of 4 acres was utilized as the Project site encompasses 4.05 acres.

For a worst-case scenario assessment, the emissions shown in **Table 11: Localized Significance of Operational Emissions**, conservatively include all on-site Project-related stationary sources, on-site off-road equipment (forklifts and yard trucks), and three percent of the Project-related mobile sources. **Table 11** shows that the maximum daily emissions of these pollutants during Project operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, localized operational emissions would be less than significant.

Table 11: Localized Significance of Operational Emissions				
Activity	**Maximum Pounds Per Day**			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
On-Site and Mobile Source Emissions	14.89	140.34	0.56	0.50
SCAQMD Localized Screening Threshold (adjusted for 4 acres at 100 meters)	***162***	***2,181***	***12***	***4***
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**
NO_X = Nitrogen Oxides; CO = Carbon Monoxide; PM_{10} = Particulate Matter 10 microns in diameter or less; $PM_{2.5}$ = Particulate Matter 2.5 microns in diameter or less				
Source: CalEEMod version 2020.4.0. Refer to **Appendix A** for model outputs.				

[4] CARB, *Emissions Estimation Methodology for On-Road Diesel-Fueled Heavy-Duty Drayage Trucks at California Ports and Intermodal Rail Yards*, available at: https://ww3.arb.ca.gov/msei/onroad/downloads/drayage_trucks/appbf.pdf

Criteria Pollutant Health Impacts

On December 24, 2018, the California Supreme Court issued an opinion identifying the need to provide sufficient information connecting a project's air emissions to health impacts or explain why such information could not be ascertained (*Sierra Club v. County of Fresno* [Friant Ranch, L.P.] [2018] Cal.5th, Case No. S219783).

The Friant Ranch project was a 942-acre Specific Plan that involved a commercial master planned community of approximately 2,500 dwelling units and extensive commercial supporting development. The anticipated air quality impacts resulting from this development included significant and unavoidable emissions of multiple criteria pollutants (including significant emissions of both primary O_3 precursors [NO_X and ROGs]) at levels that exceeded the daily thresholds of significance. As noted above and shown in **Table 8**, the Project's operational emissions are below SCAQMD's significance thresholds, resulting in a less than significant impact.

The SCAQMD has set its CEQA significance thresholds based on the FCAA, which defines a major stationary source (in extreme ozone nonattainment areas such as the South Coast Air Basin) as emitting 10 tons per year. The thresholds correlate with the trigger levels for the federal New Source Review (NSR) Program and SCAQMD Rule 1303 for new or modified sources. The NSR Program[5] was created by the FCAA to ensure that stationary sources of air pollution are constructed or modified in a manner that is consistent with attainment of health-based NAAQS. The NAAQS establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Therefore, projects that do not exceed the SCAQMD's LSTs and mass emissions thresholds would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and no criteria pollutant health impacts.

NO_X and ROG are precursor emissions that form ozone in the atmosphere in the presence of sunlight where the pollutants undergo complex chemical reactions. It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. Breathing ground-level ozone can result health effects that include: reduced lung function, inflammation of airways, throat irritation, pain, burning, or discomfort in the chest when taking a deep breath, chest tightness, wheezing, or shortness of breath. In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.

According the SCAQMD's 2016 AQMP, ozone, NO_X, and ROG have been decreasing in the SCAB since 1975 and are projected to continue to decrease in the future. Although vehicle miles traveled in the SCAB continue to increase, NO_X and ROG levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to the use of cleaner fuels and renewable energy. The 2016 AQMP demonstrates how the SCAQMD's control strategy to meet the 8-hour ozone standard in 2023 would lead to sufficient NO_X emission reductions to attain the 1-hour ozone standard by 2022. In addition, since NO_X emissions also lead to the formation of $PM_{2.5}$, the NO_X reductions needed to meet the ozone standards will likewise lead to improvement of $PM_{2.5}$ levels and attainment of $PM_{2.5}$ standards.

[5] Code of Federal Regulation (CFR) [i.e., PSD (40 CFR 52.21, 40 CFR 51.166, 40 CFR 51.165 (b)), Non-attainment NSR (40 CFR 52.24, 40 CFR 51.165, 40 CFR part 51, Appendix S)

The SCAQMD's air quality modeling demonstrates that NO_X reductions prove to be much more effective in reducing ozone levels and will also lead to significant improvement in $PM_{2.5}$ concentrations. NO_X-emitting stationary sources regulated by the SCAQMD include Regional Clean Air Incentives Market (RECLAIM) facilities (e.g., refineries, power plants, etc.), natural gas combustion equipment (e.g., boilers, heaters, engines, burners, flares) and other combustion sources that burn wood or propane. The 2016 AQMP identifies robust NO_X reductions from new regulations on RECLAIM facilities, non-refinery flares, commercial cooking, and residential and commercial appliances. Such combustion sources are already heavily regulated with the lowest NO_X emissions levels achievable but there are opportunities to require and accelerate replacement with cleaner zero-emission alternatives, such as residential and commercial furnaces, pool heaters, and backup power equipment. The AQMD plans to achieve such replacements through a combination of regulations and incentives. Technology-forcing regulations can drive development and commercialization of clean technologies, with future year requirements for new or existing equipment. Incentives can then accelerate deployment and enhance public acceptability of new technologies.

The 2016 AQMP also emphasizes that beginning in 2012, continued implementation of previously adopted regulations will lead to NO_X emission reductions of 68 percent by 2023 and 80 percent by 2031. With the addition of 2016 AQMP proposed regulatory measures, a 30 percent reduction of NO_X from stationary sources is expected in the 15-year period between 2008 and 2023. This is in addition to significant NO_X reductions from stationary sources achieved in the decades prior to 2008.

As previously discussed, localized effects of on-site Project emissions on nearby receptors were found to be less than significant (refer to **Table 10** and **Table 11**). The LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable CAAQS or NAAQS. The LSTs were developed by the SCAQMD based on the ambient concentrations of that pollutant for each SRA and distance to the nearest sensitive receptor. The CAAQS and NAAQS establish the levels of air quality necessary, with an adequate margin of safety, to protect public health, including protecting the health of sensitive populations. Information on health impacts related to exposure to ozone and particulate matter emissions published by the U.S. EPA and CARB have been summarized above and discussed in the Regulatory Setting section. As shown above, Project-related emissions would not exceed the regional thresholds or the LSTs, and therefore would not exceed the CAAQS or NAAQS or cause an increase in the frequency or severity of existing violations of the CAAQS and NAAQS. Therefore, sensitive receptors would not be exposed to criteria pollutant levels in excess of the health-based ambient air quality standards.

Carbon Monoxide Hotspots

An analysis of CO "hot spots" is needed to determine whether the change in the level of service of an intersection resulting from the project would have the potential to result in exceedances of the CAAQS or NAAQS. It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when vehicles are idling at intersections. Vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations have steadily declined. Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard.

The SCAB was re-designated as attainment in 2007 and is no longer addressed in the SCAQMD's AQMP. The 2003 AQMP is the most recent version that addresses CO concentrations. As part of the SCAQMD *CO Hotspot*

Analysis, the Wilshire Boulevard/Veteran Avenue intersection, one of the most congested intersections in Southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day, was modeled for CO concentrations. This modeling effort identified a CO concentration high of 4.6 ppm, which is well below the 35-ppm Federal standard. The Project considered herein would not produce the volume of traffic required to generate a CO hot spot in the context of SCAQMD's *CO Hotspot Analysis*. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection even as it accommodates 100,000 vehicles daily, it can be reasonably inferred that CO hotspots would not be experienced at any vicinity intersections as the Project would result in 151 daily trips. When compared to trips generated by the existing office buildings, the project would result in a net decrease of 565 trips. Therefore, impacts would be less than significant.

Construction-Related Diesel Particulate Matter

Construction would result in the generation of DPM emissions from the use of off-road diesel equipment. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e. potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer.

The use of diesel-powered construction equipment would be temporary and episodic. The duration of exposure would be short and exhaust from construction equipment dissipates rapidly. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. The closest sensitive receptors are multi-family residences located approximately 360 feet to the north of the property boundary and major Project construction areas.

California Office of Environmental Health Hazard Assessment has not identified short-term health effects from DPM. Construction is temporary and would be transient throughout the site (i.e. move from location to location) and would not generate emissions in a fixed location for extended periods of time. Construction would be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than 5 minutes to further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. For these reasons, DPM generated by construction activities, in and of itself, would not be expected to expose sensitive receptors to substantial amounts of air toxics and the Project would have a less than significant impact.

Level of Significance: Less than significant impact.

Threshold 5.4 Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Construction

Odors that could be generated by construction activities are required to follow SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. SCAQMD Rule 402, Nuisance, states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort,*

> *repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*

Odors may be generated during construction activities such as, equipment diesel exhaust, architectural coatings volatile organic compounds, and paving activities. However, these odors would be temporary, are not expected to affect a substantial number of people, and would disperse rapidly. Therefore, impacts related to odors associated with the Project's construction-related activities would be less than significant.

Operations

The SCAQMD *CEQA Air Quality Handbook* identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Project would not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, the Project would not create objectionable odors and no impact would occur.

Level of Significance: Less than significant impact.

6 REFERENCES

1. California Air Pollution Control Officers Association (CAPCOA), *Health Effects*, 2018.
2. California Air Resources Board, *Aerometric Data Analysis and Measurement System (ADAM) Top Four Summaries from 2018 to 2020*, 2022.
3. California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, 2005.
4. California Air Resources Board, *Ambient Air Quality Standards*, May 6, 2016.
5. California Air Resources Board, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, 2000.
6. City of Garden Grove, *City of Garden Grove General Plan*, May 2008.
7. City of Garden Grove, *Garden Grove Code of Ordinances*, codified through Ordinance No. 2932, adopted June 2022.
8. LHA Architects, *Architectural Site Plan,* 2022.
9. Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Risk Assessment Guidelines*, 2015.
10. South Coast Air Quality Management District, *2016 Air Quality Management Plan,* March 2017.
11. South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.
12. South Coast Air Quality Management District, *Localized Significance Threshold Methodology*, 2009.
13. South Coast Air Quality Management District, *South Coast AQMD Air Quality Significance Thresholds*, April 2019.
14. South Coast Air Quality Management District, *High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results*, June 2014.
15. United States Environmental Protection Agency, *National Ambient Air Quality Standards Table*, 2016.
16. United States Environmental Protection Agency, *Nonattainment Areas for Criteria Pollutants (Green Book)*, 2022.

Appendix A

Air Quality Modeling Data

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.12	Acre	0.12	5,227.20	0
Other Asphalt Surfaces	45.40	1000sqft	1.04	45,404.00	0
Unrefrigerated Warehouse-No Rail	88.16	1000sqft	2.02	88,160.00	0
Parking Lot	97.00	Space	0.87	38,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	512	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE 2020 Sustainability Report

Land Use -

Construction Phase - Per questionnaire.

Off-road Equipment - Per questionnaire.

Grading -

Off-road Equipment - Per questionnaire.

Demolition -

Vehicle Trips - Per traffic study - passenger cars run only.

Fleet Mix - Passenger cars run only.

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation - SCAQMD Rules and Regulations.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	18.00	44.00
tblConstructionPhase	NumDays	230.00	114.00
tblConstructionPhase	NumDays	20.00	32.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	18.00	64.00
tblConstructionPhase	NumDays	18.00	90.00
tblConstructionPhase	PhaseEndDate	8/6/2024	1/31/2024
tblConstructionPhase	PhaseEndDate	6/17/2024	2/1/2024
tblConstructionPhase	PhaseEndDate	7/12/2023	7/28/2023
tblConstructionPhase	PhaseEndDate	7/31/2023	8/25/2023
tblConstructionPhase	PhaseEndDate	7/11/2024	2/1/2024
tblConstructionPhase	PhaseEndDate	7/19/2023	8/4/2023
tblConstructionPhase	PhaseStartDate	7/12/2024	12/1/2023
tblConstructionPhase	PhaseStartDate	8/1/2023	8/28/2023
tblConstructionPhase	PhaseStartDate	7/20/2023	8/7/2023
tblConstructionPhase	PhaseStartDate	6/18/2024	11/6/2023
tblConstructionPhase	PhaseStartDate	7/13/2023	7/31/2023
tblFleetMix	HHD	4.9060e-003	0.00
tblFleetMix	LDA	0.55	0.67
tblFleetMix	LDT1	0.06	0.05
tblFleetMix	LDT2	0.19	0.13
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	6.6050e-003	0.00

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.13	0.10
tblFleetMix	MH	3.8690e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.5700e-004	0.00
tblFleetMix	SBUS	7.1300e-004	0.00
tblFleetMix	UBUS	3.8100e-004	0.00
tblLandUse	LandUseSquareFeet	45,400.00	45,404.00
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblProjectCharacteristics	CO2IntensityFactor	390.98	512
tblVehicleTrips	ST_TR	1.74	1.25
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	1.74	1.25
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	1.74	1.25
tblVehicleTrips	WD_TR	0.78	0.00

2.0 Emissions Summary

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	23.4330	36.0732	50.1877	0.0907	19.8582	1.7305	21.1253	10.1558	1.6160	11.3215	0.0000	8,804.0907	8,804.0907	1.9829	0.2653	8,886.3098
2024	22.0380	24.1271	33.7556	0.0640	1.4150	1.0843	2.4993	0.3795	1.0170	1.3965	0.0000	6,242.7848	6,242.7848	1.2428	0.1024	6,304.3761
Maximum	**23.4330**	**36.0732**	**50.1877**	**0.0907**	**19.8582**	**1.7305**	**21.1253**	**10.1558**	**1.6160**	**11.3215**	**0.0000**	**8,804.0907**	**8,804.0907**	**1.9829**	**0.2653**	**8,886.3098**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	23.4330	36.0732	50.1877	0.0907	7.4736	1.7305	8.7407	3.7937	1.6160	4.9594	0.0000	8,804.0907	8,804.0907	1.9829	0.2653	8,886.3098
2024	22.0380	24.1271	33.7556	0.0640	1.3429	1.0843	2.4272	0.3618	1.0170	1.3788	0.0000	6,242.7848	6,242.7848	1.2428	0.1024	6,304.3761
Maximum	**23.4330**	**36.0732**	**50.1877**	**0.0907**	**7.4736**	**1.7305**	**8.7407**	**3.7937**	**1.6160**	**4.9594**	**0.0000**	**8,804.0907**	**8,804.0907**	**1.9829**	**0.2653**	**8,886.3098**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	58.56	0.00	52.73	60.56	0.00	50.16	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.3170	0.2320	3.5019	8.1800e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		843.3515	843.3515	0.0404	0.0234	851.3243
Total	**2.3353**	**0.3243**	**3.6028**	**8.7300e-003**	**0.9867**	**0.0121**	**0.9987**	**0.2617**	**0.0117**	**0.2734**		**953.9394**	**953.9394**	**0.0427**	**0.0254**	**962.5724**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.3170	0.2320	3.5019	8.1800e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		843.3515	843.3515	0.0404	0.0234	851.3243
Total	**2.3353**	**0.3243**	**3.6028**	**8.7300e-003**	**0.9867**	**0.0121**	**0.9987**	**0.2617**	**0.0117**	**0.2734**		**953.9394**	**953.9394**	**0.0427**	**0.0254**	**962.5724**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	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	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/15/2023	7/28/2023	5	32	
2	Site Preparation	Site Preparation	7/31/2023	8/4/2023	5	5	
3	Grading	Grading	8/7/2023	8/25/2023	5	15	
4	Building Construction	Building Construction	8/28/2023	2/1/2024	5	114	
5	Paving	Paving	11/6/2023	2/1/2024	5	64	
6	Architectural Coating	Architectural Coating	12/1/2023	1/31/2024	5	44	
7	Infrastructure Improvements	Paving	8/28/2023	12/29/2023	5	90	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 1.91

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 132,240; Non-Residential Outdoor: 44,080; Striped Parking Area: 5,052 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Infrastructure Improvements	Cement and Mortar Mixers	2	6.00	9	0.56
Infrastructure Improvements	Pavers	1	8.00	130	0.42
Infrastructure Improvements	Paving Equipment	2	6.00	132	0.36
Infrastructure Improvements	Rollers	2	6.00	80	0.38
Infrastructure Improvements	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Infrastructure Improvements	Excavators	1	8.00	158	0.38
Demolition	Other Material Handling Equipment	1	8.00	168	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	816.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	29.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure Improvements	9	23.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5169	0.0000	5.5169	0.8353	0.0000	0.8353			0.0000			0.0000
Off-Road	2.5231	23.5564	23.3571	0.0445		1.1099	1.1099		1.0313	1.0313		4,300.0846	4,300.0846	1.2283		4,330.7909
Total	**2.5231**	**23.5564**	**23.3571**	**0.0445**	**5.5169**	**1.1099**	**6.6268**	**0.8353**	**1.0313**	**1.8666**		**4,300.0846**	**4,300.0846**	**1.2283**		**4,330.7909**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0531	3.0389	1.0417	0.0143	0.4447	0.0196	0.4643	0.1218	0.0187	0.1405		1,630.8540	1,630.8540	0.1646	0.2616	1,712.9274
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0507	0.0325	0.5512	1.7000e-003	0.2012	1.0300e-003	0.2022	0.0534	9.5000e-004	0.0543		173.7559	173.7559	3.7700e-003	3.7100e-003	174.9549
Total	**0.1039**	**3.0714**	**1.5929**	**0.0160**	**0.6459**	**0.0206**	**0.6665**	**0.1751**	**0.0197**	**0.1948**		**1,804.6099**	**1,804.6099**	**0.1683**	**0.2653**	**1,887.8823**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0440	0.0000	2.0440	0.3095	0.0000	0.3095			0.0000			0.0000
Off-Road	2.5231	23.5564	23.3571	0.0445		1.1099	1.1099		1.0313	1.0313	0.0000	4,300.0845	4,300.0845	1.2283		4,330.7909
Total	**2.5231**	**23.5564**	**23.3571**	**0.0445**	**2.0440**	**1.1099**	**3.1539**	**0.3095**	**1.0313**	**1.3408**	**0.0000**	**4,300.0845**	**4,300.0845**	**1.2283**		**4,330.7909**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0531	3.0389	1.0417	0.0143	0.4245	0.0196	0.4441	0.1168	0.0187	0.1355		1,630.8540	1,630.8540	0.1646	0.2616	1,712.9274
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0507	0.0325	0.5512	1.7000e-003	0.1907	1.0300e-003	0.1917	0.0508	9.5000e-004	0.0517		173.7559	173.7559	3.7700e-003	3.7100e-003	174.9549
Total	**0.1039**	**3.0714**	**1.5929**	**0.0160**	**0.6152**	**0.0206**	**0.6358**	**0.1676**	**0.0197**	**0.1873**		**1,804.6099**	**1,804.6099**	**0.1683**	**0.2653**	**1,887.8823**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0507	0.0325	0.5512	1.7000e-003	0.2012	1.0300e-003	0.2022	0.0534	9.5000e-004	0.0543		173.7559	173.7559	3.7700e-003	3.7100e-003	174.9549
Total	**0.0507**	**0.0325**	**0.5512**	**1.7000e-003**	**0.2012**	**1.0300e-003**	**0.2022**	**0.0534**	**9.5000e-004**	**0.0543**		**173.7559**	**173.7559**	**3.7700e-003**	**3.7100e-003**	**174.9549**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2829	0.0000	7.2829	3.7430	0.0000	3.7430			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**7.2829**	**1.2660**	**8.5489**	**3.7430**	**1.1647**	**4.9077**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0507	0.0325	0.5512	1.7000e-003	0.1907	1.0300e-003	0.1917	0.0508	9.5000e-004	0.0517		173.7559	173.7559	3.7700e-003	3.7100e-003	174.9549
Total	**0.0507**	**0.0325**	**0.5512**	**1.7000e-003**	**0.1907**	**1.0300e-003**	**0.1917**	**0.0508**	**9.5000e-004**	**0.0517**		**173.7559**	**173.7559**	**3.7700e-003**	**3.7100e-003**	**174.9549**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0826**	**0.7749**	**7.8575**	**3.4247**	**0.7129**	**4.1377**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0270	0.4593	1.4100e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		144.7966	144.7966	3.1400e-003	3.0900e-003	145.7958
Total	**0.0423**	**0.0270**	**0.4593**	**1.4100e-003**	**0.1677**	**8.6000e-004**	**0.1685**	**0.0445**	**7.9000e-004**	**0.0453**		**144.7966**	**144.7966**	**3.1400e-003**	**3.0900e-003**	**145.7958**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6241	0.0000	2.6241	1.2689	0.0000	1.2689			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**2.6241**	**0.7749**	**3.3990**	**1.2689**	**0.7129**	**1.9818**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0270	0.4593	1.4100e-003	0.1589	8.6000e-004	0.1598	0.0423	7.9000e-004	0.0431		144.7966	144.7966	3.1400e-003	3.0900e-003	145.7958
Total	**0.0423**	**0.0270**	**0.4593**	**1.4100e-003**	**0.1589**	**8.6000e-004**	**0.1598**	**0.0423**	**7.9000e-004**	**0.0431**		**144.7966**	**144.7966**	**3.1400e-003**	**3.0900e-003**	**145.7958**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0293	1.0163	0.4214	5.2100e-003	0.1854	5.2100e-003	0.1907	0.0534	4.9900e-003	0.0584		572.6032	572.6032	0.0341	0.0822	597.9384
Worker	0.2113	0.1352	2.2965	7.0700e-003	0.8383	4.2900e-003	0.8426	0.2223	3.9500e-003	0.2263		723.9829	723.9829	0.0157	0.0155	728.9789
Total	**0.2406**	**1.1515**	**2.7179**	**0.0123**	**1.0238**	**9.5000e-003**	**1.0333**	**0.2757**	**8.9400e-003**	**0.2846**		**1,296.5861**	**1,296.5861**	**0.0498**	**0.0976**	**1,326.9173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0293	1.0163	0.4214	5.2100e-003	0.1775	5.2100e-003	0.1827	0.0514	4.9900e-003	0.0564		572.6032	572.6032	0.0341	0.0822	597.9384
Worker	0.2113	0.1352	2.2965	7.0700e-003	0.7946	4.2900e-003	0.7989	0.2116	3.9500e-003	0.2155		723.9829	723.9829	0.0157	0.0155	728.9789
Total	**0.2406**	**1.1515**	**2.7179**	**0.0123**	**0.9721**	**9.5000e-003**	**0.9816**	**0.2630**	**8.9400e-003**	**0.2720**		**1,296.5861**	**1,296.5861**	**0.0498**	**0.0976**	**1,326.9173**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0289	1.0134	0.4183	5.1200e-003	0.1854	5.4600e-003	0.1909	0.0534	5.2200e-003	0.0586		563.7205	563.7205	0.0344	0.0812	588.7869
Worker	0.1987	0.1215	2.1406	6.8500e-003	0.8383	4.0800e-003	0.8424	0.2223	3.7500e-003	0.2261		706.5661	706.5661	0.0143	0.0145	711.2273
Total	**0.2275**	**1.1348**	**2.5588**	**0.0120**	**1.0238**	**9.5400e-003**	**1.0333**	**0.2757**	**8.9700e-003**	**0.2847**		**1,270.2865**	**1,270.2865**	**0.0487**	**0.0957**	**1,300.0143**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0289	1.0134	0.4183	5.1200e-003	0.1775	5.4600e-003	0.1830	0.0514	5.2200e-003	0.0566		563.7205	563.7205	0.0344	0.0812	588.7869
Worker	0.1987	0.1215	2.1406	6.8500e-003	0.7946	4.0800e-003	0.7987	0.2116	3.7500e-003	0.2154		706.5661	706.5661	0.0143	0.0145	711.2273
Total	**0.2275**	**1.1348**	**2.5588**	**0.0120**	**0.9721**	**9.5400e-003**	**0.9816**	**0.2630**	**8.9700e-003**	**0.2720**		**1,270.2865**	**1,270.2865**	**0.0487**	**0.0957**	**1,300.0143**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9963**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0564	0.0361	0.6124	1.8900e-003	0.2236	1.1400e-003	0.2247	0.0593	1.0500e-003	0.0603		193.0621	193.0621	4.1900e-003	4.1200e-003	194.3944
Total	**0.0564**	**0.0361**	**0.6124**	**1.8900e-003**	**0.2236**	**1.1400e-003**	**0.2247**	**0.0593**	**1.0500e-003**	**0.0603**		**193.0621**	**193.0621**	**4.1900e-003**	**4.1200e-003**	**194.3944**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9963**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0564	0.0361	0.6124	1.8900e-003	0.2119	1.1400e-003	0.2130	0.0564	1.0500e-003	0.0575		193.0621	193.0621	4.1900e-003	4.1200e-003	194.3944
Total	**0.0564**	**0.0361**	**0.6124**	**1.8900e-003**	**0.2119**	**1.1400e-003**	**0.2130**	**0.0564**	**1.0500e-003**	**0.0575**		**193.0621**	**193.0621**	**4.1900e-003**	**4.1200e-003**	**194.3944**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9596**	**8.2730**	**12.2210**	**0.0189**		**0.3987**	**0.3987**		**0.3685**	**0.3685**		**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0530	0.0324	0.5708	1.8300e-003	0.2236	1.0900e-003	0.2246	0.0593	1.0000e-003	0.0603		188.4176	188.4176	3.8000e-003	3.8500e-003	189.6606
Total	**0.0530**	**0.0324**	**0.5708**	**1.8300e-003**	**0.2236**	**1.0900e-003**	**0.2246**	**0.0593**	**1.0000e-003**	**0.0603**		**188.4176**	**188.4176**	**3.8000e-003**	**3.8500e-003**	**189.6606**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9596**	**8.2730**	**12.2210**	**0.0189**		**0.3987**	**0.3987**		**0.3685**	**0.3685**	**0.0000**	**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0530	0.0324	0.5708	1.8300e-003	0.2119	1.0900e-003	0.2130	0.0564	1.0000e-003	0.0574		188.4176	188.4176	3.8000e-003	3.8500e-003	189.6606
Total	**0.0530**	**0.0324**	**0.5708**	**1.8300e-003**	**0.2119**	**1.0900e-003**	**0.2130**	**0.0564**	**1.0000e-003**	**0.0574**		**188.4176**	**188.4176**	**3.8000e-003**	**3.8500e-003**	**189.6606**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**19.2976**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0270	0.4593	1.4100e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		144.7966	144.7966	3.1400e-003	3.0900e-003	145.7958
Total	**0.0423**	**0.0270**	**0.4593**	**1.4100e-003**	**0.1677**	**8.6000e-004**	**0.1685**	**0.0445**	**7.9000e-004**	**0.0453**		**144.7966**	**144.7966**	**3.1400e-003**	**3.0900e-003**	**145.7958**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**19.2976**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0270	0.4593	1.4100e-003	0.1589	8.6000e-004	0.1598	0.0423	7.9000e-004	0.0431		144.7966	144.7966	3.1400e-003	3.0900e-003	145.7958
Total	**0.0423**	**0.0270**	**0.4593**	**1.4100e-003**	**0.1589**	**8.6000e-004**	**0.1598**	**0.0423**	**7.9000e-004**	**0.0431**		**144.7966**	**144.7966**	**3.1400e-003**	**3.0900e-003**	**145.7958**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**19.2867**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0397	0.0243	0.4281	1.3700e-003	0.1677	8.2000e-004	0.1685	0.0445	7.5000e-004	0.0452		141.3132	141.3132	2.8500e-003	2.8900e-003	142.2455
Total	**0.0397**	**0.0243**	**0.4281**	**1.3700e-003**	**0.1677**	**8.2000e-004**	**0.1685**	**0.0445**	**7.5000e-004**	**0.0452**		**141.3132**	**141.3132**	**2.8500e-003**	**2.8900e-003**	**142.2455**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**19.2867**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0397	0.0243	0.4281	1.3700e-003	0.1589	8.2000e-004	0.1597	0.0423	7.5000e-004	0.0431		141.3132	141.3132	2.8500e-003	2.8900e-003	142.2455
Total	**0.0397**	**0.0243**	**0.4281**	**1.3700e-003**	**0.1589**	**8.2000e-004**	**0.1597**	**0.0423**	**7.5000e-004**	**0.0431**		**141.3132**	**141.3132**	**2.8500e-003**	**2.8900e-003**	**142.2455**

3.8 Infrastructure Improvements - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1068	10.3389	15.4482	0.0241		0.5115	0.5115		0.4723	0.4723		2,305.5360	2,305.5360	0.7290		2,323.7615
Paving	0.0556					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1624**	**10.3389**	**15.4482**	**0.0241**		**0.5115**	**0.5115**		**0.4723**	**0.4723**		**2,305.5360**	**2,305.5360**	**0.7290**		**2,323.7615**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Infrastructure Improvements - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0648	0.0415	0.7043	2.1700e-003	0.2571	1.3100e-003	0.2584	0.0682	1.2100e-003	0.0694		222.0214	222.0214	4.8200e-003	4.7400e-003	223.5535
Total	**0.0648**	**0.0415**	**0.7043**	**2.1700e-003**	**0.2571**	**1.3100e-003**	**0.2584**	**0.0682**	**1.2100e-003**	**0.0694**		**222.0214**	**222.0214**	**4.8200e-003**	**4.7400e-003**	**223.5535**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1068	10.3389	15.4482	0.0241		0.5115	0.5115		0.4723	0.4723	0.0000	2,305.5360	2,305.5360	0.7290		2,323.7615
Paving	0.0556					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1624**	**10.3389**	**15.4482**	**0.0241**		**0.5115**	**0.5115**		**0.4723**	**0.4723**	**0.0000**	**2,305.5360**	**2,305.5360**	**0.7290**		**2,323.7615**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Infrastructure Improvements - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0648	0.0415	0.7043	2.1700e-003	0.2437	1.3100e-003	0.2450	0.0649	1.2100e-003	0.0661		222.0214	222.0214	4.8200e-003	4.7400e-003	223.5535
Total	**0.0648**	**0.0415**	**0.7043**	**2.1700e-003**	**0.2437**	**1.3100e-003**	**0.2450**	**0.0649**	**1.2100e-003**	**0.0661**		**222.0214**	**222.0214**	**4.8200e-003**	**4.7400e-003**	**223.5535**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3170	0.2320	3.5019	8.1800e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		843.3515	843.3515	0.0404	0.0234	851.3243
Unmitigated	0.3170	0.2320	3.5019	8.1800e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		843.3515	843.3515	0.0404	0.0234	851.3243

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	110.20	110.20	110.20	472,286	472,286
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	110.20	110.20	110.20	472,286	472,286

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Unrefrigerated Warehouse-No Rail	0.671171	0.045767	0.131313	0.104769	0.023940	0.000000	0.000000	0.000000	0.000000	0.000000	0.023040	0.000000	0.000000
City Park	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Other Asphalt Surfaces	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
NaturalGas Unmitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	939.568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.939568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Unmitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7390 & 7440 Lincoln Way Industrial Project_Trucks Only

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.12	Acre	0.12	5,227.20	0
Other Asphalt Surfaces	45.40	1000sqft	1.04	45,404.00	0
Unrefrigerated Warehouse-No Rail	88.16	1000sqft	2.02	88,160.00	0
Parking Lot	97.00	Space	0.87	38,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	512	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE 2020 Sustainability Report

Land Use -

Construction Phase - Trucks run only.

Off-road Equipment - Per questionnaire.

Grading -

Demolition -

Vehicle Trips - Per traffic study - trucks run only.

Fleet Mix - Trucks run only.

Construction Off-road Equipment Mitigation -

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Trucks run only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	PhaseEndDate	7/19/2023	7/31/2023
tblConstructionPhase	PhaseStartDate	7/13/2023	7/31/2023
tblFleetMix	HHD	4.9060e-003	0.51
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.6050e-003	0.26
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	3.8690e-003	0.00
tblFleetMix	MHD	0.01	0.23
tblFleetMix	OBUS	6.5700e-004	0.00
tblFleetMix	SBUS	7.1300e-004	0.00
tblFleetMix	UBUS	3.8100e-004	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	512
tblVehicleTrips	CNW_TL	6.90	33.20
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.74	0.46

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	1.74	0.46
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	1.74	0.46
tblVehicleTrips	WD_TR	0.78	0.00

2.0 Emissions Summary

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.1598	1.5411	2.3232	3.4000e-003	0.0335	0.0760	0.1095	8.8900e-003	0.0699	0.0788	0.0000	330.5358	330.5358	0.0982	6.2000e-004	333.1741
Maximum	**0.1598**	**1.5411**	**2.3232**	**3.4000e-003**	**0.0335**	**0.0760**	**0.1095**	**8.8900e-003**	**0.0699**	**0.0788**	**0.0000**	**330.5358**	**330.5358**	**0.0982**	**6.2000e-004**	**333.1741**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.1598	1.5411	2.3232	3.4000e-003	0.0335	0.0760	0.1095	8.8900e-003	0.0699	0.0788	0.0000	330.5358	330.5358	0.0982	6.2000e-004	333.1741
Maximum	**0.1598**	**1.5411**	**2.3232**	**3.4000e-003**	**0.0335**	**0.0760**	**0.1095**	**8.8900e-003**	**0.0699**	**0.0788**	**0.0000**	**330.5358**	**330.5358**	**0.0982**	**6.2000e-004**	**333.1741**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.1042	4.9710	1.6592	0.0300	1.2145	0.0390	1.2535	0.3442	0.0373	0.3815		3,310.8342	3,310.8342	0.2261	0.4648	3,454.9936
Total	**2.1225**	**5.0633**	**1.7601**	**0.0305**	**1.2145**	**0.0461**	**1.2606**	**0.3442**	**0.0444**	**0.3886**		**3,421.4221**	**3,421.4221**	**0.2283**	**0.4668**	**3,566.2417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.1042	4.9710	1.6592	0.0300	1.2145	0.0390	1.2535	0.3442	0.0373	0.3815		3,310.8342	3,310.8342	0.2261	0.4648	3,454.9936
Total	**2.1225**	**5.0633**	**1.7601**	**0.0305**	**1.2145**	**0.0461**	**1.2606**	**0.3442**	**0.0444**	**0.3886**		**3,421.4221**	**3,421.4221**	**0.2283**	**0.4668**	**3,566.2417**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/31/2023	7/31/2023	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.91

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698		301.5765	301.5765	0.0975		304.0149
Total	**0.1514**	**1.5357**	**2.2313**	**3.1200e-003**	**0.0000**	**0.0758**	**0.0758**	**0.0000**	**0.0698**	**0.0698**		**301.5765**	**301.5765**	**0.0975**		**304.0149**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4500e-003	5.4100e-003	0.0919	2.8000e-004	0.0335	1.7000e-004	0.0337	8.8900e-003	1.6000e-004	9.0500e-003		28.9593	28.9593	6.3000e-004	6.2000e-004	29.1592
Total	**8.4500e-003**	**5.4100e-003**	**0.0919**	**2.8000e-004**	**0.0335**	**1.7000e-004**	**0.0337**	**8.8900e-003**	**1.6000e-004**	**9.0500e-003**		**28.9593**	**28.9593**	**6.3000e-004**	**6.2000e-004**	**29.1592**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698	0.0000	301.5765	301.5765	0.0975		304.0149
Total	**0.1514**	**1.5357**	**2.2313**	**3.1200e-003**	**0.0000**	**0.0758**	**0.0758**	**0.0000**	**0.0698**	**0.0698**	**0.0000**	**301.5765**	**301.5765**	**0.0975**		**304.0149**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4500e-003	5.4100e-003	0.0919	2.8000e-004	0.0335	1.7000e-004	0.0337	8.8900e-003	1.6000e-004	9.0500e-003		28.9593	28.9593	6.3000e-004	6.2000e-004	29.1592
Total	**8.4500e-003**	**5.4100e-003**	**0.0919**	**2.8000e-004**	**0.0335**	**1.7000e-004**	**0.0337**	**8.8900e-003**	**1.6000e-004**	**9.0500e-003**		**28.9593**	**28.9593**	**6.3000e-004**	**6.2000e-004**	**29.1592**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1042	4.9710	1.6592	0.0300	1.2145	0.0390	1.2535	0.3442	0.0373	0.3815		3,310.8342	3,310.8342	0.2261	0.4648	3,454.9936
Unmitigated	0.1042	4.9710	1.6592	0.0300	1.2145	0.0390	1.2535	0.3442	0.0373	0.3815		3,310.8342	3,310.8342	0.2261	0.4648	3,454.9936

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	40.77	40.77	40.77	492,671	492,671
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	40.77	40.77	40.77	492,671	492,671

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	33.20	0.00	0.00	100.00	100	0	0
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.264074	0.228519	0.507407	0.000000	0.000000	0.000000	0.000000	0.000000
City Park	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Other Asphalt Surfaces	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
NaturalGas Unmitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	939.568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.939568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

6.0 Area Detail

6.1 Mitigation Measures Area

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Unmitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.12	Acre	0.12	5,227.20	0
Other Asphalt Surfaces	45.40	1000sqft	1.04	45,404.00	0
Unrefrigerated Warehouse-No Rail	88.16	1000sqft	2.02	88,160.00	0
Parking Lot	97.00	Space	0.87	38,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	512	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE 2020 Sustainability Report

Land Use -

Construction Phase - Per questionnaire.

Off-road Equipment - Per questionnaire.

Grading -

Off-road Equipment - Per questionnaire.

Demolition -

Vehicle Trips - Per traffic study - passenger cars run only.

Fleet Mix - Passenger cars run only.

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation - SCAQMD Rules and Regulations.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	18.00	44.00
tblConstructionPhase	NumDays	230.00	114.00
tblConstructionPhase	NumDays	20.00	32.00
tblConstructionPhase	NumDays	8.00	15.00
tblConstructionPhase	NumDays	18.00	64.00
tblConstructionPhase	NumDays	18.00	90.00
tblConstructionPhase	PhaseEndDate	8/6/2024	1/31/2024
tblConstructionPhase	PhaseEndDate	6/17/2024	2/1/2024
tblConstructionPhase	PhaseEndDate	7/12/2023	7/28/2023
tblConstructionPhase	PhaseEndDate	7/31/2023	8/25/2023
tblConstructionPhase	PhaseEndDate	7/11/2024	2/1/2024
tblConstructionPhase	PhaseEndDate	7/19/2023	8/4/2023
tblConstructionPhase	PhaseStartDate	7/12/2024	12/1/2023
tblConstructionPhase	PhaseStartDate	8/1/2023	8/28/2023
tblConstructionPhase	PhaseStartDate	7/20/2023	8/7/2023
tblConstructionPhase	PhaseStartDate	6/18/2024	11/6/2023
tblConstructionPhase	PhaseStartDate	7/13/2023	7/31/2023
tblFleetMix	HHD	4.9060e-003	0.00
tblFleetMix	LDA	0.55	0.67
tblFleetMix	LDT1	0.06	0.05
tblFleetMix	LDT2	0.19	0.13
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	6.6050e-003	0.00

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.13	0.10
tblFleetMix	MH	3.8690e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.5700e-004	0.00
tblFleetMix	SBUS	7.1300e-004	0.00
tblFleetMix	UBUS	3.8100e-004	0.00
tblLandUse	LandUseSquareFeet	45,400.00	45,404.00
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblProjectCharacteristics	CO2IntensityFactor	390.98	512
tblVehicleTrips	ST_TR	1.74	1.25
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	1.74	1.25
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	1.74	1.25
tblVehicleTrips	WD_TR	0.78	0.00

2.0 Emissions Summary

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	23.4668	36.1420	49.9224	0.0901	19.8582	1.7305	21.1253	10.1558	1.6160	11.3215	0.0000	8,743.5479	8,743.5479	1.9835	0.2658	8,826.3590
2024	22.0651	24.1898	33.5572	0.0636	1.4150	1.0844	2.4993	0.3795	1.0171	1.3965	0.0000	6,194.1645	6,194.1645	1.2433	0.1040	6,256.2231
Maximum	**23.4668**	**36.1420**	**49.9224**	**0.0901**	**19.8582**	**1.7305**	**21.1253**	**10.1558**	**1.6160**	**11.3215**	**0.0000**	**8,743.5479**	**8,743.5479**	**1.9835**	**0.2658**	**8,826.3590**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	23.4668	36.1420	49.9224	0.0901	7.4736	1.7305	8.7407	3.7937	1.6160	4.9594	0.0000	8,743.5479	8,743.5479	1.9835	0.2658	8,826.3590
2024	22.0651	24.1898	33.5572	0.0636	1.3429	1.0844	2.4272	0.3618	1.0171	1.3788	0.0000	6,194.1645	6,194.1645	1.2433	0.1040	6,256.2231
Maximum	**23.4668**	**36.1420**	**49.9224**	**0.0901**	**7.4736**	**1.7305**	**8.7407**	**3.7937**	**1.6160**	**4.9594**	**0.0000**	**8,743.5479**	**8,743.5479**	**1.9835**	**0.2658**	**8,826.3590**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	58.56	0.00	52.73	60.56	0.00	50.16	0.00	0.00	0.00	0.00	0.00	0.00

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.3160	0.2530	3.4296	7.8200e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		805.9578	805.9578	0.0417	0.0247	814.3639
Total	**2.3343**	**0.3453**	**3.5305**	**8.3700e-003**	**0.9867**	**0.0121**	**0.9987**	**0.2617**	**0.0117**	**0.2734**		**916.5457**	**916.5457**	**0.0440**	**0.0267**	**925.6120**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.3160	0.2530	3.4296	7.8200e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		805.9578	805.9578	0.0417	0.0247	814.3639
Total	**2.3343**	**0.3453**	**3.5305**	**8.3700e-003**	**0.9867**	**0.0121**	**0.9987**	**0.2617**	**0.0117**	**0.2734**		**916.5457**	**916.5457**	**0.0440**	**0.0267**	**925.6120**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	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	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/15/2023	7/28/2023	5	32	
2	Site Preparation	Site Preparation	7/31/2023	8/4/2023	5	5	
3	Grading	Grading	8/7/2023	8/25/2023	5	15	
4	Building Construction	Building Construction	8/28/2023	2/1/2024	5	114	
5	Paving	Paving	11/6/2023	2/1/2024	5	64	
6	Architectural Coating	Architectural Coating	12/1/2023	1/31/2024	5	44	
7	Infrastructure Improvements	Paving	8/28/2023	12/29/2023	5	90	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 1.91

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 132,240; Non-Residential Outdoor: 44,080; Striped Parking Area: 5,052 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Infrastructure Improvements	Cement and Mortar Mixers	2	6.00	9	0.56
Infrastructure Improvements	Pavers	1	8.00	130	0.42
Infrastructure Improvements	Paving Equipment	2	6.00	132	0.36
Infrastructure Improvements	Rollers	2	6.00	80	0.38
Infrastructure Improvements	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Infrastructure Improvements	Excavators	1	8.00	158	0.38
Demolition	Other Material Handling Equipment	1	8.00	168	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	816.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	29.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure Improvements	9	23.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5169	0.0000	5.5169	0.8353	0.0000	0.8353			0.0000			0.0000
Off-Road	2.5231	23.5564	23.3571	0.0445		1.1099	1.1099		1.0313	1.0313		4,300.0846	4,300.0846	1.2283		4,330.7909
Total	**2.5231**	**23.5564**	**23.3571**	**0.0445**	**5.5169**	**1.1099**	**6.6268**	**0.8353**	**1.0313**	**1.8666**		**4,300.0846**	**4,300.0846**	**1.2283**		**4,330.7909**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0500	3.1682	1.0532	0.0143	0.4447	0.0196	0.4643	0.1218	0.0188	0.1406		1,632.3281	1,632.3281	0.1644	0.2619	1,714.4686
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0554	0.0356	0.5135	1.6200e-003	0.2012	1.0300e-003	0.2022	0.0534	9.5000e-004	0.0543		165.4482	165.4482	3.8600e-003	3.9400e-003	166.7201
Total	**0.1055**	**3.2038**	**1.5666**	**0.0159**	**0.6459**	**0.0207**	**0.6666**	**0.1751**	**0.0197**	**0.1949**		**1,797.7763**	**1,797.7763**	**0.1682**	**0.2658**	**1,881.1887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0440	0.0000	2.0440	0.3095	0.0000	0.3095			0.0000			0.0000
Off-Road	2.5231	23.5564	23.3571	0.0445		1.1099	1.1099		1.0313	1.0313	0.0000	4,300.0845	4,300.0845	1.2283		4,330.7909
Total	**2.5231**	**23.5564**	**23.3571**	**0.0445**	**2.0440**	**1.1099**	**3.1539**	**0.3095**	**1.0313**	**1.3408**	**0.0000**	**4,300.0845**	**4,300.0845**	**1.2283**		**4,330.7909**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0500	3.1682	1.0532	0.0143	0.4245	0.0196	0.4441	0.1168	0.0188	0.1356		1,632.3281	1,632.3281	0.1644	0.2619	1,714.4686
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0554	0.0356	0.5135	1.6200e-003	0.1907	1.0300e-003	0.1917	0.0508	9.5000e-004	0.0517		165.4482	165.4482	3.8600e-003	3.9400e-003	166.7201
Total	**0.1055**	**3.2038**	**1.5666**	**0.0159**	**0.6152**	**0.0207**	**0.6358**	**0.1676**	**0.0197**	**0.1873**		**1,797.7763**	**1,797.7763**	**0.1682**	**0.2658**	**1,881.1887**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0554	0.0356	0.5135	1.6200e-003	0.2012	1.0300e-003	0.2022	0.0534	9.5000e-004	0.0543		165.4482	165.4482	3.8600e-003	3.9400e-003	166.7201
Total	**0.0554**	**0.0356**	**0.5135**	**1.6200e-003**	**0.2012**	**1.0300e-003**	**0.2022**	**0.0534**	**9.5000e-004**	**0.0543**		**165.4482**	**165.4482**	**3.8600e-003**	**3.9400e-003**	**166.7201**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2829	0.0000	7.2829	3.7430	0.0000	3.7430			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**7.2829**	**1.2660**	**8.5489**	**3.7430**	**1.1647**	**4.9077**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0554	0.0356	0.5135	1.6200e-003	0.1907	1.0300e-003	0.1917	0.0508	9.5000e-004	0.0517		165.4482	165.4482	3.8600e-003	3.9400e-003	166.7201
Total	**0.0554**	**0.0356**	**0.5135**	**1.6200e-003**	**0.1907**	**1.0300e-003**	**0.1917**	**0.0508**	**9.5000e-004**	**0.0517**		**165.4482**	**165.4482**	**3.8600e-003**	**3.9400e-003**	**166.7201**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0826**	**0.7749**	**7.8575**	**3.4247**	**0.7129**	**4.1377**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0462	0.0297	0.4279	1.3500e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		137.8735	137.8735	3.2200e-003	3.2900e-003	138.9334
Total	**0.0462**	**0.0297**	**0.4279**	**1.3500e-003**	**0.1677**	**8.6000e-004**	**0.1685**	**0.0445**	**7.9000e-004**	**0.0453**		**137.8735**	**137.8735**	**3.2200e-003**	**3.2900e-003**	**138.9334**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6241	0.0000	2.6241	1.2689	0.0000	1.2689			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**2.6241**	**0.7749**	**3.3990**	**1.2689**	**0.7129**	**1.9818**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0462	0.0297	0.4279	1.3500e-003	0.1589	8.6000e-004	0.1598	0.0423	7.9000e-004	0.0431		137.8735	137.8735	3.2200e-003	3.2900e-003	138.9334
Total	**0.0462**	**0.0297**	**0.4279**	**1.3500e-003**	**0.1589**	**8.6000e-004**	**0.1598**	**0.0423**	**7.9000e-004**	**0.0431**		**137.8735**	**137.8735**	**3.2200e-003**	**3.2900e-003**	**138.9334**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0283	1.0617	0.4348	5.2200e-003	0.1854	5.2500e-003	0.1907	0.0534	5.0200e-003	0.0584		573.4454	573.4454	0.0340	0.0824	598.8339
Worker	0.2310	0.1485	2.1394	6.7400e-003	0.8383	4.2900e-003	0.8426	0.2223	3.9500e-003	0.2263		689.3673	689.3673	0.0161	0.0164	694.6671
Total	**0.2592**	**1.2101**	**2.5742**	**0.0120**	**1.0238**	**9.5400e-003**	**1.0333**	**0.2757**	**8.9700e-003**	**0.2847**		**1,262.8127**	**1,262.8127**	**0.0501**	**0.0988**	**1,293.5010**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0283	1.0617	0.4348	5.2200e-003	0.1775	5.2500e-003	0.1827	0.0514	5.0200e-003	0.0564		573.4454	573.4454	0.0340	0.0824	598.8339
Worker	0.2310	0.1485	2.1394	6.7400e-003	0.7946	4.2900e-003	0.7989	0.2116	3.9500e-003	0.2155		689.3673	689.3673	0.0161	0.0164	694.6671
Total	**0.2592**	**1.2101**	**2.5742**	**0.0120**	**0.9721**	**9.5400e-003**	**0.9816**	**0.2630**	**8.9700e-003**	**0.2720**		**1,262.8127**	**1,262.8127**	**0.0501**	**0.0988**	**1,293.5010**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0278	1.0586	0.4314	5.1300e-003	0.1854	5.4900e-003	0.1909	0.0534	5.2500e-003	0.0586		564.5700	564.5700	0.0343	0.0814	589.6888
Worker	0.2178	0.1334	1.9963	6.5200e-003	0.8383	4.0800e-003	0.8424	0.2223	3.7500e-003	0.2261		672.8366	672.8366	0.0146	0.0154	677.7809
Total	**0.2457**	**1.1920**	**2.4277**	**0.0117**	**1.0238**	**9.5700e-003**	**1.0333**	**0.2757**	**9.0000e-003**	**0.2847**		**1,237.4066**	**1,237.4066**	**0.0489**	**0.0968**	**1,267.4696**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0278	1.0586	0.4314	5.1300e-003	0.1775	5.4900e-003	0.1830	0.0514	5.2500e-003	0.0567		564.5700	564.5700	0.0343	0.0814	589.6888
Worker	0.2178	0.1334	1.9963	6.5200e-003	0.7946	4.0800e-003	0.7987	0.2116	3.7500e-003	0.2154		672.8366	672.8366	0.0146	0.0154	677.7809
Total	**0.2457**	**1.1920**	**2.4277**	**0.0117**	**0.9721**	**9.5700e-003**	**0.9817**	**0.2630**	**9.0000e-003**	**0.2720**		**1,237.4066**	**1,237.4066**	**0.0489**	**0.0968**	**1,267.4696**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9963**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0616	0.0396	0.5705	1.8000e-003	0.2236	1.1400e-003	0.2247	0.0593	1.0500e-003	0.0603		183.8313	183.8313	4.2900e-003	4.3800e-003	185.2446
Total	**0.0616**	**0.0396**	**0.5705**	**1.8000e-003**	**0.2236**	**1.1400e-003**	**0.2247**	**0.0593**	**1.0500e-003**	**0.0603**		**183.8313**	**183.8313**	**4.2900e-003**	**4.3800e-003**	**185.2446**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9963**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0616	0.0396	0.5705	1.8000e-003	0.2119	1.1400e-003	0.2130	0.0564	1.0500e-003	0.0575		183.8313	183.8313	4.2900e-003	4.3800e-003	185.2446
Total	**0.0616**	**0.0396**	**0.5705**	**1.8000e-003**	**0.2119**	**1.1400e-003**	**0.2130**	**0.0564**	**1.0500e-003**	**0.0575**		**183.8313**	**183.8313**	**4.2900e-003**	**4.3800e-003**	**185.2446**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9596**	**8.2730**	**12.2210**	**0.0189**		**0.3987**	**0.3987**		**0.3685**	**0.3685**		**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0581	0.0356	0.5323	1.7400e-003	0.2236	1.0900e-003	0.2246	0.0593	1.0000e-003	0.0603		179.4231	179.4231	3.9000e-003	4.1000e-003	180.7416
Total	**0.0581**	**0.0356**	**0.5323**	**1.7400e-003**	**0.2236**	**1.0900e-003**	**0.2246**	**0.0593**	**1.0000e-003**	**0.0603**		**179.4231**	**179.4231**	**3.9000e-003**	**4.1000e-003**	**180.7416**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9596**	**8.2730**	**12.2210**	**0.0189**		**0.3987**	**0.3987**		**0.3685**	**0.3685**	**0.0000**	**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0581	0.0356	0.5323	1.7400e-003	0.2119	1.0900e-003	0.2130	0.0564	1.0000e-003	0.0574		179.4231	179.4231	3.9000e-003	4.1000e-003	180.7416
Total	**0.0581**	**0.0356**	**0.5323**	**1.7400e-003**	**0.2119**	**1.0900e-003**	**0.2130**	**0.0564**	**1.0000e-003**	**0.0574**		**179.4231**	**179.4231**	**3.9000e-003**	**4.1000e-003**	**180.7416**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**19.2976**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0462	0.0297	0.4279	1.3500e-003	0.1677	8.6000e-004	0.1685	0.0445	7.9000e-004	0.0453		137.8735	137.8735	3.2200e-003	3.2900e-003	138.9334
Total	**0.0462**	**0.0297**	**0.4279**	**1.3500e-003**	**0.1677**	**8.6000e-004**	**0.1685**	**0.0445**	**7.9000e-004**	**0.0453**		**137.8735**	**137.8735**	**3.2200e-003**	**3.2900e-003**	**138.9334**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**19.2976**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0462	0.0297	0.4279	1.3500e-003	0.1589	8.6000e-004	0.1598	0.0423	7.9000e-004	0.0431		137.8735	137.8735	3.2200e-003	3.2900e-003	138.9334
Total	**0.0462**	**0.0297**	**0.4279**	**1.3500e-003**	**0.1589**	**8.6000e-004**	**0.1598**	**0.0423**	**7.9000e-004**	**0.0431**		**137.8735**	**137.8735**	**3.2200e-003**	**3.2900e-003**	**138.9334**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**19.2867**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0436	0.0267	0.3993	1.3000e-003	0.1677	8.2000e-004	0.1685	0.0445	7.5000e-004	0.0452		134.5673	134.5673	2.9200e-003	3.0700e-003	135.5562
Total	**0.0436**	**0.0267**	**0.3993**	**1.3000e-003**	**0.1677**	**8.2000e-004**	**0.1685**	**0.0445**	**7.5000e-004**	**0.0452**		**134.5673**	**134.5673**	**2.9200e-003**	**3.0700e-003**	**135.5562**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.1059					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**19.2867**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0436	0.0267	0.3993	1.3000e-003	0.1589	8.2000e-004	0.1597	0.0423	7.5000e-004	0.0431		134.5673	134.5673	2.9200e-003	3.0700e-003	135.5562
Total	**0.0436**	**0.0267**	**0.3993**	**1.3000e-003**	**0.1589**	**8.2000e-004**	**0.1597**	**0.0423**	**7.5000e-004**	**0.0431**		**134.5673**	**134.5673**	**2.9200e-003**	**3.0700e-003**	**135.5562**

3.8 Infrastructure Improvements - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1068	10.3389	15.4482	0.0241		0.5115	0.5115		0.4723	0.4723		2,305.5360	2,305.5360	0.7290		2,323.7615
Paving	0.0556					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1624**	**10.3389**	**15.4482**	**0.0241**		**0.5115**	**0.5115**		**0.4723**	**0.4723**		**2,305.5360**	**2,305.5360**	**0.7290**		**2,323.7615**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Infrastructure Improvements - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0708	0.0455	0.6561	2.0700e-003	0.2571	1.3100e-003	0.2584	0.0682	1.2100e-003	0.0694		211.4060	211.4060	4.9400e-003	5.0400e-003	213.0312
Total	**0.0708**	**0.0455**	**0.6561**	**2.0700e-003**	**0.2571**	**1.3100e-003**	**0.2584**	**0.0682**	**1.2100e-003**	**0.0694**		**211.4060**	**211.4060**	**4.9400e-003**	**5.0400e-003**	**213.0312**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1068	10.3389	15.4482	0.0241		0.5115	0.5115		0.4723	0.4723	0.0000	2,305.5360	2,305.5360	0.7290		2,323.7615
Paving	0.0556					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1624**	**10.3389**	**15.4482**	**0.0241**		**0.5115**	**0.5115**		**0.4723**	**0.4723**	**0.0000**	**2,305.5360**	**2,305.5360**	**0.7290**		**2,323.7615**

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Infrastructure Improvements - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0708	0.0455	0.6561	2.0700e-003	0.2437	1.3100e-003	0.2450	0.0649	1.2100e-003	0.0661		211.4060	211.4060	4.9400e-003	5.0400e-003	213.0312
Total	**0.0708**	**0.0455**	**0.6561**	**2.0700e-003**	**0.2437**	**1.3100e-003**	**0.2450**	**0.0649**	**1.2100e-003**	**0.0661**		**211.4060**	**211.4060**	**4.9400e-003**	**5.0400e-003**	**213.0312**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3160	0.2530	3.4296	7.8200e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		805.9578	805.9578	0.0417	0.0247	814.3639
Unmitigated	0.3160	0.2530	3.4296	7.8200e-003	0.9867	5.0100e-003	0.9917	0.2617	4.6300e-003	0.2664		805.9578	805.9578	0.0417	0.0247	814.3639

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	110.20	110.20	110.20	472,286	472,286
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	110.20	110.20	110.20	472,286	472,286

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Unrefrigerated Warehouse-No Rail	0.671171	0.045767	0.131313	0.104769	0.023940	0.000000	0.000000	0.000000	0.000000	0.000000	0.023040	0.000000	0.000000
City Park	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Other Asphalt Surfaces	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
NaturalGas Unmitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	939.568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.939568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

6.0 Area Detail

6.1 Mitigation Measures Area

7390 & 7440 Lincoln Way Industrial Project_Construction+Passenger Cars - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Unmitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7390 & 7440 Lincoln Way Industrial Project_Trucks Only

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.12	Acre	0.12	5,227.20	0
Other Asphalt Surfaces	45.40	1000sqft	1.04	45,404.00	0
Unrefrigerated Warehouse-No Rail	88.16	1000sqft	2.02	88,160.00	0
Parking Lot	97.00	Space	0.87	38,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	512	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE 2020 Sustainability Report

Land Use -

Construction Phase - Trucks run only.

Off-road Equipment - Per questionnaire.

Grading -

Demolition -

Vehicle Trips - Per traffic study - trucks run only.

Fleet Mix - Trucks run only.

Construction Off-road Equipment Mitigation -

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Trucks run only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	PhaseEndDate	7/19/2023	7/31/2023
tblConstructionPhase	PhaseStartDate	7/13/2023	7/31/2023
tblFleetMix	HHD	4.9060e-003	0.51
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.6050e-003	0.26
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	3.8690e-003	0.00
tblFleetMix	MHD	0.01	0.23
tblFleetMix	OBUS	6.5700e-004	0.00
tblFleetMix	SBUS	7.1300e-004	0.00
tblFleetMix	UBUS	3.8100e-004	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	512
tblVehicleTrips	CNW_TL	6.90	33.20
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.74	0.46

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	1.74	0.46
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	1.74	0.46
tblVehicleTrips	WD_TR	0.78	0.00

2.0 Emissions Summary

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.1606	1.5416	2.3169	3.3900e-003	0.0335	0.0760	0.1095	8.8900e-003	0.0699	0.0788	0.0000	329.1512	329.1512	0.0982	6.6000e-004	331.8016
Maximum	**0.1606**	**1.5416**	**2.3169**	**3.3900e-003**	**0.0335**	**0.0760**	**0.1095**	**8.8900e-003**	**0.0699**	**0.0788**	**0.0000**	**329.1512**	**329.1512**	**0.0982**	**6.6000e-004**	**331.8016**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.1606	1.5416	2.3169	3.3900e-003	0.0335	0.0760	0.1095	8.8900e-003	0.0699	0.0788	0.0000	329.1512	329.1512	0.0982	6.6000e-004	331.8016
Maximum	**0.1606**	**1.5416**	**2.3169**	**3.3900e-003**	**0.0335**	**0.0760**	**0.1095**	**8.8900e-003**	**0.0699**	**0.0788**	**0.0000**	**329.1512**	**329.1512**	**0.0982**	**6.6000e-004**	**331.8016**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.1020	5.1716	1.6689	0.0300	1.2145	0.0390	1.2536	0.3442	0.0373	0.3816		3,312.0338	3,312.0338	0.2259	0.4653	3,456.3467
Total	**2.1203**	**5.2639**	**1.7698**	**0.0305**	**1.2145**	**0.0461**	**1.2607**	**0.3442**	**0.0444**	**0.3887**		**3,422.6218**	**3,422.6218**	**0.2282**	**0.4674**	**3,567.5948**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Energy	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Mobile	0.1020	5.1716	1.6689	0.0300	1.2145	0.0390	1.2536	0.3442	0.0373	0.3816		3,312.0338	3,312.0338	0.2259	0.4653	3,456.3467
Total	**2.1203**	**5.2639**	**1.7698**	**0.0305**	**1.2145**	**0.0461**	**1.2607**	**0.3442**	**0.0444**	**0.3887**		**3,422.6218**	**3,422.6218**	**0.2282**	**0.4674**	**3,567.5948**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/31/2023	7/31/2023	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.91

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698		301.5765	301.5765	0.0975		304.0149
Total	**0.1514**	**1.5357**	**2.2313**	**3.1200e-003**	**0.0000**	**0.0758**	**0.0758**	**0.0000**	**0.0698**	**0.0698**		**301.5765**	**301.5765**	**0.0975**		**304.0149**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2400e-003	5.9400e-003	0.0856	2.7000e-004	0.0335	1.7000e-004	0.0337	8.8900e-003	1.6000e-004	9.0500e-003		27.5747	27.5747	6.4000e-004	6.6000e-004	27.7867
Total	**9.2400e-003**	**5.9400e-003**	**0.0856**	**2.7000e-004**	**0.0335**	**1.7000e-004**	**0.0337**	**8.8900e-003**	**1.6000e-004**	**9.0500e-003**		**27.5747**	**27.5747**	**6.4000e-004**	**6.6000e-004**	**27.7867**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1514	1.5357	2.2313	3.1200e-003		0.0758	0.0758		0.0698	0.0698	0.0000	301.5765	301.5765	0.0975		304.0149
Total	**0.1514**	**1.5357**	**2.2313**	**3.1200e-003**	**0.0000**	**0.0758**	**0.0758**	**0.0000**	**0.0698**	**0.0698**	**0.0000**	**301.5765**	**301.5765**	**0.0975**		**304.0149**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2400e-003	5.9400e-003	0.0856	2.7000e-004	0.0335	1.7000e-004	0.0337	8.8900e-003	1.6000e-004	9.0500e-003		27.5747	27.5747	6.4000e-004	6.6000e-004	27.7867
Total	**9.2400e-003**	**5.9400e-003**	**0.0856**	**2.7000e-004**	**0.0335**	**1.7000e-004**	**0.0337**	**8.8900e-003**	**1.6000e-004**	**9.0500e-003**		**27.5747**	**27.5747**	**6.4000e-004**	**6.6000e-004**	**27.7867**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1020	5.1716	1.6689	0.0300	1.2145	0.0390	1.2536	0.3442	0.0373	0.3816		3,312.0338	3,312.0338	0.2259	0.4653	3,456.3467
Unmitigated	0.1020	5.1716	1.6689	0.0300	1.2145	0.0390	1.2536	0.3442	0.0373	0.3816		3,312.0338	3,312.0338	0.2259	0.4653	3,456.3467

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	40.77	40.77	40.77	492,671	492,671
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	40.77	40.77	40.77	492,671	492,671

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	33.20	0.00	0.00	100.00	100	0	0
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.264074	0.228519	0.507407	0.000000	0.000000	0.000000	0.000000	0.000000
City Park	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869
Other Asphalt Surfaces	0.546200	0.059546	0.185910	0.127866	0.024295	0.006605	0.014499	0.004906	0.000657	0.000381	0.024552	0.000713	0.003869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
NaturalGas Unmitigated	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	939.568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.939568	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5374	110.5374	2.1200e-003	2.0300e-003	111.1943
Total		**0.0101**	**0.0921**	**0.0774**	**5.5000e-004**		**7.0000e-003**	**7.0000e-003**		**7.0000e-003**	**7.0000e-003**		**110.5374**	**110.5374**	**2.1200e-003**	**2.0300e-003**	**111.1943**

6.0 Area Detail

6.1 Mitigation Measures Area

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Unmitigated	2.0082	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

7390 & 7440 Lincoln Way Industrial Project_Trucks Only - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2303					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1700e-003	2.1000e-004	0.0235	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0505	0.0505	1.3000e-004		0.0538
Total	**2.0082**	**2.1000e-004**	**0.0235**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0505**	**0.0505**	**1.3000e-004**		**0.0538**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Emergency Backup Generator Emissions

	Fuel Type	Quantity	HP	LF	Hours/Year per Unit	Hours per Day	HP-hr per day	Total hp-hr per year
Standard Generator	Diesel	1	750	0.74	50	1	750	37,500

Emissions Rates (g/hp-hr)

	HC	ROG	TOG	CO	NO_X	CO_2	PM_{10}	$PM_{2.5}$	PM	SO_X	CH_4
Standard Warehouse	0.14	1.0205827	1.1249089	2.6	2.85	521.63114	0.15	0.15	0.15	0.00494	0.073

From CalEEMod Guide Appenix D, Table 12.1 and updated with Tier 4 Standards (CARB 2017 Off-Road Diesel Emission Factor Update for NOx and PM)

Emissions (pounds/day)

	HC	ROG	TOG	CO	NO_X	CO_2	PM_{10}	$PM_{2.5}$	PM	SO_X	CH_4
Standard Warehouse	0.23	1.69	1.86	4.30	4.71	862.50	0.25	0.25	0.25	0.01	0.00
Total	0.23	1.69	1.86	4.30	4.71	862.50	0.25	0.25	0.25	0.01	0.00

Emissions (tons/year)

	HC	ROG	TOG	CO	NO_X	CO_2	PM_{10}	$PM_{2.5}$	PM	SO_X	CH_4
Standard Warehouse	0.01	0.04	0.05	0.11	0.12	21.56	0.01	0.01	0.01	0.00	0.00
Total	0.01	0.04	0.05	0.11	0.12	21.56	0.01	0.01	0.01	0.00	0.00

GHG Emissions (metric tons)	CO_2	CH_4	CO_2e
Project	19.56	0.00	19.56

Model Output: OFFROAD2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Orange (SC)
Calendar Year: 2024
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2021 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Ye:	Vehicle Category	Model Year	Horsepower	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consumption	Total_Activit	Total_Popul	Horsepower_Hours_
Orange (SC	2024	Airport Ground Support - Cargo Loader	Aggregate	100	Diesel	5.3961E-05	6.52928E-05	7.77039E-05	0.001229	0.000814	0.190457	2.86093E-05	2.63205E-05	1.75925E-06	1.55448E-06	6179.153682	4144.499	8.850004	356646.3723
Orange (SC	2024	Airport Ground Support - Cargo Tractor	Aggregate	100	Diesel	1.94209E-05	2.34993E-05	2.79661E-05	0.000565	0.000289	0.090277	8.32261E-06	7.6568E-06	8.34069E-07	7.36825E-07	2928.923315	1942.513	2.833655	156583.3187
Orange (SC	2024	Airport Ground Support - Misc - Cargo Tractor	Aggregate	100	Gasoline	0.004786566	0.004402683	0.005267324	0.452922	0.023072	5.356181	0.000373446	0.000282159	4.42212E-05	8.06643E-05	230256.6	44635.85	33.06	4240405.75

g/hph

	HC	ROG	TOG	CO	Nox	CO2	PM10	PM2_5	Sox	NH3	Fuel_gphr
2024	0.050100049	0.060621059	0.07214407	1.1409284	0.7558966	176.82923	0.026562257	0.024437277	0.001633371	0.001443256	5737029.615
	0.041069564	0.049694172	0.059140171	1.1956061	0.6106004	190.90855	0.017599892	0.016191901	0.001763812	0.00155817	6193817.628
	0.373776977	0.343800063	0.411318762	35.368144	1.8016273	418.25747	0.029161915	0.022033447	0.003453176	0.006298976	17980450.91

	HC	ROG	TOG	CO	Nox	CO2	PM10	PM2_5	Sox	NH3	Fuel_gphr
2024	0.443385634	0.536496618	0.638475313	10.097221	6.6896876	1564.9394	0.235076085	0.216269998	0.014455339	0.012772825	50772735.41
	0.11637699	0.140816158	0.167582866	3.3879357	1.7302312	540.96904	0.04987203	0.045882268	0.004998036	0.004415317	17551144.76
	12.35706685	11.36603009	13.59819828	1169.2708	59.561798	13827.592	0.964092926	0.728425766	0.114161987	0.208244153	594433707.2
	12.91682947	12.04334286	14.40425646	1182.756	67.981717	15933.501	1.249041041	0.990578032	0.133615362	0.225432295	662757587.4
	0.288685137	0.269163117	0.321928439	26.434047	1.5193598	356.10633	0.027915487	0.022138959	0.002986241	0.005038307	14812324.14

Project Yard Trucks	1
HP	190
Hours per Day	12
Days per Year	365
1 pound =	453.5924 grams

Emissions Source	ROG	NOX	CO	SO2	PM10	PM2.5	CO2	MT/yr	PM10 tons/yr
Project Yard Trucks	1.35	7.64	132.87	0.02	0.14	0.11	1789.98	296.35	0.026

Based on aggregated emission rates obtained from CARB OFFROAD Version 1.0.1.
Number of yard trucks/hostlers per SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results, June 2014.

Model Output: OFFROAD2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Orange (SC)
Calendar Year: 2024
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2021 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Ye	Vehicle Category	Model Year	Horsepower	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consumption	Total_Activit	Total_Population	Horsepower_Hour
Orange (SC	2024	Industrial - Forklifts	Aggregate	100	Diesel	0.013906	0.016826	0.020024	0.208494	0.158672	30.40038	0.009074	0.008348	0.000280649	0.000248124	986306.7613	1152811	1479.239916	95022895.61

g/hph

	HC	ROG	TOG	CO	Nox	CO2	PM10	PM2_5	Sox	NH3	Fuel_gphr
2024	0.0484571	0.0586331	0.0697782	0.7265422	0.5529269	105.93674	0.0316215	0.0290918	0.000977984	0.000864641	3437000.979

Project Forklifts	2	
HP	89	
Hours per Day	12	
Days per Year	365	
1 pound =	453.5924	grams

Emissions Source	ROG	NOX	CO	SO2	PM10	PM2.5	CO2	MT/yr	PM10 tons/yr
Project Forklifts	0.24	2.30	3.02	0.00	0.13	0.12	440	72.82	0.024

Based on aggregated emission rates obtained from CARB OFFROAD Version 1.0.1.
Number of forklifts per SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results, June 2014.

Attachment 7 - Noise Study

Acoustical Assessment
7390 & 7440 Lincoln Way Industrial Project
City of Garden Grove, California

Prepared by:

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Orange, California 92868
Contact: Ms. Danielle Millar
714.939.1030

November 2022

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LIST OF ABBREVIATED TERMS

ADT	average daily traffic
BNL	basic noise level
CEQA	California Environmental Quality Act
CL	centerline
CNEL	community equivalent noise level
dB	decibel
dBA	A-weighted sound level
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
Ft	foot/feet
FTA	Federal Transit Administration
HVAC	heating ventilation and air conditioning
Hz	hertz
in/sec	inches per second
$L_{\%}$	exceeded/percent noise level
L_{dn}	day-night noise level
L_{eq}	equivalent noise level
L_{max}	maximum noise level
L_{min}	minimum noise level
mph	miles per hour
PPV	peak particle velocity
RMS	root mean square
µPa	micropascals
VdB	vibration velocity level

1 INTRODUCTION

This report documents the results of an Acoustical Assessment completed for the 7390 & 7440 Lincoln Way Industrial Project (Project). The purpose of this Acoustical Assessment is to evaluate the potential construction and operational noise and vibration levels associated with the Project and determine the level of impact the Project would have on the environment.

1.1 Project Location

The Project consists of a warehouse distribution building located at 7390 and 7440 Lincoln Way in the City of Garden Grove (City), California; refer to **Exhibit 1: Regional Vicinity** and **Exhibit 2: Site Vicinity**. The Project site is zoned Planned Unit Development Industrial (PUD(I)) zone (PUD-103-76 Rev. 92) and located within the Industrial land use designation in the City's General Plan. The Project site is surrounded by industrial uses; refer to **Exhibit 2**.

1.2 Project Description

The Project site is currently developed with two occupied office buildings totaling 71,202 square feet. The Project would involve the demolition of the existing uses and the construction of an 88,164 square foot warehouse building with potential office space, parking, and landscaping on approximately 4.05 net acres; refer to **Exhibit 3: Site Plan**. The warehouse building would include 81,164 sf of warehouse space and 7,000 sf of ancillary office space, the latter on two levels, and 9 dock doors. Employee parking and landscaping would be provided along the property boundaries and building frontages. Trucks and passenger vehicles would access the Project site from three driveways: two on Western Avenue and one on Lincoln Way.

Hours of Operation

The tenant(s) of the warehouse facility has not been identified; therefore, the precise nature of facility operations cannot be determined at this time. Any future occupant would be required to adhere to the pertinent City regulations. For the purposes of this analysis, and to analyze a reasonable worst case scenario, the hours of operation are assumed to be 7 days a week, 24 hours per day.

Construction Activities

Construction of the proposed Project is expected to commence in June 2023 with a construction duration of approximately 7.5 months and would be completed in one phase. Total grading for the proposed Project is estimated to require approximately 6,436 cubic yards of cut and approximately 6,435 cubic yards of fill. Therefore, earthwork would be balanced on-site and no import/export would be required. Construction activities would occur consistent with City permitted construction hours (7:00 a.m. – 10:00 p.m.), with the exception of a few nighttime concrete pours.

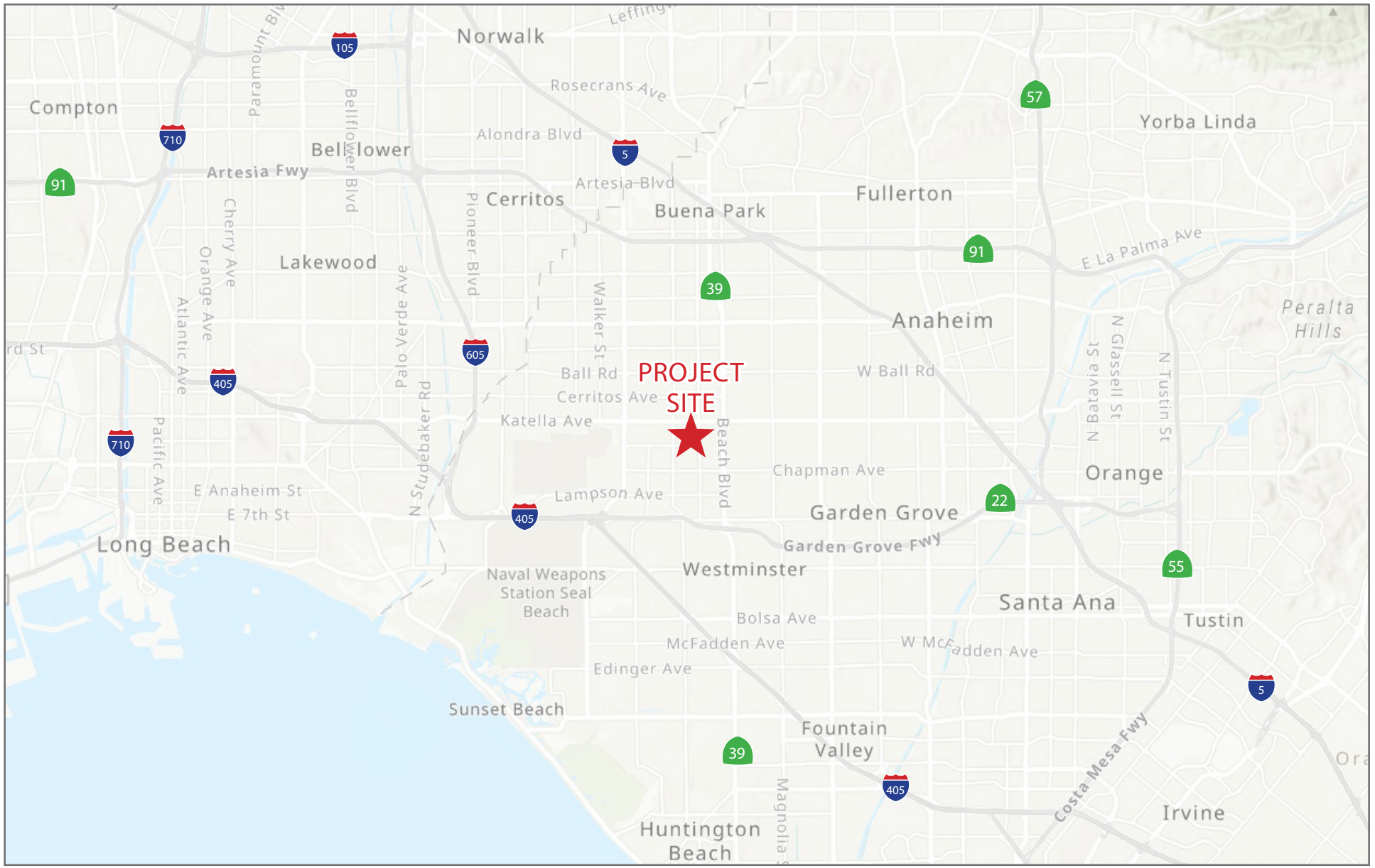

EXHIBIT 1: Regional Vicinity

7390 & 7440 Lincoln Way Industrial Project

City of Garden Grove

Not to Scale

Kimley»Horn

Expect More. Experience Better.

EXHIBIT 2: Site Vicinity

7390 & 7440 Lincoln Way Industrial Project

City of Garden Grove

Not to Scale

Kimley»Horn

Expect More. Experience Better.

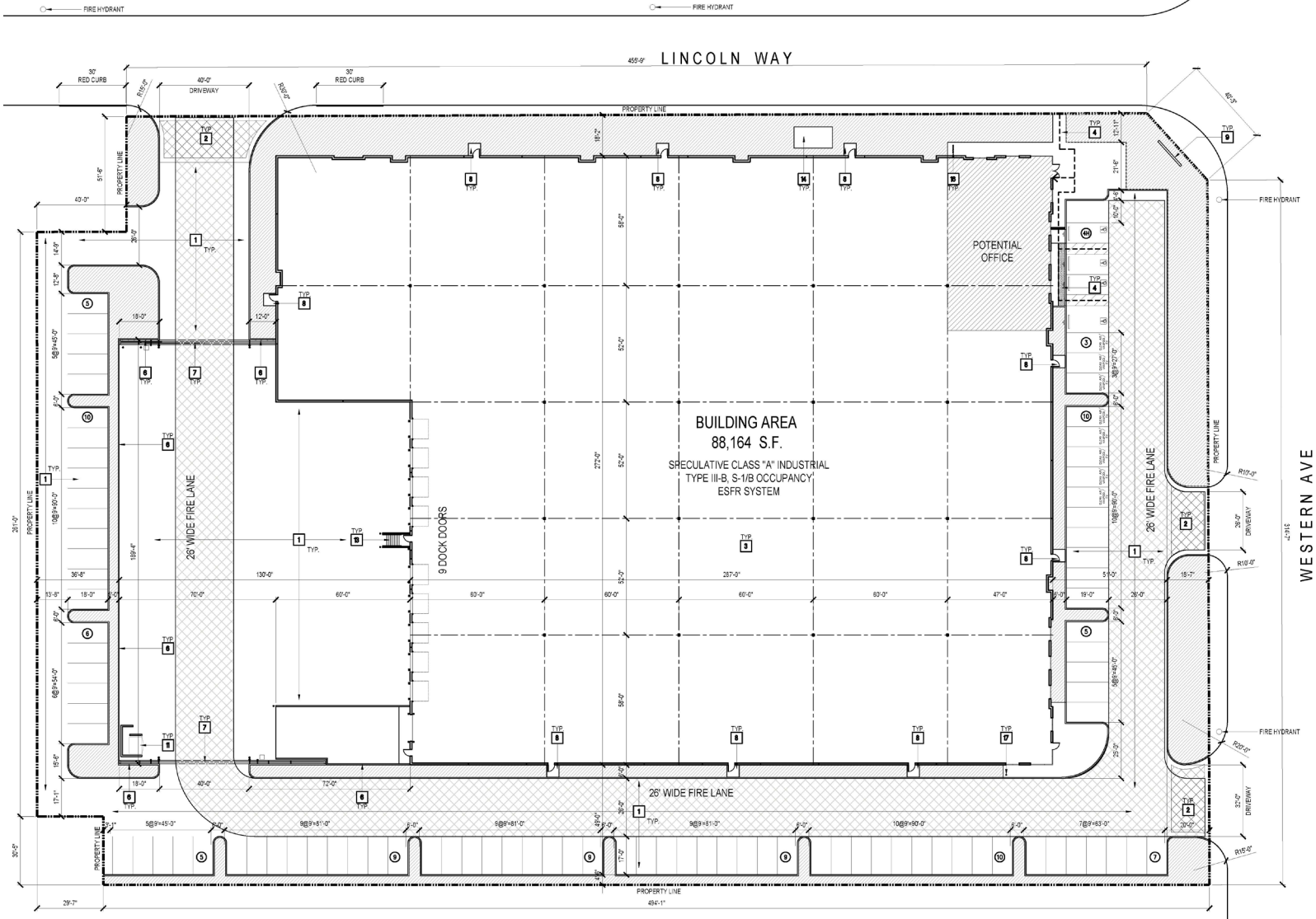

EXHIBIT 3: Site Plan

7390 & 7440 Lincoln Way Industrial Project

City of Garden Grove

Not to Scale

Kimley»Horn

Expect More. Experience Better.

2 ACOUSTIC FUNDAMENTALS

2.1 Sound and Environmental Noise

Acoustics is the science of sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a medium (e.g., air) to human (or animal) ear. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).

Noise is defined as loud, unexpected, or annoying sound. In acoustics, the fundamental model consists of a noise source, a receptor, and the propagation path between the two. The loudness of the noise source, obstructions, or atmospheric factors affecting the propagation path, determine the perceived sound level and noise characteristics at the receptor. Acoustics deal primarily with the propagation and control of sound. A typical noise environment consists of a base of steady background noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to continuous noise from traffic on a major highway. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a large range of numbers. To avoid this, the decibel (dB) scale was devised. The dB scale uses the hearing threshold of 20 micropascals (µPa) as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels correspond closely to human perception of relative loudness. **Table 1: Typical Noise Levels**, provides typical noise levels.

Table 1: Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	– 110 –	Rock Band
Jet fly-over at 1,000 feet		
	– 100 –	
Gas lawnmower at 3 feet		
	– 90 –	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	– 80 –	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	**– 70 –**	Vacuum cleaner at 10 feet
Commercial area		Normal Speech at 3 feet
Heavy traffic at 300 feet	**– 60 –**	
		Large business office
Quiet urban daytime	**– 50 –**	Dishwasher in next room
Quiet urban nighttime	**– 40 –**	Theater, large conference room (background)
Quiet suburban nighttime		
	– 30 –	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	– 20 –	
		Broadcast/recording studio
	– 10 –	
Lowest threshold of human hearing	**– 0 –**	Lowest threshold of human hearing

Source: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

Noise Descriptors

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The equivalent noise level (L_{eq}) represents the continuous sound pressure level over the measurement period, while the day-night noise level (L_{dn}) and Community Noise Equivalent Level (CNEL) are measures of energy average during a 24-hour period, with dB weighted sound levels from 7:00 p.m. to 7:00 a.m. Most commonly, environmental sounds are described in terms of an average level (L_{eq}) that has the same acoustical energy as the summation of all the time-varying events. Each is applicable to this analysis and defined in **Table 2: Definitions of Acoustical Terms**.

Table 2: Definitions of Acoustical Terms

Term	Definitions
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in µPa (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in dB as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 µPa). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in dB as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
Maximum Noise Level (L_{max}) Minimum Noise Level (L_{min})	The maximum and minimum dBA during the measurement period.
Exceeded Noise Levels (L_{01}, L_{10}, L_{50}, L_{90})	The dBA values that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day-Night Noise Level (L_{dn})	A 24-hour average L_{eq} with a 10 dBA weighting added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity at nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
Community Noise Equivalent Level (CNEL)	A 24-hour average L_{eq} with a 5 dBA weighting during the hours of 7:00 AM to 10:00 PM and a 10 dBA weighting added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

The A-weighted decibel (dBA) sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports.

A-Weighted Decibels

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by dBA values. There is a strong correlation between dBA and the way the human ear perceives sound. For this reason, the dBA has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of dBA, but are expressed as dB, unless otherwise noted.

Addition of Decibels

The dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic dB is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound and twice as loud as a 60 dBA sound.[1] When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions.[2] Under the dB scale, three sources of equal loudness together would produce an increase of 5 dBA.

Sound Propagation and Attenuation

Sound spreads (propagates uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics.[3] No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm

[1] FHWA, *Noise Fundamentals,* 2017. Available at: https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm

[2] Ibid.

[3] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, Page 2-29, September 2013.

reduces noise levels by 5 to 10 dBA.[4] The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by weighted average noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA.[5] Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted[6]:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10 dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Effects of Noise on People

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise. The Occupational Safety and Health Administration has a noise exposure standard that is set at the noise threshold where

[4] James P. Cowan, *Handbook of Environmental Acoustics,* 1994.

[5] Compiled from James P. Cowan, *Handbook of Environmental Acoustics,* 1994 and Cyril M. Harris, Handbook of Noise Control, 1979.

[6] Compiled from California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, and FHWA, *Noise Fundamentals,* 2017.

hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over 8 hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. A noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.[7]

2.2 Groundborne Vibration

Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 3: Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibrations, displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in **Table 3** should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

[7] Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.

Table 3: Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibrations			
Maximum PPV (in/sec)	**Vibration Annoyance Potential Criteria**	**Vibration Damage Potential Threshold Criteria**	**FTA Vibration Damage Criteria**
0.008	--	Extremely fragile historic buildings, ruins, ancient monuments	--
0.01	Barely Perceptible	--	--
0.04	Distinctly Perceptible	--	--
0.10	Strongly Perceptible	Fragile buildings	--
0.12	--	--	Buildings extremely susceptible to vibration damage
0.2	--	--	Non-engineered timber and masonry buildings
0.25	--	Historic and some old buildings	--
0.3	--	Older residential structures	Engineered concrete and masonry (no plaster)
0.4	Severe	--	--
0.5	--	New residential structures, Modern industrial/commercial buildings	Reinforced-concrete, steel or timber (no plaster)
PPV = peak particle velocity; in/sec = inches per second; FTA = Federal Transit Administration			
Source: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020 and Federal Transit Administration, *Transit Noise and Vibration Assessment Manual*, 2018.			

Ground vibration can be a concern in instances where buildings shake and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per second (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

3 REGULATORY SETTING

To limit population exposure to physically or psychologically damaging as well as intrusive noise levels, the Federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

3.1 State of California

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of "normally acceptable", "conditionally acceptable", "normally unacceptable", and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

Title 24 – Building Code

The State's noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new multi-family residential buildings, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.2 City of Garden Grove

City of Garden Grove General Plan

The *City of Garden Grove General Plan* (General Plan) Noise Element identifies several policies to minimize the impacts of excessive noise levels throughout the community. The Noise Element provides policy guidance which addresses the generation, mitigation, avoidance, and the control of excessive noise. The noise policies specified in the Noise Element provide the guidelines necessary to satisfy these goals.

To ensure that different land uses are developed in compatible noise environments, the City's Noise Element establishes noise guidelines for land use planning, shown in **Table 4: General Plan Noise Element Noise Standards**.

Table 4: General Plan Noise Element Noise Standards

Land Use	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	70 – 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 – 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA

NA: Not Applicable

Source: Office of Planning and Research, California, General Plan Guidelines, October 2003.

Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.

The General Plan Noise Element also includes the following goals, policies, and implementation programs:

Goal N-1: Noise considerations must be incorporated into land use planning decisions.

Policy N-1.1: Require all new residential construction in areas with an exterior noise level greater than 55 dBA to include sound attenuation measures.

Policy N-1.2: Incorporate a noise assessment study into the environmental review process, when needed for a specific project for the purposes of identifying potential noise impacts and noise abatement procedures.

Policy N-1.3: Require noise reduction techniques in site planning, architectural design, and construction, where noise reduction is necessary consistent with the standards in Tables 7-1 and 7-2, Title 24 of the California Code of Regulations, and Section 8.47 of the Municipal Code.

Policy N-1.4: Ensure acceptable noise levels are maintained near schools, hospitals, convalescent homes, churches, and other noise sensitive areas.

N-IMP-1B: Require that new commercial, industrial, any redevelopment project, or any proposed development near existing residential land use demonstrate compliance with the City's Noise Ordinance prior to approval of the project.

N-IMP-1C: Implement noise mitigation by placing conditions of approval on development projects, and require a clear description of mitigation on subdivision maps, site plans, and building plans for inspection purposes.

N-IMP-1D: Require construction activity to comply with the limits established in the City's Noise Ordinance.

N-IMP-1E: Require buffers or appropriate mitigation of potential noise sources on noise sensitive areas.

N-IMP-1F: Require that vehicle access to commercial properties that are located adjacent to residential parcels or other noise sensitive uses be located at the maximum practical distance from these uses.

N-IMP-1G: Encourage truck deliveries to commercial or industrial properties abutting residential or noise sensitive uses after 7:00 AM and before 10:00 PM.

N-IMP-1K: Enforce the Noise Ordinance to ensure that stationary noise and noise emanating from construction activities, private development, and/or special events are minimized.

N-IMP-1L: Continue to enforce noise abatement and control measures.

Goal N-4: Minimize noise impacts for residential uses and noise sensitive receptors along the City's arterial streets, ensuring that City and State interior and exterior noise levels are not exceeded.

Policy N-4.3: Discourage through traffic on residential local streets to reduce noise.

N-IMP-4D: Provide for continued evaluation of truck movements and routes in the City to provide effective separation from residential or other noise sensitive land uses.

City of Garden Grove Municipal Code

The *City of Garden Grove Municipal Code* (Municipal Code) Chapter 8.47, *Noise Control*, includes the City's standards related to noise. Section 8.47.040, *Ambient Base Noise Levels*, establishes ambient base noise levels for different land uses that are to be used for determining if noise levels exceed that allowed by the Municipal Code. These ambient base noise levels are summarized in **Table 5: Garden Grove Noise Ordinance Standards**. If the actual measured ambient noise levels at the land use under review exceed the ambient base noise level, Municipal Code Section 8.47.040 allows the actual measured ambient noise level to be used as the basis for determining whether or not the subject noise exceeds the noise level allowed by the Municipal Code. In addition, in situations where two adjoining properties exist within two different land use designations, the most restrictive ambient base noise level shall apply. Finally, Section 8.47.040 permits any noise level that does not exceed the ambient base noise level established by the Municipal Code (see **Table 5**) or the actual measured ambient noise level by 5 dBA, as measured at the property line of the noise generating property.

Table 5: Garden Grove Noise Ordinance Standards

Land Use Designation		Ambient Base Noise Level	Time Of Day
Sensitive Uses	Residential Use	55 dBA	7:00 a.m. – 10:00 p.m.
		50 dBA	10:00 p.m. – 7:00 a.m.
Conditionally Sensitive Uses	Institutional Use	65 dBA	Any Time
	Office-Professional Use	65 dBA	Any Time

Table 5: Garden Grove Noise Ordinance Standards			
Land Use Designation		**Ambient Base Noise Level**	**Time Of Day**
	Hotels and Motels	65 dBA	Any Time
Non-Sensitive Uses	Commercial Uses	70 dBA	Any Time
	Commercial/Industrial Uses within 150 feet of Residential Uses	65 dBA	7:00 a.m. – 10:00 p.m.
		50 dBA	10:00 p.m. – 7:00 a.m.
	Industrial Uses	70 dBA	Any Time
Source: City of Garden Grove, Municipal Code, Section 8.47, Noise Control, 2005.			

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

(C) MACHINERY, EQUIPMENT, FANS, AND AIR CONDITIONING. It shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise that would cause the noise level at the property line of any property to exceed either the ambient base noise level or the actual measured ambient noise level by more than five decibels.

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

(F) MOTOR DRIVEN VEHICLES. It shall be unlawful for any person to operate any motor driven vehicle within the City in such a manner that a person of normal sensitiveness residing in the area is caused discomfort or annoyance, as determined utilizing the criteria established in Section 8.47.050*(B), unless such operations are of an emergency nature; provided, however, any such vehicle that is operated upon any public highway, street, or right-of-way shall be excluded from the provisions of this section.*

(H) WASTE HAULERS/COMMERCIAL SWEEPERS AND LEAF BLOWERS. It shall be unlawful for any person within any commercial, industrial, or office complex area of the City to operate any refuse compacting, processing or collection vehicle, parking lot sweeper or leaf blower within 150 feet of residential property between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day.

(I) LOADING/UNLOADING. It shall be unlawful for any person in any commercial or industrial area of the City that abuts or is located adjacent to any residential property between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day to load or unload any vehicle, or operate any dollies, carts, forklifts, or other wheeled equipment that causes any noise that disturbs the peace or quiet of the residential neighborhood. (2802 § 1, 2011; 2660 § 2, 2005)

4 EXISTING CONDITIONS

4.1 Existing Noise Levels

The City is impacted by various noise sources. Mobile sources of noise, especially cars and trucks, are the most common and significant sources of noise. Other noise sources are the various land uses (e.g. industrial, commercial, institutional, and residential) throughout the City that generate stationary-source noise. The existing mobile noise sources in the Project area are generated by motor vehicles traveling along Western Avenue. The primary sources of stationary noise in the Project vicinity are those associated with the surrounding industrial uses. Industrial stationary noise sources may include mechanical equipment (use of heating, ventilation, and air conditioning [HVAC] units, etc.) and parking lot activities (cars parking, open and closing doors, etc.). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

4.2 Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. The nearest sensitive receptors include multi-family residences located approximately 360 feet to the north of the Project site.

4.3 Noise Measurements

To quantify existing ambient noise levels in the Project area, Kimley-Horn conducted four short-term noise measurements on July 20, 2022, see **Appendix A: Existing Ambient Noise Measurements**. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site, see **Exhibit 4: Noise Measurement Locations**. The 10-minute measurements were taken between 1:43 p.m. and 2:44 p.m. Short-term L_{eq} measurements are considered representative of the noise levels throughout the day. The average noise levels and sources of noise measured at each location are listed in **Table 6: Existing Noise Measurements**.

Table 6: Existing Noise Measurements

Site #	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Time
1	Cul-de-sac at western end of Carie Lane, north of Project site	51.0	43.2	65.8	1:43 p.m.
2	South of parking lot, southwest of Project site	66.7	51.4	86.0	2:00 p.m.
3	Southwest corner of Lincoln Way and Western Avenue, northeastern portion of Project site	71.6	52.3	83.0	2:16 p.m.
4	In front of residence located at 11410 Western Avenue, southeast of Project site	75.4	54.4	87.2	2:34 p.m.

Source: Noise measurements taken by Kimley-Horn and Associates, July 20, 2022. See **Appendix A** for noise measurement results.

EXHIBIT 4: Noise Measurement Locations

7390 & 7440 Lincoln Way Industrial Project

City of Garden Grove

Not to Scale

Kimley»Horn

Expect More. Experience Better.

5 SIGNIFICANCE CRITERIA AND METHODOLOGY

5.1 CEQA Thresholds

The California Environmental Quality Act (CEQA) Guidelines Appendix G contains analysis guidelines related to noise impacts. These guidelines have been used by the City to develop thresholds of significance for this analysis. A project would create a significant environmental impact if it would:

- Generate 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;
- Generate excessive groundborne vibration or groundborne noise levels; and
- 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, expose people residing or working in the project area to excessive noise levels.

5.2 Methodology

Construction Noise

Construction noise levels in this analysis were based on typical noise levels generated by construction equipment published by the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA). Construction noise is assessed in dBA L_{eq}. This unit is appropriate because L_{eq} can be used to describe noise level from operation of each piece of equipment separately, and levels can be combined to represent the noise level from all equipment operating during a given period.

Construction noise modeling was conducted using the FHWA Roadway Construction Noise Model (RCNM). Reference noise levels are used to estimate operational noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of temporary construction noise. Municipal Code Section 8.47.060 establishes allowable hours for construction activity (7:00 a.m. – 10:00 p.m.). This analysis conservatively uses the FTA's daytime thresholds of 80 dBA (8-hour L_{eq}) for residential uses and 90 dBA (8-hour L_{eq}) for non-residential uses to evaluate construction noise impacts during daytime hours. The Project may include occasional nighttime concrete pours starting at 1:00 a.m. or 2:00 a.m. Therefore, this analysis uses the FTA's nighttime thresholds of 70 dBA (8-hour L_{eq}) for residential uses and 90 dBA (8-hour L_{eq}) for non-residential uses to evaluate construction noise impacts during nighttime hours (10:00 p.m. – 7:00 a.m.).

Operational Noise

Operational noise is evaluated based on the standards within the Municipal Code and General Plan. Municipal Code Section 8.47.040 identifies a daytime (7:00 a.m. – 10:00 p.m.) standard of 55 dBA for residential receptors and a nighttime (10:00 p.m. – 7:00 a.m.) standard of 50 dBA; refer to **Table 5**. The

closest non-residential land uses to the Project site consist of industrial uses. As shown in **Table 5**, the City's non-residential standards are 70 dBA at any time for industrial uses.[8]

Reference noise level data are used to estimate the Project operational noise impacts from stationary sources. Noise levels are collected from field noise measurements and other published sources from similar types of activities are used to estimate noise levels expected with the Project's stationary sources. The reference noise levels are used to represent a worst-case noise environment as noise levels from stationary sources can vary throughout the day. Operational noise is evaluated based on the standards within the Municipal Code and General Plan.

A qualitative analysis was conducted of the Project's potential effect on traffic noise conditions at off-site land uses. The Project-generated daily trips were compared to existing conditions to determine potential traffic noise impacts.

Vibration

Groundborne vibration levels associated with construction-related activities for the Project were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from FTA published data for construction equipment. Potential groundborne vibration impacts related to building/structure damage and interference with sensitive existing operations were evaluated, considering the distance from construction activities to nearby land uses and typically applied criteria.

Caltrans and the FTA have identified various vibration damage criteria for different building classes. As the closest structures are industrial buildings, this evaluation uses the FTA architectural damage criterion for continuous vibrations at engineered concrete and masonry structures of 0.3 in/sec PPV. Further, as the nearest sensitive receptors to Project construction are multi-family residents, the criterion for human annoyance of 0.40 in/sec PPV is utilized; refer to **Table 3**.

[8] **Table 5** also identifies daytime (65 dBA) and nighttime (50 dBA) noise standards for industrial uses within 150 feet of residential uses. However, these noise standards are not applicable to the proposed Project as the nearest residential uses are located approximately 360 feet to the north of the Project site.

6 POTENTIAL IMPACTS AND MITIGATION

6.1 Acoustical Impacts

Threshold 6.1 Would the Project generate 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?

Construction

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, noise levels could affect the residential neighborhoods near the construction site. The nearest sensitive receptors (i.e., multi-family residences) are located approximately 360 feet to the north of the Project site. As construction may occur up to the Project boundary line, construction activities may occur as close as 360 feet from the nearest sensitive receptor. However, construction activities would occur throughout the Project site and would not be concentrated at the point closest to the sensitive receptors.

Construction activities would include demolition, site preparation, grading, infrastructure improvements, building construction, paving, and architectural coating applications. Such activities would require concrete saws, excavators, dozers, and material handling equipment during demolition; dozers and tractors during site preparation; excavators, graders, dozers, and tractors during grading; cranes, forklifts, generators, tractors, and welders during building construction; excavators, pavers, rollers, tractors, cement mixers, and paving equipment during infrastructure improvements; pavers, rollers, tractors, cement mixers, and paving equipment during paving; and air compressors during architectural coating applications. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical noise levels associated with individual construction equipment are listed in **Table 7: Typical Construction Noise Levels**.

Table 7: Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA) at 50 feet from Source
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82

Table 7: Typical Construction Noise Levels	
Equipment	**Typical Noise Level (dBA) at 50 feet from Source**
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pneumatic Tool	85
Pump	77
Roller	85
Saw	76
Scraper	85
Shovel	82
Truck	84
1. Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1+20Log(d_1/d_2)$ Where: dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.	

As shown in **Table 7**, exterior noise levels could affect the nearest existing sensitive receptors in the vicinity. Construction equipment would operate throughout the Project site and the associated noise levels would not occur at a fixed location for extended periods of time. The nearest sensitive receptors are multi-family residential uses located approximately 360 feet to the north of the Project site. These sensitive receptors may be exposed to elevated noise levels during Project construction. However, construction noise would be acoustically dispersed throughout the Project site and not concentrated in one area near surrounding sensitive uses. The Municipal Code establishes allowable hours for construction activity. Municipal Code Section 8.47.060 states that construction activities occurring within a radius of 500 feet from a residential area may only take place between the hours of 7:00 a.m. and 10:00 p.m. to avoid noise disturbances.

Construction activities may also cause increased noise along site access routes due to movement of equipment and workers. Compliance with the Municipal Code would minimize impacts from construction noise, as construction would be limited to daytime hours.

The noise levels calculated in **Table 8: Daytime Project Construction Noise Levels** conservatively show the Project's exterior construction noise levels generated during daytime hours (7:00 a.m. – 10:00 p.m.) at the nearest receptors without accounting for attenuation from existing physical barriers. Construction noise has been calculated with FHWA's Roadway Construction Noise Model (RCNM). Following FTA methodology, when calculating construction noise, all equipment is assumed to operate at the center of the Project because equipment would operate throughout the Project site and not at a fixed location for extended periods of time. Therefore, the distance used in the RCNM model was 531 feet for the nearest sensitive receptor (i.e., multi-family residences) to the north of the Project site and 171 feet for the nearest non-residential receptor (i.e., industrial uses) to the south of the Project site. Noise levels at other receptors in the Project vicinity would be located further away and would experience lower construction noise levels than the closest receptors modeled. All construction equipment was assumed to operate simultaneously to represent a worst-case noise scenario as construction activities would routinely be spread throughout the construction site and would operate at different intervals.

Table 8 shows that the maximum construction noise levels would not exceed the applicable FTA daytime construction thresholds. The highest exterior noise level at residential receptors would occur during the grading stage and would be 67.6 dBA which is below the FTA's 80 dBA daytime threshold. Additionally, the highest exterior noise level at non-residential receptors would also occur during the grading stage and would be 77.5 dBA which is below the FTA's 90 dBA daytime threshold. Construction equipment would operate throughout the Project site and the associated noise levels would not occur at a fixed location for extended periods of time. Although sensitive uses may be exposed to elevated noise levels during Project construction, these noise levels would be acoustically dispersed throughout the Project site and not concentrated in one area near surrounding sensitive uses.

Table 8: Daytime Project Construction Noise Levels

Construction Phase	Land Use	Receptor Location			Daytime Noise Threshold [2] (dBA L_{eq})	Exceeded?
		Direction	Distance (feet)	Worst Case Modeled Exterior Noise Level (dBA L_{eq})		
Demolition	Residential	North	531	66.2	80	**No**
	Industrial	South	171	76.0	90	**No**
Site Preparation	Residential	North	531	67.1	80	**No**
	Industrial	South	171	76.9	90	**No**
Grading	Residential	North	531	67.6	80	**No**
	Industrial	South	171	77.5	90	**No**
Infrastructure Improvements	Residential	North	531	63.4	80	**No**
	Industrial	South	171	73.2	90	**No**
Building Construction	Residential	North	531	65.4	80	**No**
	Industrial	South	171	75.2	90	**No**
Paving	Residential	North	531	62.4	80	**No**
	Industrial	South	171	72.3	90	**No**
Architectural Coating	Residential	North	531	53.2	80	**No**
	Industrial	South	171	63.0	90	**No**
Building Construction/Paving/ Infrastructure Improvements/ Architectural Coating	Residential	North	531	66.6	80	**No**
	Industrial	South	171	76.4	90	**No**

1. Per the methodology described in the FTA *Transit Noise and Vibration Impact Assessment Manual* (September 2018), distances are measured from the nearby buildings to the center of the Project construction site. Therefore, distance may not match those identified in **Table 7**, which are measured from the property line.
2. The City does not have a quantitative noise threshold for construction and only limits the hours of the construction activities. Therefore, FTA's construction noise threshold are conservatively used for this analysis (FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018).

Source: Federal Highway Administration, *Roadway Construction Noise Model,* 2006. Refer to **Appendix B** for noise modeling results.

As previously discussed, construction activities may include a few concrete pours during nighttime hours (10:00 p.m. and 7:00 a.m.). Concrete pours could include the operation of concrete mixer trucks and a concrete pump truck. The noise levels calculated in **Table 9: Nighttime Project Construction Noise Levels** conservatively show the Project's exterior construction noise levels generated during nighttime hours (10:00 p.m. – 7:00 a.m.) at the nearest receptors without accounting for attenuation from existing physical

barriers. As shown in in **Table 9**, equipment associated with concrete pours would result in exterior noise levels of 58.9 dBA at the nearest residential receptor and 68.8 dBA at the nearest non-residential receptor. Therefore, nighttime construction noise levels would not exceed the FTA's nighttime thresholds of 70 dBA (8-hour L_{eq}) for residential uses and 90 dBA (8-hour L_{eq}) for non-residential uses. Thus, construction noise impacts would be less than significant during nighttime hours.

Table 9: Nighttime Project Construction Noise Levels

Construction Phase	Land Use	Receptor Location			Nighttime Noise Threshold [2] (dBA L_{eq})	Exceeded?
		Direction	Distance (feet)	Worst Case Modeled Exterior Noise Level (dBA L_{eq})		
Demolition	Residential	North	531	58.9	70	**No**
	Industrial	South	171	68.8	90	**No**

1. Per the methodology described in the FTA *Transit Noise and Vibration Impact Assessment Manual* (September 2018), distances are measured from the nearby buildings to the center of the Project construction site. Therefore, distance may not match those identified in **Table 7**, which are measured from the property line.
2. The City does not have a quantitative noise threshold for construction and only limits the hours of the construction activities. Therefore, FTA's construction noise threshold are conservatively used for this analysis (FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018).

Source: Federal Highway Administration, *Roadway Construction Noise Model,* 2006. Refer to **Appendix B** for noise modeling results.

Operations

Implementation of the proposed Project would create new sources of noise in the Project vicinity. The major noise sources associated with the Project that would potentially impact existing and future nearby residences include the following:

- Mechanical equipment;
- Slow moving trucks on the Project site, approaching and leaving the loading areas;
- Activities at the loading areas (i.e., maneuvering and idling trucks, equipment noise);
- Parking areas (i.e., car door slamming, car radios, engine start-up, and car pass-by); and
- Off-site traffic.

Mechanical Equipment

Mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] equipment) typically generates noise levels of approximately 52 dBA at 50 feet.[9] HVAC units would be installed on the roof of the proposed structure. Sound levels decrease by 6 dBA for each doubling of distance from the source.[10] The nearest sensitive receptors (multi-family residential uses to the north) would be located as close as 379 feet from the HVAC equipment at the Project site. At this distance, mechanical equipment noise levels would be approximately 34.4 dBA, which is well below the City's daytime (55 dBA) and nighttime (50 dBA) residential exterior noise standards. Further, industrial uses adjacent to the south of the Project site may be located as close as 113 feet from HVAC equipment at the Project site. At this distance, mechanical equipment noise levels would be approximately 44.9 dBA, which is below the City's industrial exterior

[9] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, June 26, 2015.

[10] Cyril M. Harris, *Noise Control in Buildings*, 1994.

noise standard (70 dBA). Operation of mechanical equipment would not increase ambient noise levels beyond the acceptable compatible land use noise levels. Therefore, the proposed Project would result in a less than significant impact related to mechanical equipment noise levels.

Truck and Loading Dock Noise

During loading and unloading activities, noise would be generated by the trucks' diesel engines, exhaust systems, and brakes during low gear shifting' braking activities; backing up toward the docks; dropping down the dock ramps; and maneuvering away from the docks. Loading/unloading activities would occur on the east side of the Project site. Driveways and access to the site would occur along Western Avenue and Lincoln Way.

Typically, heavy truck and loading dock operations generate a noise level of 68 dBA at a distance of 30 feet. The closest sensitive receptors would be the multi-family residences located approximately 484 feet north of the loading dock areas. At this distance, heavy truck and loading dock noise levels would be 43.8 dBA, which would not exceed the City's daytime (55 dBA) and nighttime (50 dBA) residential exterior noise standards. Heavy truck and loading dock noise levels at the nearest sensitive receptors would be further attenuated by intervening structures. Further, the property line of the nearest industrial use, adjacent to the south of the Project site, would be located as close as 95 feet from heavy truck and loading dock operations. At this distance, heavy truck and loading dock noise levels would be approximately 58.0 dBA, which is below the City's industrial exterior noise standard (70 dBA). Additionally, loading dock doors would be surrounded with protective aprons, gaskets, or similar improvements that, when a trailer is docked, would serve as a noise barrier between the interior warehouse activities and the exterior loading area. This would attenuate noise emanating from interior activities, and as such, interior loading and associated activities would be permissible during all hours of the day. Furthermore, occasional heavy truck and loading dock operations currently occur at the two existing office buildings and surrounding industrial uses. Therefore, heavy truck and loading dock operations would not introduce a new intrusive noise source when compared to existing conditions. As described above, noise levels associated with trucks and loading/unloading activities would not exceed the City's standards and impacts would be less than significant.

Parking Noise

The proposed Project would provide 97 surface parking spaces. Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. The instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys range from 60 to 63 dBA and may be an annoyance to adjacent noise-sensitive receptors. Conversations in parking areas may also be an annoyance to adjacent sensitive receptors. Sound levels of speech typically range from 33 dBA at 50 feet for normal speech to 50 dBA at 50 feet for very loud speech. It should be noted that parking lot noises are instantaneous noise levels compared to noise standards in the hourly L_{eq} metric, which are averaged over the entire duration of a time period.

Actual noise levels over time resulting from parking lot activities would be far lower than the reference levels identified above. Parking lot noise would occur within the surface parking lot on-site. The nearest sensitive receptors are located approximately 410 feet from the closest proposed parking area. At this distance, parking lot noise levels would be approximately 44.7 dBA, which would not exceed the City's daytime (55 dBA) or nighttime (50 dBA) residential exterior noise standards. It should be noted that the

existing office buildings and adjacent industrial uses generate parking lot noise under existing conditions. Therefore, parking lot noise associated with the proposed 97 surface parking spaces would not introduce a new intrusive noise source when compared to existing conditions. Thus, noise impacts from parking lot activities would be less than significant.

Off-Site Traffic Noise

Project implementation would result in a net decrease of traffic trips to Project area roadways. According to the *Traffic Memorandum for the Proposed 7390 & 7440 Lincoln Way Industrial Project* (Traffic Memo) prepared by Kimley-Horn (July 2022), the existing office buildings generate 772 daily trips and the Project would generate 151 daily trips. Therefore, the Project would result in a net decrease of 621 daily trips (565 passenger car equivalent [PCE] daily trips). In general a 3-dBA increase in traffic noise is barely perceptible to people, while a 5-dBA increase is readily noticeable. Traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to generate a barely perceptible 3-dBA increase.[11] The Project would not result in a doubling of existing traffic volumes, as the Project would generate a net decrease of 621 daily trips. Therefore, the Project would not increase ambient traffic noise levels and impacts would be less than significant.

Level of Significance: Less than significant impact.

Threshold 6.2 Would the Project expose persons to or generate excessive ground borne vibration or ground borne noise levels?

Once operational, the Project would not be a source of groundborne vibration. Increases in groundborne vibration levels attributable to the proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.20 in/sec is considered safe and would not result in any construction vibration damage. Caltrans and the FTA have identified various vibration damage criteria for different building classes. As the closest structure is an industrial building, this evaluation uses the FTA architectural damage criterion for continuous vibrations at engineered concrete and masonry structures of 0.3 in/sec PPV. Further, as the nearest sensitive receptors to Project construction are residents, the criterion for human annoyance of 0.40 in/sec PPV is utilized; refer to **Table 3**.

[11] According to the California Department of Transportation, *Technical Noise Supplement to Traffic Noise Analysis Protocol* (September 2013), it takes a doubling of traffic to create a noticeable (i.e., 3 dBA) noise increase.

The FTA has published standard vibration velocities for construction equipment operations. **Table 10: Typical Construction Equipment Vibration Levels**, lists vibration levels at 25 feet for typical construction equipment. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. As indicated in **Table 10**, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during Project construction range from 0.003 to 0.089 in/sec PPV at 25 feet from the source of activity.

As construction may occur up to the Project boundary line, the nearest structure to any construction activity is an industrial building located approximately 63 feet to the south and the closest sensitive receptors are multi-family residences located approximately 360 feet to the north of proposed construction activities. Vibration velocities from construction equipment would range from 0.001 to 0.022 in/sec PPV at the nearest structure, which would not exceed the structural damage criteria of 0.3 in/sec PPV; refer to **Table 10**. Further, vibration velocities from construction equipment would be less than 0.002 at the nearest sensitive receptor, which would not exceed the human annoyance criteria of 0.40 in/sec PPV; refer to **Table 10**. It is also acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest structure or sensitive receptor. Therefore, vibration impacts associated with the proposed Project would be less than significant.

Table 10: Typical Construction Equipment Vibration Levels

Equipment	Reference Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity at 63 Feet (in/sec)[1]	Peak Particle Velocity at 360 Feet (in/sec)[1]
Large Bulldozer	0.089	0.022	0.002
Loaded Trucks	0.076	0.019	0.001
Rock Breaker	0.059	0.015	0.001
Jackhammer	0.035	0.009	0.001
Small Bulldozer/Tractors	0.003	0.001	<0.001

1. Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$, where:
   PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance
   PPV_{ref} = the reference vibration level in in/sec from Table 7-4 of the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.
   D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Level of Significance: Less than significant impact.

Threshold 6.3 For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The public airport nearest to the Project site is the Fullerton Municipal Airport, located approximately 5.13 miles to the northeast. As such, the Project would not be located within two miles of a public airport or within an airport land use plan. Additionally, there are no private airstrips located within the Project vicinity. Therefore, the Project would not expose people residing or working in the Project area to excessive airport- or airstrip-related noise levels and no impact would occur.

Level of Significance: No impact.

CUMULATIVE NOISE IMPACTS

Cumulative noise impacts would occur primarily from increased traffic on local roadways due to buildout of the proposed Project and other projects in the vicinity. However, as noted above, the Project would generate a net decrease of 621 daily trips when compared to existing conditions. As a result, it was determined that the Project would not increase ambient traffic noise levels. Therefore, the Project's contribution to a cumulative traffic noise would be less than significant.

Level of Significance: Less than significant impact.

7 REFERENCES

1. California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020.
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3. California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020.
4. Cyril M. Harris, *Noise Control in Buildings*, 1994.
5. Cyril M. Harris, *Handbook of Noise Control*, 1979.
6. Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, June 26, 2015.
7. Federal Highway Administration, *Noise Fundamentals,* 2017.
8. Federal Highway Administration, *Roadway Construction Noise Model*, 2006.
9. Federal Highway Administration, *Roadway Construction Noise Model User's Guide Final Report*, 2006.
10. Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.
11. Federal Transit Administration, *Transit Noise and Vibration Assessment Manual*, 2018.
12. James P. Cowan, *Handbook of Environmental Acoustics,* 1994.
13. LHA Architects, *Architectural Site Plan,* 2022.
14. City of Garden Grove, *City of Garden Grove General Plan*, May 2008.
15. City of Garden Grove, *Garden Grove Code of Ordinances*, codified through Ordinance No. 2932*,* adopted June 2022.
16. U.S. Environmental Protection Agency, *Protective Noise Levels (EPA 550/9-79-100)*, November 1979.

Appendix A

Existing Ambient Noise Measurements

Noise Measurement Field Data

Project:	7390 & 7440 Lincoln Way	**Job Number:**	095671004
Site No.:	1	**Date:**	7/20/2022
Analyst:	Serena Lin, Daisy Pineda	**Time:**	1:43 - 1:53 PM
Location:	cul-de-sac at western end of Carie Lane, north of project site		
Noise Sources:	distant traffic (street noise), wind chimes, distant birds		
Comments:			

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	51.0	43.2	65.8	86.4

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	84°
Wind (mph):	8
Sky:	Clear
Bar. Pressure:	30.02"
Humidity:	45%

Photo:

Kimley»Horn

Summary

File Name on Meter	NOR.006.s
File Name on PC	LxTse_0007061-20220720 134306-NOR.006.ldbi
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2022-07-20 13:43:06
Stop	2022-07-20 13:53:06
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2022-07-13 14:24:01
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	FF:90 2116
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	At LMax
Overload	122.6 dB

	A	**C**
Under Range Peak	**79.1**	76.1
Under Range Limit	**24.2**	25.3
Noise Floor	15.1	16.2

Results

LA_{eq}	51.0	
LAE	78.8	
EA	8.386 µPa²h	
$LA_{peak\ (max)}$	2022-07-20 13:43:12	86.4
LAS_{max}	2022-07-20 13:50:39	65.8
LAS_{min}	2022-07-20 13:45:26	43.2

SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0

Community Noise	**Ldn**	**LDay 07:00-22:00**
	51.0	51.0

LCeq	64.2 dB	
LAeq	51.0 dB	
LCeq - LAeq	13.2 dB	
LAIeq	52.9 dB	
LAeq	51.0 dB	
LAIeq - LAeq	1.9 dB	

	A	
	dB	**Time Stamp**
Leq	51.0	
LS(max)	65.8	2022/07/20 13:50:39
LS(min)	43.2	2022/07/20 13:45:26
LPeak(max)	86.4	2022/07/20 13:43:12

Overload Count	0	
Overload Duration	0.0 s	
OBA Overload Count	0	
OBA Overload Duration	0.0 s	

Statistics

LA5.00	55.9 dB	
LA10.00	50.9 dB	
LA33.30	48.1 dB	
LA50.00	47.1 dB	
LA66.60	46.2 dB	
LA90.00	45.0 dB	

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**
PRMLxT1L	2022-07-13 14:24:01	-28.77
PRMLxT1L	2022-06-29 07:27:55	-28.80
PRMLxT1L	2022-06-28 08:39:41	-28.80
PRMLxT1L	2022-06-15 14:25:38	-28.72
PRMLxT1L	2022-06-14 10:43:32	-28.82
PRMLxT1L	2022-05-09 13:38:12	-28.63
PRMLxT1L	2022-05-09 12:21:37	-28.62
PRMLxT1L	2022-05-09 10:43:25	-28.57
PRMLxT1L	2022-05-09 10:28:43	-26.38
PRMLxT1L	2022-05-09 09:56:05	-26.38

Noise Measurement Field Data

Project:	7390 & 7440 Lincoln Way	**Job Number:**	095671004
Site No.:	2	**Date:**	7/20/2022
Analyst:	Serena Lin, Daisy Pineda	**Time:**	2:00 - 2:10 PM
Location:	south of parking lot, southwest of project site		
Noise Sources:	trucks, cars, people talking, mechanical equipment		
Comments:			

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	66.7	51.4	86.0	110.9

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	84°
Wind (mph):	8
Sky:	Clear
Bar. Pressure:	30.02"
Humidity:	44%

Photo:

Kimley»Horn

Summary

File Name on Meter	NOR.007.s
File Name on PC	LxTse_0007061-20220720 140042-NOR.007.ldbi
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2022-07-20 14:00:42
Stop	2022-07-20 14:10:42
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2022-07-13 14:24:01
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	FF:90 2116
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	At LMax
Overload	122.6 dB

	A	**C**
Under Range Peak	**79.1**	76.1
Under Range Limit	**24.2**	25.3
Noise Floor	15.1	16.2

Results

LA_{eq}	66.7	
LAE	94.5	
EA	311.025 µPa²h	
$LA_{peak\ (max)}$	2022-07-20 14:09:37	110.9
LAS_{max}	2022-07-20 14:09:37	86.0
LAS_{min}	2022-07-20 14:05:22	51.4

SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	1	0.9
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0

Community Noise	**Ldn**	**LDay 07:00-22:00**
	66.7	66.7

LCeq	78.7 dB
LAeq	66.7 dB
LCeq - LAeq	12.0 dB
LAIeq	74.5 dB
LAeq	66.7 dB
LAIeq - LAeq	7.8 dB

	A	
	dB	**Time Stamp**
Leq	66.7	
LS(max)	86.0	2022/07/20 14:09:37
LS(min)	51.4	2022/07/20 14:05:22
LPeak(max)	110.9	2022/07/20 14:09:37

Overload Count	0
Overload Duration	0.0 s
OBA Overload Count	0
OBA Overload Duration	0.0 s

Statistics

LA5.00	69.0 dB
LA10.00	68.1 dB
LA33.30	67.5 dB
LA50.00	60.4 dB
LA66.60	56.2 dB
LA90.00	53.8 dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**
PRMLxT1L	2022-07-13 14:24:01	-28.77
PRMLxT1L	2022-06-29 07:27:55	-28.80
PRMLxT1L	2022-06-28 08:39:41	-28.80
PRMLxT1L	2022-06-15 14:25:38	-28.72
PRMLxT1L	2022-06-14 10:43:32	-28.82
PRMLxT1L	2022-05-09 13:38:12	-28.63
PRMLxT1L	2022-05-09 12:21:37	-28.62
PRMLxT1L	2022-05-09 10:43:25	-28.57
PRMLxT1L	2022-05-09 10:28:43	-26.38
PRMLxT1L	2022-05-09 09:56:05	-26.38

Noise Measurement Field Data

Project:	7390 & 7440 Lincoln Way	**Job Number:**	095671004
Site No.:	3	**Date:**	7/20/2022
Analyst:	Serena Lin, Daisy Pineda	**Time:**	2:16 - 2:26 PM
Location:	southwest corner of Lincoln Way and Western Avenue, northeastern portion of project site		
Noise Sources:	cars, vehicular traffic along nearby roadways, birds (crows), trucks		
Comments:			

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	71.6	52.3	83.0	94.4

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	84°
Wind (mph):	8
Sky:	Clear
Bar. Pressure:	30.01"
Humidity:	44%

Photo:

Kimley»Horn

Summary

File Name on Meter	NOR.008.s
File Name on PC	LxTse_0007061-20220720 141638-NOR.008.ldbi
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2022-07-20 14:16:38
Stop	2022-07-20 14:26:38
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2022-07-13 14:24:01
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	FF:90 2116
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	At LMax
Overload	122.6 dB

	A	**C**
Under Range Peak	**79.1**	76.1
Under Range Limit	**24.2**	25.3
Noise Floor	15.1	16.2

Results

LA_{eq}	71.6	
LAE	99.4	
EA	967.950 µPa²h	
$LA_{peak\ (max)}$	2022-07-20 14:20:31	94.4
LAS_{max}	2022-07-20 14:23:55	83.0
LAS_{min}	2022-07-20 14:17:57	52.3

SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0

Community Noise	**Ldn**	**LDay 07:00-22:00**
	71.6	71.6

LCeq	78.7 dB	
LAeq	71.6 dB	
LCeq - LAeq	7.1 dB	
LAIeq	73.0 dB	
LAeq	71.6 dB	
LAIeq - LAeq	1.4 dB	

	A	
	dB	**Time Stamp**
Leq	71.6	
LS(max)	83.0	2022/07/20 14:23:55
LS(min)	52.3	2022/07/20 14:17:57
LPeak(max)	94.4	2022/07/20 14:20:31

Overload Count	0	
Overload Duration	0.0 s	
OBA Overload Count	0	
OBA Overload Duration	0.0 s	

Statistics

LA5.00	76.5 dB	
LA10.00	74.8 dB	
LA33.30	71.3 dB	
LA50.00	69.0 dB	
LA66.60	66.7 dB	
LA90.00	60.8 dB	

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**
PRMLxT1L	2022-07-13 14:24:01	-28.77
PRMLxT1L	2022-06-29 07:27:55	-28.80
PRMLxT1L	2022-06-28 08:39:41	-28.80
PRMLxT1L	2022-06-15 14:25:38	-28.72
PRMLxT1L	2022-06-14 10:43:32	-28.82
PRMLxT1L	2022-05-09 13:38:12	-28.63
PRMLxT1L	2022-05-09 12:21:37	-28.62
PRMLxT1L	2022-05-09 10:43:25	-28.57
PRMLxT1L	2022-05-09 10:28:43	-26.38
PRMLxT1L	2022-05-09 09:56:05	-26.38

Noise Measurement Field Data

Project:	7390 & 7440 Lincoln Way	**Job Number:**	095671004
Site No.:	4	**Date:**	7/20/2022
Analyst:	Serena Lin, Daisy Pineda	**Time:**	2:34 - 2:44 PM
Location:	In front of residence located at 11410 Western Avenue, southeast of Project site		
Noise Sources:	vehicular traffic along Western Avenue, people passing by		
Comments:			

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	75.4	54.4	87.2	101.8

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	84°
Wind (mph):	8
Sky:	Clear
Bar. Pressure:	30.01"
Humidity:	44%

Photo:

Kimley»Horn

Summary

File Name on Meter	NOR.009.s
File Name on PC	LxTse_0007061-20220720 143452-NOR.009.ldbi
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2022-07-20 14:34:52
Stop	2022-07-20 14:44:52
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2022-07-13 14:24:01
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	FF:90 2116
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	At LMax
Overload	122.6 dB

	A	**C**
Under Range Peak	**79.1**	76.1
Under Range Limit	**24.2**	25.3
Noise Floor	15.1	16.2

Results

LA_{eq}	75.4		
LAE	103.2		
EA	2.305	mPa^2h	
$LA_{peak\ (max)}$	2022-07-20 14:42:56		101.8
LAS_{max}	2022-07-20 14:37:21		87.2
LAS_{min}	2022-07-20 14:36:54		54.4

SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	2	3.9
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0

Community Noise	**Ldn**	**LDay 07:00-22:00**
	75.4	75.4

LCeq	81.2 dB	
LAeq	75.4 dB	
LCeq - LAeq	5.8 dB	
LAIeq	77.2 dB	
LAeq	75.4 dB	
LAIeq - LAeq	1.8 dB	

	A	
	dB	**Time Stamp**
Leq	75.4	
LS(max)	87.2	2022/07/20 14:37:21
LS(min)	54.4	2022/07/20 14:36:54
LPeak(max)	101.8	2022/07/20 14:42:56

Overload Count	0	
Overload Duration	0.0 s	
OBA Overload Count	0	
OBA Overload Duration	0.0 s	

Statistics

LA5.00	80.1 dB	
LA10.00	78.9 dB	
LA33.30	75.9 dB	
LA50.00	73.7 dB	
LA66.60	70.6 dB	
LA90.00	63.1 dB	

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**
PRMLxT1L	2022-07-13 14:24:01	-28.77
PRMLxT1L	2022-06-29 07:27:55	-28.80
PRMLxT1L	2022-06-28 08:39:41	-28.80
PRMLxT1L	2022-06-15 14:25:38	-28.72
PRMLxT1L	2022-06-14 10:43:32	-28.82
PRMLxT1L	2022-05-09 13:38:12	-28.63
PRMLxT1L	2022-05-09 12:21:37	-28.62
PRMLxT1L	2022-05-09 10:43:25	-28.57
PRMLxT1L	2022-05-09 10:28:43	-26.38
PRMLxT1L	2022-05-09 09:56:05	-26.38

Appendix B

Noise Model Output Files

Report date: 7/19/2022
Case Description: Demolition_7390 & 7440 Lincoln Way Industrial Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	531	0
Excavator	No	40		80.7	531	0
Dozer	No	40		81.7	531	0
Rock Drill	No	20		81	531	0
Excavator	No	40		80.7	531	0
Excavator	No	40		80.7	531	0
Dozer	No	40		81.7	531	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		69.1	62.1	N/A	N/A	N/A	N/A
Excavator		60.2	56.2	N/A	N/A	N/A	N/A
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Rock Drill		60.5	53.5	N/A	N/A	N/A	N/A
Excavator		60.2	56.2	N/A	N/A	N/A	N/A
Excavator		60.2	56.2	N/A	N/A	N/A	N/A
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
	Total	69.1	66.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	171	0
Excavator	No	40		80.7	171	0
Dozer	No	40		81.7	171	0
Rock Drill	No	20		81	171	0
Excavator	No	40		80.7	171	0
Excavator	No	40		80.7	171	0
Dozer	No	40		81.7	171	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	78.9	71.9	N/A	N/A	N/A	N/A
Excavator	70	66.1	N/A	N/A	N/A	N/A
Dozer	71	67	N/A	N/A	N/A	N/A
Rock Drill	70.3	63.3	N/A	N/A	N/A	N/A
Excavator	70	66.1	N/A	N/A	N/A	N/A
Excavator	70	66.1	N/A	N/A	N/A	N/A
Dozer	71	67	N/A	N/A	N/A	N/A
Total	78.9	76	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 7/19/2022
Case Description: Site Preparation_7390 & 7440 Lincoln Way Industrial Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	531	0
Dozer	No	40		81.7	531	0
Dozer	No	40		81.7	531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0

		Results					
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
	Total	63.5	67.1	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	171	0
Dozer	No	40		81.7	171	0
Dozer	No	40		81.7	171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0

Results

		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		71	67	N/A	N/A	N/A	N/A
Dozer		71	67	N/A	N/A	N/A	N/A
Dozer		71	67	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
	Total	73.3	76.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 7/19/2022
Case Description: Grading_7390 & 7440 Lincoln Way Industrial Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	531	0
Dozer	No	40		81.7	531	0
Excavator	No	40		80.7	531	0
Dozer	No	40		81.7	531	0
Grader	No	40	85		531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Excavator		60.2	56.2	N/A	N/A	N/A	N/A
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Grader		64.5	60.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
	Total	64.5	67.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	171	0
Dozer	No	40		81.7	171	0
Excavator	No	40		80.7	171	0
Dozer	No	40		81.7	171	0
Grader	No	40	85		171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0

		Results					
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		71	67	N/A	N/A	N/A	N/A
Dozer		71	67	N/A	N/A	N/A	N/A
Excavator		70	66.1	N/A	N/A	N/A	N/A
Dozer		71	67	N/A	N/A	N/A	N/A
Grader		74.3	70.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
	Total	74.3	77.5	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 7/19/2022
Case Description: Infrastructure Improvements_7390 & 7440 Lincoln Way Industrial Project

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	531	0
Paver	No	50		77.2	531	0
Roller	No	20		80	531	0
Roller	No	20		80	531	0
Tractor	No	40	84		531	0
Excavator	No	40		80.7	531	0

				Results			
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		58.3	54.3	N/A	N/A	N/A	N/A
Paver		56.7	53.7	N/A	N/A	N/A	N/A
Roller		59.5	52.5	N/A	N/A	N/A	N/A
Roller		59.5	52.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Excavator		60.2	56.2	N/A	N/A	N/A	N/A
	Total	63.5	63.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	171	0
Paver	No	50		77.2	171	0
Roller	No	20		80	171	0
Roller	No	20		80	171	0
Tractor	No	40	84		171	0
Excavator	No	40		80.7	171	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	68.1	64.1	N/A	N/A	N/A	N/A
Paver	66.5	63.5	N/A	N/A	N/A	N/A
Roller	69.3	62.3	N/A	N/A	N/A	N/A
Roller	69.3	62.3	N/A	N/A	N/A	N/A
Tractor	73.3	69.3	N/A	N/A	N/A	N/A
Excavator	70	66.1	N/A	N/A	N/A	N/A
Total	73.3	73.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 7/19/2022
Case Description: Paving_7390 & 7440 Lincoln Way Industrial Project

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	531	0
Paver	No	50		77.2	531	0
Roller	No	20		80	531	0
Roller	No	20		80	531	0
Tractor	No	40	84		531	0

		Results					
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		58.3	54.3	N/A	N/A	N/A	N/A
Paver		56.7	53.7	N/A	N/A	N/A	N/A
Roller		59.5	52.5	N/A	N/A	N/A	N/A
Roller		59.5	52.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
	Total	63.5	62.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	171	0
Paver	No	50		77.2	171	0
Roller	No	20		80	171	0
Roller	No	20		80	171	0
Tractor	No	40	84		171	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	68.1	64.1	N/A	N/A	N/A	N/A
Paver	66.5	63.5	N/A	N/A	N/A	N/A
Roller	69.3	62.3	N/A	N/A	N/A	N/A
Roller	69.3	62.3	N/A	N/A	N/A	N/A
Tractor	73.3	69.3	N/A	N/A	N/A	N/A
Total	73.3	72.3	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 7/19/2022
Case Description: Building Construction_7390 & 7440 Lincoln Way Industrial Project

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	531	0
Generator	No	50		80.6	531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0
Welder / Torch	No	40		74	531	0

		Calculated (dBA)		Results			
				Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		60	52.1	N/A	N/A	N/A	N/A
Generator		60.1	57.1	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Welder / Torch		53.5	49.5	N/A	N/A	N/A	N/A
	Total	63.5	65.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	171	0
Generator	No	50		80.6	171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0
Welder / Torch	No	40		74	171	0

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq
Crane		69.9	61.9	N/A	N/A	N/A	N/A
Generator		69.9	66.9	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Tractor		73.3	69.3	N/A	N/A	N/A	N/A
Welder / Torch		63.3	59.3	N/A	N/A	N/A	N/A
	Total	73.3	75.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 7/19/2022
Case Description: Architectural Coating_7390 & 7440 Lincoln Way Industrial Project

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	531	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		57.1	53.2	N/A	N/A	N/A	N/A
	Total	57.1	53.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	171	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		67	63	N/A	N/A	N/A	N/A
	Total	67	63	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 7/19/2022
Case Description: Building Construction/Paving/Infrastructure Improvements/Architectural Coating_739

		Baselines (dBA)			---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night	
Residential	Residential	1	1	1	

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	531	0
Generator	No	50		80.6	531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0
Tractor	No	40	84		531	0
Welder / Torch	No	40		74	531	0
Paver	No	50		77.2	531	0
Roller	No	20		80	531	0
Dozer	No	40		81.7	531	0
Compressor (air)	No	40		77.7	531	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		60	52.1	N/A	N/A	N/A	N/A
Generator		60.1	57.1	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Tractor		63.5	59.5	N/A	N/A	N/A	N/A
Welder / Torch		53.5	49.5	N/A	N/A	N/A	N/A
Paver		56.7	53.7	N/A	N/A	N/A	N/A
Roller		59.5	52.5	N/A	N/A	N/A	N/A
Dozer		61.1	57.2	N/A	N/A	N/A	N/A
Compressor (air)		57.1	53.2	N/A	N/A	N/A	N/A
	Total	63.5	66.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Non-Residential	Industrial	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	171	0
Generator	No	50		80.6	171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0
Tractor	No	40	84		171	0
Welder / Torch	No	40		74	171	0
Paver	No	50		77.2	171	0
Roller	No	20		80	171	0
Dozer	No	40		81.7	171	0
Compressor (air)	No	40		77.7	171	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq
Crane	69.9	61.9	N/A	N/A	N/A	N/A
Generator	69.9	66.9	N/A	N/A	N/A	N/A
Tractor	73.3	69.3	N/A	N/A	N/A	N/A
Tractor	73.3	69.3	N/A	N/A	N/A	N/A
Tractor	73.3	69.3	N/A	N/A	N/A	N/A
Welder / Torch	63.3	59.3	N/A	N/A	N/A	N/A
Paver	66.5	63.5	N/A	N/A	N/A	N/A
Roller	69.3	62.3	N/A	N/A	N/A	N/A
Dozer	71	67	N/A	N/A	N/A	N/A
Compressor (air)	67	63	N/A	N/A	N/A	N/A
Total	73.3	76.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 11/9/2022
Case Description: 7390 & 7440 Lincoln_Nighttime Concrete Pour

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential (North)	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	531	0
Concrete Pump Truck	No	20		81.4	531	0
Concrete Mixer Truck	No	40		78.8	531	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	58.3	54.3	N/A	N/A	N/A	N/A
Concrete Pump Truck	60.9	53.9	N/A	N/A	N/A	N/A
Concrete Mixer Truck	58.3	54.3	N/A	N/A	N/A	N/A
Total	60.9	58.9	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Industrial	Industrial	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	171	0
Concrete Pump Truck	No	20		81.4	171	0
Concrete Mixer Truck	No	40		78.8	171	0

Results

	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	68.1	64.1	N/A	N/A	N/A	N/A
Concrete Pump Truck	70.7	63.7	N/A	N/A	N/A	N/A
Concrete Mixer Truck	68.1	64.1	N/A	N/A	N/A	N/A
Total	70.7	68.8	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

RESOLUTION NO. 6057-23

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF GARDEN GROVE APPROVING SITE PLAN NO. SP-122-2023 AND TENTATIVE PARCEL MAP NO. PM-2022-167 FOR PROPERTIES LOCATED ON THE SOUTHWEST CORNER OF LINCOLN WAY AND WESTERN AVENUE, AT 7390 LINCOLN WAY AND 7440 LINCOLN WAY, ASSESSOR'S PARCEL NOS. 131-021-36 AND 131-021-37.

BE IT RESOLVED that the Planning Commission of the City of Garden Grove, in regular session assembled on February 16, 2023, does hereby approve Site Plan No. SP-122-2023, and Tentative Parcel Map No. PM-2022-167, for land located on the southwest corner of Lincoln Way and Western Avenue, at 7390 Lincoln Way and 7440 Lincoln Way, Assessor's Parcel No. 131-021-36 and 131-021-37, subject to the Conditions of Approval attached hereto as "Exhibit A."

BE IT FURTHER RESOLVED in the matter of Site Plan No. SP-122-2023, and Tentative Parcel Map No. PM-2022-167, the Planning Commission of the City of Garden Grove does hereby report as follows:

1. The subject case was initiated by Steve Hong of LHA Architects (the "Applicant"), with the authorization of the property owner, Scannell Properties #680, LLC.

2. The Applicant is requesting approval of a Tentative Parcel Map to consolidate two parcels located at 7390 Lincoln Way and 7440 Lincoln Way, identified as Assessor's Parcel Nos. 131-021-36 and 131-021-37 into a single parcel, and Site Plan approval to construct a new 88,164 square-foot shell industrial building following the demolition of a 76,500 square-foot building at 7390 Lincoln Way and a 29,950 square-foot building at 7440 Lincoln Way (collectively, the "Project").

3. The Planning Commission hereby determines that this project is categorically exempt from review under the California Environmental Quality Act ("CEQA") pursuant to Section 15332, In-Fill Development Projects of the CEQA Guidelines (14 Cal. Code Regs., § 15332). The Project is consistent with the applicable General Plan designation and all general plan policies, as well as with the applicable zoning designation and regulations; the Project occurs within City limits on a project site of no more than five (5) acres substantially surrounded by urban uses; the Project is located on a site that has no value as habitat for endangered, rare, or threatened species; and approval of the Project would not result in any significant effects relating to traffic, noise, air quality, or water quality; and the site can be adequately served by all required utilities and public services.

4. The property has a General Plan Land Use designation of Industrial (I), and is currently zoned Planned Unit Development No. PUD-103-76 (REV. 2018). The

subject site is currently improved with two office buildings across two parcels, comprising 4.051 acres.

5. Existing land use, zoning, and General Plan designation of property within the vicinity of the subject property have been reviewed.

6. Report submitted by City Staff was reviewed.

7. Pursuant to a legal notice, a public hearing was held on February 16, 2023, and interested persons were given an opportunity to be heard.

8. The Planning Commission gave due and careful consideration to the matter during its meeting of February 16, 2023, and considered all oral and written testimony presented regarding the project.

BE IT FURTHER RESOLVED, FOUND AND DETERMINED that the facts and reasons supporting the conclusion of the Planning Commission, as required under Municipal Code Section 9.32.30, are as follows:

FACTS:

The subject site is comprised of two (2) properties, across approximately 4.051 acres, located on the southwest corner of Lincoln Way and Western Avenue, at 7390 Lincoln Way and 7440 Lincoln Way. The site has a General Plan Land Use designation of Industrial (I), and is zoned Planned Unit Development No. PUD-103-76 (REV. 2018). The property at 7390 Lincoln Way (Assessor's Parcel No. 131-021-36), is currently improved with a 76,500 square-foot office building. The property at 7440 Lincoln Way (Assessor's Parcel No. 131-021-37), is currently improved with a 29,950 square-foot office building. The buildings at 7390 Lincoln Way, and 7440 Lincoln Way are occupied by laboratory and office professional uses, respectively. The subject site abuts PUD-103-76 (REV. 2018) zoned properties to the north, west, and south. To the east, across Western Avenue, the subject site is adjacent to industrial-type uses in the City of Stanton.

Now, the applicant is requesting to demolish both existing buildings at 7390 Lincoln Way and 7440 Lincoln Way. The requested Tentative Parcel Map will consolidate the two (2) properties into a single parcel. A new 88,164 gross square-foot shell industrial building will be constructed on the new parcel. The proposed Conditions of Approval require a reciprocal access agreement to be recorded along the western property line to maintain circulation and vehicular access for the subject property, and the adjoining property to the west (7330 Lincoln Way).

The building features a main entrance, fronting toward the intersection of Lincoln Way and Western Avenue. At the main entrance will be a 3,500 square-foot office area. Directly above that area is another 3,500 square-foot mezzanine office area.

The remaining 81,164 square feet of the building will consist of open floor area, intended for a warehouse/distribution type use.

Vehicle traffic can access the site via two (2) new driveways on Western Avenue, or via one (1) new driveways on Lincoln Way. A two-way drive aisle provides the vehicular circulation on-site, wrapping around the east, south, and west sides of the building, connecting the three (3) driveways, the truck docking area, and the parking area on the adjacent property to the west. A reciprocal access agreement is required to be recorded to preserve the vehicular access between the subject parcel, and the property to the west, at 7330 Lincoln Way.

Standard vehicular parking spaces are provided along the west, south, and east sides of the proposed building. According to the PUD-103-76 (REV. 2018) standards, the site requires forty-three (43) parking spaces. The subject site provides ninety (90) striped parking spaces. This is a surplus of forty-seven (47) spaces.

The subject PUD zone does not specify a minimum landscape area. The proposed site design will provide a total of approximately 15,715 square feet of landscaping on-site (8.9% of the overall site). The landscaping is provided in a variety of areas, including adjacent to the parking areas so as to limit their visual impacts. The on-site landscaping design will consist of a mixture of trees, shrubs, and groundcover.

PUD-103-76 (REV. 2018) requires a minimum eighteen-foot (18’-0”) landscape planter, excluding any necessary vehicular or pedestrian access points, along all street frontages, as measured from the face of curb. Along Lincoln Way, a twenty-two-and-a-half-foot (22’-6”) planter is provided. An eighteen-foot (18’-0”) landscape planter is provided along Western Avenue. Additionally, one (1) tree must be provided for every thirty feet (30’-0”) of interior property boundary. In the parking lot, a minimum of one (1) tree is required for every five (5) parking spaces. The proposed project complies with all landscaping requirements of the zone.

Characterized by a rectangular footprint, flat roof, and large, vertical metal siding accentuating the corners of the building, the building takes on a contemporary design. The building will be constructed in a tilt-up concrete style. Various scores in the concrete walls and various paint colors add visual intrigue. The main entrance in the corner of the buildings feature vertical windows and storefronts glazed in blue hues. Additional clerestory windows will be added along the east and north elevations, helping illuminate the interior of the building, and helping to add contrast against the concrete walls. The neutral color scheme consists of shades of white, grey, and blue colors, which contributes to the building’s contemporary design. Window and door trim are all constructed of metal, trimmed black and white to add contrast.

To accommodate the proposed building, the two properties will be consolidated via a Parcel Map. Reciprocal access will be maintained between the resulting property, and the existing property to the west, at 7330 Lincoln Way. As a result of the parcel map, the consolidated property will ultimately total 4.051 acres. The new property meets the minimum 27,500 square-foot lot size required in PUD-103-76 (REV. 2018). Upon recordation of the approved Parcel Map, the new parcel will comply with the development standards pertaining to the PUD zone, General Plan, the City's Subdivision Ordinance, and the State's Subdivision Map Act.

FINDINGS AND REASONS:

Site Plan:

1. The Site Plan complies with the spirit and intent of the provisions, conditions and requirements of Title 9 and is consistent with the General Plan.

   The General Plan Land Use Designation of the subject site is Industrial (I), which is intended to encourage general industrial uses, such as warehousing and distribution or business parks, and more intensive industrial uses, such manufacturing, fabrication, assembly, processing, trucking, warehousing and distribution, and servicing. The PUD-103-76 (REV. 2018) zoning implements the General Plan, and is intended to provide for the safe operation of industrial uses, without pollution, noise, traffic, smell, radiation, and similar types of pollution or nuisance. Goals, policies, and implementation programs of the General Plan with which the proposed Project are consistent with include, but are not limited to, the following:

   Goal LU-1: *The City of Garden Grove is a well-planned community with sufficient land uses and intensities to meet the needs of anticipated growth and achieve the community's vision*. The existing buildings were constructed in 1985 for office uses. In the years since, the demands for industrial-type buildings have changed. The new building would be used for warehouse and distribution uses. Additionally, the new building will accommodate new industry standards for industrial buildings with more truck bays, higher interior ceilings, and a large, open floor area. By accommodating current market demands, it helps the City to be a more economically viable destination for industrial uses into the foreseeable future.

   Policy LU-2.4: *Assure that the type and intensity of land use are consistent with those of the immediate neighborhood.* The subject site abuts industrial uses in PUD-103-76 (REV. 2018) zoned properties to the north, west, and south. To the east, across Western Avenue, the subject site is adjacent to industrial-type uses in the City of Stanton. The proposed building will be used as a warehouse and distribution type industrial use. This use is compatible in both intensity and use with the surrounding industrial buildings.

Goal LU-4: *The City seeks to develop uses that are compatible with one another*. The proposed industrial building is located in an area with existing industrial and office uses. Various industrial uses, including manufacturing, distribution, and storage/warehousing facilities are found in the same zone, in the immediate vicinity of the subject site. Additionally, adjacent properties to the east, across Western Avenue, in the City of Stanton, also feature industrial uses. The siting of the proposed industrial use will continue the development patterns of the immediate surroundings.

Policy LU-4.4: *Avoid intrusion of non-residential uses incompatible with established residential neighborhoods.* The subject property is not directly adjacent to residential uses. The use of the property as a warehousing and/or distribution facility will not intrude on established residential neighborhoods. The design of the proposed building, however, has taken into account any impacts on the vicinity, and has therefore proposed landscaping and other visual screening methods to limit any impacts of the building. Additionally, the proposed Conditions of Approval will help ensure the project does not have undue impacts on the surrounding area.

Policy LU-4.5: *Require that the commercial and industrial developments adjoining residential uses be adequately screened and buffered from residential areas*. The subject property is not directly adjacent to residential uses. The design of the proposed building, however, has taken into account any impacts on the vicinity, and has therefore proposed landscaping, and other visual screening methods to limit any impacts of the building.

Goal LU-7: *Industrial areas that contribute in terms of jobs and the economic impacts they provide.* The proposed building will replace two office buildings with a larger industrial building. The new building will add to the portfolio of industrial buildings on the City's western industrial area. This can help contribute in terms of jobs and the economic impacts they provide.

Policy LU-7.3: *Monitor the appearance of industrial properties to prevent areas of decline by requiring improved maintenance or rehabilitation, as necessary*. The proposed project will redevelop the entirety of the subject site. As a brand new construction, the project would rid the site of potential property maintenance issues involved with the existing buildings. Furthermore, the Conditions of Approval associated with the project will require the proper maintenance of the development, including, but not limited to, maintenance of landscaping, trash disposal, and graffiti abatement.

Policy CD-1.1: *Enhance the positive qualities that give residential, commercial, and industrial areas their unique identities, while also allowing flexibility for innovative design.* The new industrial building will be

constructed in a contemporary, tilt-up design. The new building, while still compatible with the surrounding area features a unique identity. A variety of colors, materials, and architectural features will help build visual intrigue.

Policy CD-7.1: *Encourage future development and redevelopment projects to reinforce district scale, identity, and urban form.* Whilst consolidating two properties to one, and constructing a new industrial building, the proposed project maintains consistent development patterns with its surroundings. The immediate vicinity includes a variety of industrial buildings and uses. The proposed buildings reinforces the scale, identity, and form of these adjacent buildings.

2. The project will not adversely affect essential on-site facilities such as off-street parking, loading and unloading areas, traffic circulation, and points of vehicular and pedestrian access.

Vehicle traffic can access the site from either Lincoln Way or Western Avenue. A drive aisle provides the vehicular circulation on-site, wrapping around the east, south, and west sides of the building, and connecting the three (3) driveways and the truck docking area. The drive aisle also provides reciprocal access to the property directly to the west, at 7330 Lincoln way. Standard parking spaces are provided along the east, south, and west sides of the proposed building. The City's Engineering Division has reviewed the on- and off-site vehicle circulation, and has not raised any concerns with the project design.

A row of nine (9) truck bays will flank the western side of the building. The docking bays connect directly into the open floor area, toward the center of the building. Outside, a fenced-in truck turn-around and parking area is provided adjacent to the loading bays. The entrance to the trucking area will be provided from Lincoln Way, to the north, and also from Western Avenue to the east.

The design of the building will also provide new pedestrian access from Lincoln Way. Pedestrian access from Lincoln Way will pass through a landscaped area before reaching the main entrance of the building. A small plaza area is provided at the main entrance. This pedestrian access also connects to the accessible parking spaces in the parking lot.

Parking requirements from PUD-103-76 (REV. 2018) for "Warehouse and Distribution Industry" stipulate one (1) parking space is required per 1,000 square feet of gross floor area for the first 20,000 square feet. The second 20,000 square feet is parked at a ratio of one (1) parking space per 2,000 square feet. Any area exceeding 40,000 square feet is parked at a rate of one (1) space per 4,000 square feet. According to the Municipal Code,

incidental offices associated with the industrial use that do not exceed 30% of the gross floor area do not require additional parking.

The proposed building is approximately 88,164 gross square feet in size. Of that floor area, the office space totals approximately 7,000 square feet, or approximately 7.9% of the gross floor area. This does not exceed 30% of the gross floor area, and therefore does not require additional parking. In total, forty-three (43) parking spaces are required for the use. The first 20,000 square feet requires twenty (20) spaces, the next 20,000 square feet requires ten (10) spaces, and the remaining 48,164 square feet requires thirteen (13) spaces. In total, forty-three (43) parking spaces are required for the use. The subject site provides ninety (90) striped parking spaces, a surplus of forty-seven (47) spaces.

The Community and Economic Development Department, and the Engineering Division, have reviewed the plans and all appropriate conditions of approval and mitigation measures have been incorporated to minimize any adverse impacts on surrounding streets. Accordingly, the design of the project will not adversely affect essential on-site facilities such as off-street parking, loading and unloading areas, traffic circulation, and vehicular and pedestrian access.

3. The project will not adversely affect essential public facilities such as streets and alleys, utilities and drainage channels.

The streets in the area are adequate to accommodate the development. Existing utilities and drainage channels in the area are adequate to accommodate the development. The proposed development will install and maintain landscaping, allowing adequate drainage of stormwater. Landscaping will also be rehabilitated along the street frontages of both Lincoln Way and Western Avenue. A preliminary water quality management plan (WQMP) has been reviewed and approved by the Engineering Division. The Public Works Department has reviewed the project, and has incorporated all of the appropriate conditions of approval to minimize any adverse impacts.

4. The project will not adversely impact the Public Works Department's ability to perform its required function.

The Public Works Department has reviewed the project, and has incorporated all of the appropriate conditions of approval to minimize any adverse impacts to ensure the project will not adversely impact the Public Works Department's ability to perform its required function(s).

5. The project is compatible with the physical, functional, and visual quality of the neighboring uses and desirable neighborhood characteristics.

The subject site abuts industrial and office uses in PUD-103-76 (REV. 2018) to the south, west, and north across Lincoln Way. Across Western Avenue, to the east of the subject properties, the site is adjacent to industrial uses in the City of Stanton.

The proposed project would redevelop a property currently occupied by office buildings. The proposed warehouse distribution building is compatible with the other uses in the area. Architecturally, the facility has been designed with facades to be aesthetically complimentary with the surrounding industrial buildings. A variety of colors, materials, and massing help create visual intrigue. Contemporary architectural styles are compatible with the nearby industrial uses.

The proposed building will provide adequate parking, vehicular and pedestrian circulation for access to and from the site, and new landscaping. The architecture and design of the project will be of sufficiently high quality, consistent with developments elsewhere in the surrounding industrial area.

The project has been designed in accordance with the development standards applicable to the subject PUD zone. The project meets all other Municipal Code development standards, such as, but not limited to: building setbacks, parking, and landscaping. The City's Community and Economic Development Department has reviewed the proposed project, and all appropriate conditions of approval have been incorporated to ensure physical, functional, and visual compatibility with the project's surroundings.

6. Through the planning and design of buildings and building placement, the provision of open space landscaping and other site amenities will attain an attractive environment for the occupants of the property.

The proposed building will provide adequate parking, vehicular and pedestrian circulation for access to and from the site, and new landscaping. The architecture and design of the building will be of sufficiently high-quality, consistent with the industrial buildings nearby.

The new building will be situated toward the center of the new property, with setbacks of approximately twenty-foot-six-inches (20'-6") to the northerly property line along Lincoln Way, approximately one-hundred-seven feet (106'-8") to the westerly property line, approximately fifty-one feet (51'-2") to the southerly property line, and approximately sixty-nine (69'-7") to the easterly property line along Western Avenue. Landscape planters will be provided along the perimeter of the site to ensure adequate buffering of any potential noise and light/glare impacts. A total of approximately 15,715 square feet of landscaping will be provided on-site.

The City's Community and Economic Development Department has reviewed the proposed project, and all appropriate conditions of approval have been incorporated to ensure the attractiveness of the on-site landscaping and other amenities.

Tentative Parcel Map:

1. The proposed map is consistent with the General Plan.

   The General Plan Land Use Designation of the proposed property is Industrial (I), which is intended to encourage general industrial uses, such as warehousing and distribution or business parks, and more intensive industrial uses, such manufacturing, fabrication, assembly, processing, trucking, warehousing and distribution, and servicing. The design and improvement resulting from the proposed map is consistent with the Industrial General Plan Land Use designation. The consolidation of a two (2) lots will allow for the proposed construction of an industrial warehouse. Warehousing and distribution type industrial uses are consistent with the intent of the General Plan. With the conditions of approval, the design and improvement of the subject site is consistent with the spirit and intent of the General Plan.

2. The design and improvement of the proposed subdivision is consistent with the General Plan.

   The General Plan Land Use Designation of the proposed property is Industrial (I), which is intended to encourage general industrial uses, such as warehousing and distribution or business parks, and more intensive industrial uses, such manufacturing, fabrication, assembly, processing, trucking, warehousing and distribution, and servicing. The PUD-103-76 (REV. 2018) zoning implements the General Plan, and is intended to provide for the safe operation of industrial uses, without pollution, noise, traffic, smell, radiation, and similar types of pollution or nuisance. Goals, policies, and implementation programs of the General Plan with which the proposed Project are consistent with include, but are not limited to, the following:

   Goal LU-1: *The City of Garden Grove is a well-planned community with sufficient land uses and intensities to meet the needs of anticipated growth and achieve the community's vision*. The existing buildings were constructed in 1985 for primarily office uses. In the years since, the demands for industrial-type buildings have changed. The new building, with the consolidated property would be used for warehouse and distribution uses. Additionally, the new building will accommodate new industry standards for industrial buildings with more truck bays, higher interior ceilings, and a large, open floor area. By accommodating current market demands, it helps the City to be a more economically viable destination for industrial uses into the

foreseeable future. The new industrial facility would not be feasible without the Tentative Parcel Map to consolidate the properties.

Policy LU-2.4: *Assure that the type and intensity of land use are consistent with those of the immediate neighborhood.* The subject site abuts industrial uses in PUD-103-76 (REV. 2018) zoned properties to the north, west, and south. To the east, across Western Avenue, the subject site is adjacent to industrial-type uses in the City of Stanton. The proposed building will be used as a warehouse and distribution type industrial use. This use is compatible in both intensity and use with the surrounding industrial buildings.

Policy LU-4.4: *Avoid intrusion of non-residential uses incompatible with established residential neighborhoods.* The subject property is not directly adjacent to residential uses. The proposed map, with the consolidated properties is consistent with the pattern of larger industrial properties in the immediate vicinity.

Goal LU-7: *Industrial areas that contribute in terms of jobs and the economic impacts they provide.* The proposed building will replace two office buildings with a larger industrial building. The new building will add to the portfolio of industrial buildings on the City's western industrial area. This can help contribute in terms of jobs and the economic impacts they provide. The larger industrial facility would not be feasible without the proposed map to consolidate the existing properties.

Policy LU-7.3: *Monitor the appearance of industrial properties to prevent areas of decline by requiring improved maintenance or rehabilitation, as necessary*. The proposed project will redevelop the entirety of the subject site. As a brand new construction, the project would rid the site of potential property maintenance issues involved with the existing buildings. The proposed map to consolidate the properties simplifies the maintenance responsibilities of the property owner by only requiring a single property to be maintained, instead of two separate properties.

Policy CD-7.1: *Encourage future development and redevelopment projects to reinforce district scale, identity, and urban form.* Whilst consolidating two properties to one, and constructing a new industrial building, the proposed project maintains consistent development patterns with its surroundings. The immediate vicinity includes a variety of industrial buildings and uses. The proposed map, with a single, larger property, is similar in size to the industrial properties adjacent to the project site.

3. The site is physically suitable for the proposed type of development and complies with the spirit and intent of the Municipal Code.

The PUD-103-76 (REV. 2018) zoning implements the General Plan, and is intended to provide for the safe operation of industrial uses, without pollution, noise, traffic, smell, radiation, and similar types of pollution or nuisance. Following the consolidation of the existing properties via the proposed parcel map, the site will be adequate in size and shape to accommodate the proposed industrial building. Industrial uses are allowed in the PUD-103-76 (REV. 2018) zone, and are consistent with the spirit and intent of the zoning designation. Additionally, the new parcel complies with the minimum lot size of 27,500 square feet, and all of the other development standards of Planned Unit Development No. PUD-103-76 (REV. 2018). The placement and size of the proposed building complies with the development standards of the PUD, including, but not limited to: setbacks, parking, lot coverage, and landscaping provisions.

4. The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat, and the requirements of the California Environmental Quality Act have been satisfied.

The proposed Project is exempt from the requirements of the California Environmental Quality Act under the Class 32 exemption. A project can qualify for a Class 32 exemption if the proposed project: is consistent with applicable General Plan designation and all general plan policies, as well as with applicable zoning designation and regulations; the proposed development occurs within City limits on a project site of no more than five (5) acres substantially surrounded by urban uses; the project site has no value as habitat for endangered, rare, or threatened species; the approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality; and the site can be adequately served by all required utilities and public services (CEQA Guidelines §15332.).

The project is consistent with General Plan, and Planned Unit Development policies and regulations. The subject site is located fully within an urbanized area in the City, on a 4.051-acre site. The subject site was surveyed, and does not have any known habitat for endangered, threatened, or rare species of wildlife. Traffic, noise, air quality, and water quality studies have been prepared by licensed firms to study the impact of the proposed development, and no significant impacts have been identified. The traffic, noise, air quality, and water quality studies are appended to the Staff Report. Lastly, the Public Works Department has reviewed the proposed development, and found that it can be adequately served by all required utilities and public services.

Therefore, the project is not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat, and the requirements of CEQA have been satisfied.

5. The site is physically suitable for the proposed density of the development.

   The proposed map will consolidate two (2) parcels into a single, 4.051-acre property. This exceeds the minimum lot size of 27,500 square feet of Planned Unit Development No. PUD-103-76 (REV. 2018). With the parcel consolidation, the project proposes the construction of a new 88,164 square-foot industrial building. This results in a lot coverage calculation of 48%, and a Floor Area Ratio (FAR) of 0.50. The proposed building complies with the development standards and regulations of the PUD zone, and General Plan Land Use Designation. The site can physically accommodate the intensity of development that is proposed.

6. The design of the subdivision and the proposed improvements are not likely to cause serious public health problems.

   All applicable City divisions have reviewed the proposed development and have applied conditions of approval to minimize against any potential negative impacts that the project may have on the community. The conditions of approval for on- and off-site improvements are intended to safeguard public health. As long as the conditions of approval are adhered to for the life of the project, the design of the proposed map, and all related site improvements, are not likely to cause serious public health problems.

7. The design of the project and the proposed improvements will not conflict with easements of record or easements established by court judgment acquired by the public at large for access through or use of property within the subdivision; or, if such easements exist, alternate easements for access or for use will be provided and these will be substantially equivalent to the ones previously acquired by the public.

   The design of the proposed tentative parcel map and improvements will not conflict with easements of record, or easements established by court judgment acquired by the public at large for access through or use of property within the proposed subdivision. The project has been designed to avoid development over existing easements. Additionally, the project will maintain reciprocal access agreements to the property to the west (7330 Lincoln Way), ensuring vehicular access to the abutting property.

8. The design and improvement of the proposed subdivision are suitable for the uses proposed, and the subdivision can be developed in compliance with the applicable zoning regulations.

   The consolidation of the two (2) lots will allow for the proposed construction of an industrial warehouse. The PUD-103-76 (REV. 2018) zoning implements the General Plan, and is intended to provide for the safe operation of

industrial uses, without pollution, noise, traffic, smell, radiation, and similar types of pollution or nuisance. Following the consolidation of the existing properties via the proposed tentative parcel map, the site will be adequate in size and shape to accommodate the proposed industrial building. Industrial uses are allowed in the PUD zone, and are consistent with the spirit and intent of the zoning designation. Additionally, the new parcel complies with the minimum lot size of 27,500 square feet, and all of the other development standards of Planned Unit Development No. PUD-103-76 (REV. 2018). The placement and size of the proposed building complies with the development standards of the PUD, including, but not limited to: setbacks, parking, lot coverage, and landscaping provisions.

9. The design of the subdivision provides, to the extent feasible, for future passive or natural heating and cooling opportunities in the subdivision.

   To the greatest extent feasible, the subject project has been designed in accordance with Government Code Section 66473.1. This includes opportunities to allow for passive or natural heating opportunities in the design, to encourage the orientation of structures to take advantage of shade and prevailing breezes, to allow solar access for passive heating, and opportunities for placement of shade trees and other vegetation for cooling.

10. The design, density, and configuration of the subdivision strike a balance between the effect of the subdivision on the housing needs of the region and public service needs. The character of the subdivision is compatible with the design of existing structures, and the lot sizes of the subdivision are substantially compatible with the lot sizes within the general area.

    The two (2) existing parcels are currently developed with office buildings. The proposed Tentative Parcel Map will consolidate the properties, allowing for the development of a new industrial building. The proposed development complies with the regulations of the General Plan, State Subdivision Map Act, and the Planned Unit Development No. PUD-103-76 (REV. 2018) zone. This includes regulations pertaining to design, density, and configuration of the consolidated property and associated development. By replacing the existing buildings with an industrial building, there is no impact on the housing needs of the region.

11. The subject property is not located within a state responsibility area or a very high fire hazard severity zone, the proposed subdivision is served by local fire suppression services, and the proposed subdivision meets applicable design, location, and ingress-egress requirements.

    The subject site is not in a state responsibility area, or a very-high fire hazard severity zone. The project will be served by all applicable local fire

suppression services. The new parcel and resulting development will meet all applicable design requirements of the City, and the Orange County Fire Authority (OCFA). The project will comply with all ingress and egress requirements of the California Building Code. All appropriate conditions of approval have been incorporated to ensure compliance with OCFA and California Building Code requirements relating to design, location, and ingress and egress.

12. The discharge of waste from the proposed subdivision into the existing sewer system will not result in violation of existing requirements prescribed by the California Regional Water Quality Control Board. The conditions of approval for on- and off-site improvements will ensure permitted capacity of the public sewer system is not exceeded.

    The Public Works Department has reviewed the project and has not found any violations of the California Regional Water Quality Control Board requirements. The Public Works Department has also reviewed the project for compliance with existing sewer capacity and found that the project will not exceed the capacity. All appropriate conditions of approval have been incorporated to minimize any adverse impacts to the existing public sewer system.

INCORPORATION OF FACTS AND REASONS SET FORTH IN STAFF REPORT

In addition to the foregoing, the Planning Commission incorporates herein by this reference, the facts and reasons set forth in the staff report.

BE IT FURTHER RESOLVED that the Planning Commission does conclude:

1. The Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167 possess characteristics that would indicate justification of the requests in accordance with Municipal Code Section 9.32.030.

2. In order to fulfill the purpose and intent of the Municipal Code, and thereby promote the health, safety, and general welfare, the following conditions of approval, attached as Exhibit "A", shall apply to Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167.

EXHIBIT "A"

Site Plan No. SP-122-2023
Tentative Parcel Map No. PM-2022-167

7390 Lincoln Way & 7440 Lincoln Way

CONDITIONS OF APPROVAL

General Conditions

1. The applicant and each owner of the property shall execute, and the applicant shall record against the property a "Notice of Agreement with Conditions of Approval and Discretionary Permit of Approval," as prepared by the City Attorney's Office. Proof of such recordation is required prior to issuance of building permits.

2. All Conditions of Approval set forth herein shall be binding on and enforceable against each of the following, and whenever used herein, the term "applicant" shall mean and refer to each of the following: the project applicant, Steve Hong of LHA Architects, the developer of the project, the current owner of the Property, the future owner(s) and tenants(s) of the Property, and each of their respective successors and assigns. All Conditions of Approval are required to be adhered to for the life of the project, regardless of property ownership. Any changes of the Conditions of Approval require approval by the Planning Commission. All Conditions of Approval herein shall apply to Site Plan No. SP-122-2023, and Tentative Parcel Map No. PM-2022-167.

3. Approval of this Site Plan, and Tentative Parcel Map shall not be construed to mean any waiver of applicable and appropriate zoning and other regulations; and wherein not otherwise specified, all requirements of the City of Garden Grove Municipal Code shall apply.

4. Minor modifications to the Site Plan, Tentative Parcel Map, and/or these Conditions of Approval may be approved by the Community and Economic Development Director, in his or her discretion. Proposed modifications, to the project and/or these Conditions of Approval, determined by the Community and Economic Development Director not to be minor in nature shall be subject to approval of new and/or amended land use entitlements by the applicable City hearing body.

5. The approved site plan, floor plan, and use of the subject property, as represented by the Applicant, are an integral part of the decision approving this Site Plan. If major modifications are made to the approved floor plan, site plan, or other related changes that result in the intensification of the

project or create impacts that have not been previously addressed, the proper entitlements shall be obtained reflecting such changes.

6. All conditions of approval shall be implemented at the applicant's expense, except where specified in the individual condition.

Engineering Division

7. A geotechnical study prepared by a registered geotechnical engineer is required. The report shall analyze the liquefaction potential of the site and make recommendations. The report shall analyze sub-surface issues related to the past uses of the site, including sub-surface tanks and basement and septic facilities. Any soil or groundwater contamination shall be remediated prior to the issuance of a building permit per the requirements of the Orange County Health Department, and the mitigation requirements of governing regulatory requirements. The report shall make recommendations for foundations and pavement structural section design of interior streets and parking spaces. The report shall also test and analyze soil conditions for Low Impact Development (LID) principles and the implementation of water quality for storm water run-off, including potential infiltration alternatives, soil compaction, saturation, permeability and groundwater levels.

8. Prior to the issuance of any grading or building permits, the applicant shall submit to the City for review and approval a final design Water Quality Management Plan that:

   i. Addresses required mitigation Site Design Best Management Practices (BMPs) based upon the latest Santa Ana Regional Water Quality Control Board (SARWQCB) Drainage Area Management Plan (DAMP), as identified in the geotechnical report recommendations and findings, including, but not limited to, infiltration minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas as required by the latest adopted County of Orange Technical Guidance Document (TGD).

   ii. BMP's shall be sized per the requirements of the latest Technical Guidance Documents.

   iii. Incorporates the applicable Routine Source Control BMPs as defined in the DAMP.

iv. Incorporates structural and Treatment Control BMPs as defined in the DAMP.

v. Generally describes the long-term operation and maintenance requirements for the Treatment Control BMPs.

vi. Identifies the entity that will be responsible for long-term operation and maintenance of the Treatment Control BMPs.

vii. Describes the mechanism for funding the long-term operation and maintenance of the Treatment Control BMPs.

viii. Provides a hydrological analysis with scaled map, as well as hydrologic and hydraulic calculations to size storm drains per the Orange County RDMD standards.

9. Parkway culverts shall be designed per City of Garden Grove Standard Plan B-209. Storm drain lateral pipe connections to city maintained storm drains within City right-of-way shall be RCP with a minimum diameter of eighteen inches (1'-6").

10. Grading and Street improvement plans prepared by a registered Civil Engineer are required. As required under Section 107 of the California Building Code (CBC), the grading plan shall be based on a current survey of the site, including a boundary survey, topography on adjacent properties up to thirty feet (30'-0") outside the boundary, and designed to preclude cross-lot drainage. Minimum grades shall be 0.50% for concrete flow lines, and 1.25% for asphalt. The grading plan shall also include water and sewer improvements. The grading plan shall include a coordinated utility plan showing all existing utility facilities, easements and proposed utility facilities. All onsite improvements shall be tied by horizontal dimensional control to the property boundary as established by survey. A minimum uninterrupted twenty-foot (20'-0") wide throat access to the site is required from the street for the commercial projects and shall meet the requirements of the California Fire Code throughout the site. Vehicle maneuvering, as demonstrated by Auto Turn along private streets and access ways, shall be demonstrated on the grading plan. Street improvement plans shall conform to all format and design requirements of the City Standard Drawings & Specifications.

11. All vehicular access drives to the site shall be provided in locations approved by the City Traffic Engineer. (Policies and Procedures – TE-17)

12. The applicant shall coordinate with the Planning Services Division, and Orange County Fire Authority to identify proper emergency vehicle access to the site, and shall provide the Engineering Division a copy of the approval letters upon first submittal of the grading and street improvement plans.

13. The applicant shall complete the following for the parcel map:

    i. Prior to recordation of a final parcel or tract map, the surveyor/engineer preparing the map shall tie the boundary of the map into the Horizontal Control System established by the County Surveyor in a manner described in Sections 7-9-330 and 7-9-337 of the Orange County Subdivision Code, and Orange County Subdivision Manual, Subarticle 18. The surveyor/engineer shall submit record information to the City on Auto Cad DWG format.

    ii. Prior to recordation of a final parcel or tract map, the surveyor/engineer preparing the map shall submit to the County Surveyor a digital graphics file of said map in a manner described in Sections 7-9-330 and 7-9-337 of the Orange County Subdivision Code, and Orange County Subdivision Manual, Subarticle 18. The surveyor/engineer shall submit record information to the City on Auto Cad DWG format.

    iii. Prior to issuance of a grading permit, the applicant shall submit to the Planning Services Division an updated title report along with copies of the recorded instruments listed in the title report, reference maps used to prepare legal description, and the plat for review and approval of the parcel map.

    iv. All subdivision mapping shall be concurrently reviewed by the City Engineering Division, and the County of Orange Survey Department. The applicant shall forward all plan check comments received from the County of Orange Survey Department to the City of Garden Grove's Engineering Division upon receipt from the county.

14. Any new drive approaches to the site shall be constructed in accordance with Garden Grove Standard B-120, as they conform to land use and roadway designation.

15. The grading plan shall depict an accessibility route for the ADA pathway in conformance with the requirements of the Department of Justice standards, latest edition and section 1110A of the California Building Code.

16. All trash container areas shall meet the following requirements per City of Garden Grove Standard B-502 and State mandated commercial organic recycling laws, including AB 1826 and SB 1383 and their implementing regulations, and any other applicable State recycling laws related to refuse, recyclables, and/or organics (web-link reference: https://ggcity.org/index.php/pw/trash-recycling):

    i. Paved with an impervious surface, designed not to allow run-on mixing of drainage from adjoining areas, designed to divert drainage from adjoining roofs and pavements to be directed around the area for trash roll out, and screened or walled to prevent off-site transport of trash by water or wind.

    ii. Provide solid roof or awning to prevent direct precipitation into the enclosure.

    iii. Connection of trash area drains to the municipal storm drain system is prohibited. Drainage from the enclosure may be directed to a conforming grease or contaminant interceptor.

    iv. Potential conflicts with fire code access requirements and garbage pickup routing for access activities shall be considered in implementation of design and source control. See CASQA Storm Water Handbook Section 3.2.9 and BMP Fact Sheet SD-32 for additional information.

    v. The trash enclosure and containers shall be located to allow pick-up and maneuvering, including turnarounds, in the area of enclosures, and concrete aprons for roll-out areas.

    vi. Pursuant to state mandated commercial organic recycling laws AB 1826 and SB 1383, the applicant is required to coordinate storage and removal of the organics waste with the local recycling/trash company (Republic Services).

    vii. Pursuant to applicable State-mandated laws, the applicant is required to contact and coordinate with the operations manager of the local recycling/trash company (Republic Services) to ensure the trash enclosure includes the appropriate size, and number of containers for the disposal of items such as, but may not limited to, municipal solid waste (MSW), recyclables, and organic green waste.

viii. Based on the amount of waste disposed, per week, the applicant shall coordinate with the local recycling/trash company (Republic Services) to ensure the adequate frequency of trash pick-up is serviced to the site for municipal solid waste (MSW), recyclables, and organic green waste, including any other type of waste.

ix. The applicant shall ensure large bulk items, intended for coordinated and scheduled pick-up by the local recycling/trash company (Republic Services), are not placed in areas that encroach into drive aisles, parking spaces, pedestrian pathways, or areas in the front of the property including areas public right-of-way (e.g., street, sidewalk), during and after construction. Any large bulk items shall be out of public vantage points.

x. The requirements for the trash enclosure and design criteria are bound and coordinated with the Water Quality Management Plan (WQMP), when required, as depicted on the project grading plan, which shall be incorporated into the WQMP by narrative description, exhibits and an Operation and Maintenance Plan (O&M).

17. Any new or required block walls and/or retaining walls shall be shown on the grading plans, both in plan-view and cross-sections. Cross-sections shall show vertical and horizontal relations of improvements (existing and proposed) on both sides of property lines. Required wall heights shall be measured vertically from the highest adjacent finished grade. Block walls shall be designed in accordance to City of Garden Grove Standard B-504, B-505, B-506, and B-508, or designed by a professional registered engineer. In addition, the following shall apply:

i. The color and material of all proposed block walls, columns, and wrought iron fencing shall be approved by the Planning Services Division prior to installation.

ii. Openings for drainage through walls shall be shown in section details, and approved by the City Engineer. Cross-lot drainage is not allowed.

18. The applicant shall remove any existing substandard driveway approaches, curbs, sidewalks, ADA ramps, pavement sections, tree well and landscaping, and construct Lincoln Way and Western Avenue frontage improvements as identified below. All landscape, irrigation, sidewalk, signal modifications and lighting improvements installed within the public rights-of-way shall be

maintained by the applicant, and shall require the approval of the City Engineer, Street Division, and the Planning Services Division.

i. A separate street improvement plan shall be prepared and submitted to the Engineering Division for the proposed improvements within the public rights-of-way along Lincoln Way and Western Avenue, which shall include any proposed landscaping, and irrigation plans. All work shall be per City standards and specifications.

ii. The existing substandard driveways (two total) on Lincoln Way and Western Avenue shall be removed and replaced with new curb, gutter, and landscaping per City standards and specifications.

iii. Curb and gutter shall be constructed when replacing any existing driveway approaches along the property frontages on Lincoln Way and Western Avenue in accordance with City Standard Plan B-113 (Type C-8 Modified).

iv. The new driveway approaches to the site on Lincoln Way and Western Avenue shall be constructed in accordance with Garden Grove Standard Plan B-121.

v. The applicant shall cold mill (grind) existing asphalt pavement to a three-inch (0'-3") uniform depth and replace with three inches (0'-3") of fiber-reinforced asphalt surface course from the edge of the southerly gutter to the edge of northerly gutter on Lincoln Way, along the property frontage per City specifications and the direction of the City Engineer.

vi. The new landscaping in the public rights-of-way on Lincoln Way and Western Avenue shall be consistent with any existing landscaping adjacent to the project site, and as approved by the Planning Services Division.

vii. The applicant shall locate all existing public utilities across the property frontage and within the property boundary of the project prior to commencement of grading operation and mobilization.

viii. The applicant shall coordinate with the Planning Services Division and Public Works Street Division before placing any type of tree within public right-of-way and proposed landscape area.

ix. Street signs shall be installed as required and approved by the City Traffic Engineer.

19. The parking lot layout shall be in accordance with City Standard B-311 and B-312.

20. The turning template shall be in accordance with City's Traffic Policy & Procedures TE-14.

21. Any proposed new landscaping in public rights-of-way shall be approved by the Planning Services Division, and maintained by the owner.

22. Driveway Opening Policy shall be in accordance with City's Traffic Policy & Procedures TE-8.

23. Sight Distance Standards shall be in accordance with City's Traffic Policy & Procedures TE-13.

24. Private Property Tow Away Sign Design shall be in accordance with City's Traffic Policy & Procedures TE-19.

25. No Parking Fire Lane Sign Design shall be in accordance with City's Traffic Policy & Procedures TE-20.

26. A minimum five-foot-by-five-foot (5'-0" x 5'-0") wide maneuvering area shall be provided at the end of a dead-end parking aisle serving more than five (5) consecutive stalls, and shall consist of nine-foot-by-nineteen-foot (9'-0" x 19'-0") wide turnaround space.

27. The applicant shall be subject to Traffic Mitigation Fees, Drainage Facilities Fees, Water Assessment Fees, and other applicable mitigation fees identified in Chapter 9.44 of the Garden Grove Municipal Code, along with all other applicable fees duly adopted by the City. The amount of said fees shall be calculated based on the City's current fee schedule at the time of permit issuance.

28. A separate street permit is required for work performed within the public right-of-way.

29. Grading fees shall be calculated based on the current fee schedule at the time of permit issuance.

30. The applicant shall identify a temporary parking site(s) for the construction crew, and any construction office trailer staff prior to the issuance of a grading permit. No construction parking is allowed on local streets. Construction vehicles should be parked off traveled roadways in a designated parking area. Parking areas, whether on- or off-site, shall be included, and covered by the erosion control and the Storm Water Pollution Prevention plan (SWPPP).

    i. Prior to issuance of a grading permit, the applicant shall submit and obtain approval of a worksite traffic control plan for all the proposed improvements within the public right-of-way, which shall be subject to the review and approval of the City Traffic Engineer.

31. In accordance to City of Garden Grove Municipal Code (Chapter 9.48.030), the applicant is required to underground all existing and proposed on-site and off-site utility facilities fronting the project which the applicant is developing or redeveloping. All existing improvements and utilities shall be shown as part of the grading submittal package in the topography section.

32. Prior to the issuance of any grading or building permits for projects that will result in soil disturbance of one acre or more of land, the applicant shall demonstrate that coverage has been obtained under California's General Permit for Stormwater Discharges Associated with Construction Activity by providing a copy of the Notice of Intent (NOI) submitted to the State Water Resources Control Board, and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) Number. Projects subject to this requirement shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). A copy of the current SWPPP shall be kept at the project site and be available for City review upon request. The assigned WDID number must appear on the cover sheet of the project grading plan.

33. The applicant shall coordinate with City's Public Works Department (Engineering, Water Services, and Streets Divisions) to set appointments for preconstruction inspections for all the on- and off-site improvements prior to commencement of grading operation and mobilization.

34. In accordance with the Orange County Storm Water Program manual, the applicant and/or their contractors shall provide dumpsters on-site during construction, unless an Encroachment Permit is obtained for placement in street.

35. The applicant and its contractor(s) shall be responsible for protecting all existing horizontal and vertical survey controls, monuments, ties (centerline and corner), and benchmarks located within the limits of the project. If any of the above require removal, relocation, or resetting, the applicant and its contractor(s) shall, prior to any construction work, and under the supervision of a California-licensed Land Surveyor, establish sufficient temporary ties and benchmarks to enable the points to be reset after completion of construction. Any ties, monuments and bench marks disturbed during construction shall be reset per Orange County Surveyor Standards after construction. Applicant and its contractor(s) shall also reset the tie monuments where curb or curb ramps are removed and replaced, or new ramps are installed. The applicant and its contractor(s) shall be liable, at their own expense, for any resurvey required due to their negligence in protecting existing ties, monuments, benchmarks, or any such horizontal and vertical controls. Temporary benchmarks shall not be used for vertical control. Benchmarks shall be to the National Geodetic Vertical Datum (NGVD).

36. Heavy construction truck traffic and hauling trips, and any required lane closures, shall occur outside of peak travel periods. Peak travel periods are considered to be from 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.

37. Prior to grading or building permit closeout, and/or the issuance of a certificate of use, or a certificate of occupancy, the applicant shall:

    i. Demonstrate that all structural best management practices (BMPs) described in the Project WQMP have been constructed, and installed in conformance with approved plans and specifications.

    ii. Demonstrate that the applicant is prepared to implement, and maintain all non-structural BMPs described in the Project WQMP.

    iii. Demonstrate that an adequate number of copies of the approved Project WQMP are available on-site.

    iv. Submit for review and approval by the City an Operations and Maintenance (O&M) Plan for all structural BMPs.

    v. Identify the responsible contractor, and individuals for maintaining the new landscape and irrigation improvements for a period of three (3) years following the acceptance of the improvements by the City.

38. Prior to the issuance of a grading permit, the applicant shall record a reciprocal access and easement agreement, or similar document, ("REA"), in a form approved by the City Attorney, providing for reciprocal access and parking between the subject site and the property to the west of the subject site. Said REA shall remain in place for the life of the project, and shall not be amended or terminated without the written approval of the City of Garden Grove Community and Economic Development Director.

Orange County Fire Authority

39. The applicant shall comply with all applicable Orange County Fire Authority requirements, including, but not limited to, the Fire Master Plan.

Building and Safety Division

40. All proposed work shall comply with the latest edition of the California Building Standards Code in effect at the time of building permit application.

41. A soils report complying with CBC Chapter 18 shall be submitted at the time of building permit application.

42. Future electric vehicle (EV) and clean-air vehicle parking spaces shall comply with the California Green Code.

43. All electrical vehicle (EV) parking spaces, when provided, shall comply with CBC Chapter 11B.

44. Accessible spaces shall be provided with not less than one (1) accessible means of egress. Where more than one (1) means of egress is required from any accessible space, each accessible space shall be served by a compliant accessible means of egress.

45. Each required accessible means of egress shall be continuous to a public right-of-way and shall comply with CBC Chapter 11B.

46. All rooms/spaces/elements shall be on an accessible route, and shall comply with CBC Chapter 11B.

Water Services Division

47. New water service installations two inches (0'-2") and smaller may be installed by the City of Garden Grove at owner's/developer's expense.

Installation shall be scheduled upon payment of applicable fees, unless otherwise noted. Fire services and larger water services three inches (0'-3") and larger, shall be installed by applicant's contractor per City Standards.

48. Water meters shall be located within the City right-of-way. Fire services and large water services three inches (0'-3") and larger shall be installed by a contractor with a Class A or C-34 license, per City water standards, and inspected by an approved Public Works inspection.

49. A Reduced Pressure Principle Device (RPPD) backflow prevention device shall be installed for meter protection. The landscape system shall also have RPPD device. Any carbonation dispensing equipment shall have a RPPD device. Installation shall be per City standards, and shall be tested by a certified backflow device tester immediately after installation. The cross-connection inspector shall be notified for inspection after the installation is completed. The owner shall have the RPPD device tested once a year thereafter by a certified backflow device tester, and the test results submitted to the Public Works Department, Water Services Division. The property owner must open a water account upon installation of a RPPD device.

50. It shall be the responsibility of the applicant to abandon any existing private water well(s) per Orange County Health Department requirements. Abandonment(s) shall be inspected by an Orange County Health Department inspector after permits have been obtained.

51. A composite utility site plan shall be part of the water plan approval.

52. There shall be a minimum fifteen-foot (15'-0") clearance of building footings from the water main. Clearances less than fifteen feet (15'-0") shall be reviewed and approved by the Water Services Division.

53. There shall be no structures or utilities built on, or crossing water or sewer main easements.

54. New utilities shall have a minimum five-foot (5'-0") horizontal, and a minimum one-foot (1'-0") vertical clearance from the water main and appurtenances.

55. There shall be a minimum clearance from the sewer main and the water main of ten feet (10'-0") from outside of pipe to outside of pipe.

56. Any new or existing water valve located within a new concrete driveway or sidewalk shall be constructed per City Standard B-753.

57. Fire service and any private fire hydrant lateral shall have an above-ground backflow device with a double-check valve assembly. The device shall be tested immediately after installation and once a year thereafter by a certified backflow device tester, and the results to be submitted to the Public Works Department, Water Services Division. The device shall be on private property and is the responsibility of the property owner. The above-ground assembly shall be screened from public view as required by the Planning Services Division.

58. No permanent structures, trees or deep-rooted plants shall be placed over sewer main or water main, or within the sewer easement area.

59. The location and number of fire hydrants shall be as required by the Water Services Division and Orange County Fire Authority (OCFA).

60. Commercial food use of any type shall require the installation of an approved grease interceptor prior to obtaining a business license. The plumbing plan for any grease interceptor shall be routed to Environmental Services for review.

61. Food grinders (garbage disposal devices) are prohibited per Ordinance 6 of the Garden Grove Sanitary District Code of Regulations. Existing units are to be removed.

62. If needed, the owner shall install a new sewer lateral with clean out at the right-of-way line. Laterals in the public right-of-way shall be a minimum six-inch (0'-6") diameter, extra strength VCP with wedgelock joints.

63. If proposing to reuse the existing sewer lateral, it is the developer's responsibility to submit a CCTV video and report of the lateral from the connection at the sewer main to the property line for review and approval of the existing conditions by the Garden Grove Sanitary District staff. It is the responsibility of the design engineer to certify that the existing size, capacity, and condition of the existing lateral is sufficient and adequate for the proposed use, include verbiage and calculations on plans.

64. The contractor shall abandon any existing unused sewer lateral(s) at the street right-of-way on the property owner's side. The sewer pipe shall be

capped with an expansion sewer plug and encased in concrete. Only one sewer connection per lot is allowed.

65. There is an existing sewer easement on the north-east corner of the property. The applicant and its contractor(s) shall protect the sewer main and manhole in-place. All building setbacks shall be a minimum twenty feet (20'-0") from the edge of the easement.

Planning Services Division

66. All fencing enclosing the truck maneuvering area on the western side of the building shall consist of opaque materials, so as to minimize visual impacts to the public right-of-way, and adjacent properties. Open types of fencing, including, but not limited to, chain-link and wrought-iron shall be treated with slats in a style approved by the Community and Economic Development Department, Planning Services Division.

67. It shall be the applicant's responsibility to verify that any building or site improvements do not impermissibly interfere with any recorded (or non-recorded) easements or required utility clearances on the subject property or the adjacent properties.

68. In the event the development cannot accommodate the parking demand, due to impacts generated by the development, at any given time, which causes a nuisance, hindrance, and/or problem with either on-site and off-site parking and circulation, as determined by the City's Community and Economic Development Director in his/her reasonable discretion, the applicant shall devise and implement a plan approved by the City to relieve the situation. Upon written request by the City, the applicant shall submit a plan to manage parking issues for review and approval by the Community and Economic Development Department. The plan may include, but is not be limited to: reducing the hours of operation, instituting an off-site parking arrangement; having on-site parking control personnel; and/or others actions that may be deemed applicable to the situation. If the City's Community and Economic Development Director deems such action is necessary to address parking and circulation problems, such action shall be implemented within 30 days of written notice. Failure to take appropriate action shall be deemed a violation of these Conditions of Approval and may result in the City restricting the overall use of the establishment.

69. A prominent, permanent sign, stating "NO LOITERING IS ALLOWED ON OR IN FRONT OF THE PREMISES," shall be posted in a place that is clearly visible

to patrons of the applicant. The sign lettering shall be four (0'-4") to six inches (0'-6") tall, with black letters on a white background. The sign shall be displayed near or at the entrance, and shall also be visible to the public.

70. Litter shall be removed daily from the premises, including adjacent public sidewalks, and from all parking areas under the control of the applicant. These areas shall be swept or cleaned, either mechanically or manually, on a weekly basis, to control debris.

71. The applicant/property owner shall abate all graffiti vandalism within the premises. The applicant/property owner shall implement best management practices to prevent and abate graffiti vandalism within the premises throughout the life of the project, including, but not limited to, timely removal of all graffiti, the use of graffiti resistant coatings and surfaces, the installation of vegetation screening of frequent graffiti sites, and the installation of signage, lighting, and/or security cameras, as necessary. Graffiti shall be removed/eliminated by the applicant/property owner as soon as reasonably possible after it is discovered, but not later than 72 hours after discovery.

72. The applicant is advised that the establishment is subject to the provisions of State Labor Code Section 6404.5 (ref: State Law AB 13), which prohibits smoking inside the establishment as of January 1, 1995.

73. Permits from the City of Garden Grove shall be obtained prior to displaying any temporary advertising (i.e., banners).

74. Signs shall comply with the City of Garden Grove sign requirements. No more than 15% of the total window area and clear doors shall bear advertising or signs of any sort. No signs advertising alcoholic beverages shall be placed on the windows. Any opaque material applied to the store front, such as window tint, shall count toward the maximum window coverage area.

75. Exterior advertisements displays or exterior wall advertisements shall not be allowed.

76. Any modifications to existing signs or the installation of new signs shall require approval by the Community and Economic Development Department, Planning Services Division prior to issuance of a building permit.

77. Hours and days of construction and grading shall be as set forth in the City of Garden Grove's Municipal Code Chapter 8.47 as adopted, except as follows:

i. Monday through Saturday - not before 7:00 a.m. and not after 8:00 p.m. (of the same day).

ii. Sunday and Federal Holidays may work same hours, but subject to noise restrictions as stipulated in Chapter 8.47 of the Municipal Code.

78. Construction activities shall adhere to SCAQMD Rule 403 (Fugitive Dust) that includes dust minimization measures, the use of electricity from power poles rather than diesel or gasoline powered generators, and the use methanol, natural gas, propane or butane vehicles instead of gasoline or diesel powered equipment. Where feasible, the project shall use solar or low-emission water heaters, and use of low-sodium parking lot lights, to ensure compliance with Title 24.

79. No exterior piping, plumbing, roof top access ladders, or mechanical ductwork shall be permitted on any exterior facade and/or be visible from any public right-of-way or adjoining property.

80. Any and all correction notice(s) generated through the plan check and/or inspection process is/are hereby incorporated by reference as conditions of approval and shall be fully complied with by the owner, applicant, and all agents thereof.

81. No roof-mounted mechanical equipment shall be permitted unless a method of screening complementary to the architecture of the building is approved by the Community and Economic Development Department, Planning Services Division. Said screening shall block visibility of any roof-mounted mechanical equipment from view of public streets and surrounding properties.

82. Building color and material samples shall be submitted to the Planning Services Division for review and approval prior to issuance of building permits.

83. All lighting structures shall be placed so as to confine direct rays to the subject property. All exterior lights shall be reviewed and approved by the City's Planning Services Division. Any new lighting that is provided within the parking lot area shall maintain a minimum of two foot-candles of light on the parking areas during business hours. Lighting in the parking areas shall be directed, positioned, or shielded in such manner so as not to unreasonably illuminate the windows of adjacent properties.

84. The applicant shall submit a light plan (photometric plan) to the Planning Services Division for review. All lighting shall be provided throughout the parking areas at a minimum of two-foot candle of light during the hours of darkness when the businesses are open, and a one foot candle of light during all other hours of darkness.

85. New perimeter walls, if proposed, shall be developed to City Standards or designed by a Registered Engineer, and shall be measured from the on-site finished grade, and shall be shown on the grading plan. New perimeter walls constructed adjacent to any driveway shall observe the required visual line-of-sight clearance. The location of any new wall shall be reviewed and approved by the Planning Services Division, and if applicable, shall require a building permit.

86. The trash enclosures shall have unifying color and exterior finish that matches, and are integrated, with the proposed development. The proposed roof design of the trash enclosure shall be architecturally compatible with the design of the development. The Planning Services Division shall review and approve the design of the proposed roof and the material(s). The proposed roof and materials shall also comply with the building code requirements.

87. The trash bins shall be kept inside the trash enclosures, and gates closed at all times, except during disposal and pick-up. The property owner shall provide sufficient trash bins and pick-up to accommodate the site.

88. The site improvements and subsequent operation of the site/business(es) shall adhere to the following:

    i. Property owners, employees, and business operators shall not permanently store vehicles anywhere on the site.

    ii. All drive aisles on the site are considered to be fire lanes, and shall remain clear and free of any materials, and/or vehicles.

    iii. The property owner shall comply with the adopted City Noise Ordinance.

89. All landscaping shall be consistent with the landscape requirements of the Landscape Water Efficiency Guidelines (Appendix A), per Title 9 of the Municipal Code. The applicant shall submit a separate and complete Water Efficient Landscape Plan. The water efficient landscape submittal shall include landscape plans, irrigation plans, soils report, grading plans, and all other applicable documentation. The landscape plans shall include type, size,

location, and quantity of all plant material. The landscape plans are also subject to the following:

i. A complete, permanent, automatic remote control irrigation system shall be provided for all landscaping areas shown on the plans. The sprinklers shall be of low flow/precipitation sprinkler heads for water conservation.

ii. The plans shall provide a mixture of a minimum of ten percent (10%) of the trees at 48-inch box, ten percent (10%) of the trees at 36-inch box, fifteen percent (15%) of the trees at 24-inch box and sixty percent (60%) of the trees at 15-gallon, the remaining five percent (5%) may be of any size. These trees shall be incorporated into the landscaped frontages of all streets. All proposed trees shall be non-fruit bearing, evergreen trees that require minimal maintenance. Where clinging vines are considered for covering walls, drought tolerant vines shall be used.

iii. Landscape treatments and irrigation shall be installed within the front, side, and rear setback areas of the property. The landscaping shall incorporate a mixture of ground cover, flowerbeds, shrubs, and trees. The Community and Economic Development Department shall review the type and location of all proposed trees.

iv. Clinging vines, low shrubs, and/or other landscaping treatments shall be planted along the base of the exterior face of any proposed or existing street-facing perimeter block walls, and/or trash enclosure walls, to deter graffiti.

v. The applicant shall be responsible for all installation, and permanent maintenance of all landscaping on the property. Said responsibility shall extend to the parkway landscaping, sidewalk, curb, and pavement of the site. All planting areas are to be kept free of weeds, debris, and graffiti.

vi. All above-ground utilities (e.g., water backflow devices, electrical transformers, irrigation equipment, etc.) shall be shown on the landscaping plans in order to ensure proper screening.

vii. The landscape plans shall incorporate and maintain, for the life of the project, means and methods to address water run-off, including Low Impact Development (LID) provisions, which address water run-off.

This includes, without limitation, all applicable requirements of the Water Quality Management Plan (WQMP), Drainage Area Management Plan (DAMP), or Local Implementation Plan (LIP), and any other water conservation measures applicable to this type of development required by applicable ordinance or regulation.

viii. No trees shall be planted closer than five feet (5'-0") from the public right of-way. Trees planted within fifteen feet (15'-0") of any public right of-way shall be planted in a root barrier shield. All landscaping along street frontages, adjacent to driveways, shall be of the low height variety to ensure safe sight clearance.

90. All on-site curbs, not associated with a parking space, shall be painted red.

91. During construction, if paleontological or archaeological resources are found, all attempts will be made to preserve in-place, or leave in an undisturbed state. In the event that fossil specimens or cultural resources are encountered on the site during construction, and cannot be preserved in-place, the applicant shall contact and retain, at the applicant's expense, a qualified paleontologist or archaeologist, as applicable, acceptable to the City, to evaluate and determine appropriate treatment for the specimen or resource, and work in the vicinity of the discovery shall halt until appropriate assessment and treatment of the specimen or resource is determined by the paleontologist or archeologist (work can continue elsewhere on the project site). Any mitigation, monitoring, collection, and specimen/resource treatment measures recommended by the paleontologist/archaeologist shall be implemented by the applicant at their own cost.

92. The applicant shall comply with the Migratory Bird Treaty Act (MBTA), and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code, which require the protection of active nests of all bird species, prior to the removal of any on-site landscaping, including the removal of existing trees.

93. A copy of the resolution approving Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167, including these Conditions of Approval shall be kept on the premises at all times.

94. The applicant/property owner shall submit signed letters acknowledging receipt of the decision approving Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167, and their agreement with all conditions of approval.

95. The applicant shall, as a condition of project approval, at its sole expense, defend, indemnify and hold harmless the City, its officers, employees, agents and consultants from any claim, action, or proceeding against the City, its officers, agents, employees and/or consultants, which action seeks to set aside, void, annul or otherwise challenge any approval by the City Council, Planning Commission, or other City decision-making body, or City staff action concerning Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167. The applicant shall pay the City's defense costs, including attorney fees and all other litigation related expenses, and shall reimburse the City for court costs, which the City may be required to pay as a result of such defense. The applicant shall further pay any adverse financial award, which may issue against the City including, but not limited, to any award of attorney fees to a party challenging such project approval. The City shall retain the right to select its counsel of choice in any action referred to herein.

96. In accordance with Garden Grove Municipal Code Sections 9.32.160, the rights granted pursuant to Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167 shall be valid for a period of two (2) years from the effective date of this approval. Unless a time extension is granted pursuant to Section 9.32.030.D.9 of the Municipal Code, the rights conferred by Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167 shall become null and void if the subject development and construction necessary and incidental thereto is not commenced within two (2) years of the expiration of the appeal period, and thereafter diligently advanced until completion of the project. In the event construction of the project is commenced but not diligently advanced until completion, the rights granted pursuant to Site Plan No. SP-122-2023 and Tentative Parcel Map No. PM-2022-167 shall expire if the building permits for the project expire.

COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT PLANNING STAFF REPORT

AGENDA ITEM NO.: C.2.	**SITE LOCATION:** West side of Choisser Road and north of Twintree Lane at 12233, 12235, 12237, and 12239 Choisser Road
HEARING DATE: February 16, 2023	**GENERAL PLAN:** International West Mixed Use
CASE NOS.: Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206	**ZONE:** Planned Unit Development No. PUD-128-12; International West Mixed Use Overlay zone
APPLICANT: Investel Garden Resorts, LLC	**APN:** 231-491-12, 231-491-13, 231-491-14, and 231-491-15
PROPERTY OWNER: Same as applicant	**CEQA DETERMINATION:** Exempt- Section 15332 "In-Fill Development Projects"

REQUEST:

The applicant is requesting Planning Commission approval of (1) a Vesting Tentative Parcel Map to consolidate four (four) existing parcels with a combined lot area of 28,793 square feet (0.66 acres) into a single lot to facilitate the development of a residential apartment complex and (2) a Site Plan for a six-story, 53 unit-residential apartment complex on the combined site. The proposed project includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" households, and one unit designated for "Low-Income" households. Inclusion of the five (5) very low-income units qualifies the project for a density bonus, concessions, waivers, and reduced parking pursuant to the State Density Bonus Law, and the project has been designed to incorporate certain concessions and waivers of development standards pursuant to the State Density Bonus Law, which are described later in this Report.

BACKGROUND:

The project site is comprised of four (4) vacant lots with a combined lot area of 28,793 square feet (0.66 acres) and located on the west side of Choisser Road, north of Twintree Lane, immediately adjacent to the site of the future 769-room resort hotel development commonly referred to as the Site "C" Project. The property is currently unimproved and is secured by fencing, including an existing masonry wall on the north, south, and west property lines.

The project site has a General Plan Land Use designation of International West Mixed Use and is designated for the development of low-income housing in the General Plan Housing Element. The project site is part of Planned Unit Development No. PUD-128-12, and the zoning provisions of the International West Mixed Use Overlay apply to the site.

In 2021, the City Council adopted the International West Mixed Use Overlay to implement the goals and policies of the Housing Element and Land Use Element to comply with the State law's 6th Cycle (2021-2029) of the Regional Housing Needs Assessment (RHNA), which requires the City to plan for 19,168 additional dwelling units for all income levels during the planning period. The International West Mixed Use Overlay zone applies to certain properties, along Harbor Boulevard, identified in the Housing Element Sites Inventory to be suitable for the development of housing. The project site is identified as having a combined realistic capacity of 36 lower income units.

The project site is located in an area developed with residential and commercial uses. The project site abuts a commercial shopping center zoned HCSP-TCB (Harbor Corridor Specific Plan-Tourisist Commercial "B") developed with a Target, Viva Bargain Center, 7 Leaves Café, and a Coco's restaurant to the north; R-1 (Single-Family Residential) zoned properties, consisting of single-family homes, to the east across Choisser Road; R-1 zoned properties, consisting of single-family homes, to the south; and Planned Unit Development No. PUD-128-12 zoned properties to the west developed with a Raising Cane's drive-through restaurant and vacant land that is entitled for the development of a 769-room resort hotel and retail complex commonly referred to as the Site "C" Project. The applicant is also the developer of the Site "C" Project.

The four lots comprising the project site were previously zoned R-1 (Single-Family Residential) and improved with single-family homes. The City and the Garden Grove Agency for Community Development purchased the lots in early 2012 in conjunction with the planning process for the Site "C" Project. In 2012, the City also approved General Plan Amendment No. GPA-2-12(B) and Planned Unit Development No. PUD-128-12 for the Site C Project and the four residential lots. General Plan Amendment No. GPA-2-12(B) changed the General Plan Land Use designation of the lots from Low Density Residential to International West Mixed Use, and the lots were concurrently re-zoned from R-1 to Planned Unit Development No. PUD-128-12 to make the zoning consistent with the General Plan Land Use designation change.

In 2017, the Planning Commission approved Site Plan No. SP-043-2017 and Tentative Tract Map No. TT-17455, which made certain refinements and modifications to the Site "C" Project. The tentative tract map reconfigured the Site "C" parcels and adjusted the rear property lines of the four (4) project site parcels to incorporate a portion of these parcels into the hotel project site, resulting in the smaller lots as they exist today.

The City demolished and removed the four single-family homes previously located on the lots between 2018 and 2020. In 2021, the City sold the lots to the current applicant/property owner.

The project site has a General Plan land use designation of International West Mixed Use (IW). The IW land use designation is intended to provide for a mix of uses, including resort, entertainment, retail, hotel, and some higher density residential that are appropriate for a major entertainment and tourism destination. The IW land use designation is implemented by Planned Development PUD-128-12. The property site also is part of the International West Mixed Use Overlay Zone.

In 2021, the City Council adopted an updated General Plan Housing Element to comply with the State law's 6th Cycle (2021-2029) of the Regional Housing Needs Assessment (RHNA), which requires the City to plan for 19,168 additional dwelling units for all income levels during the 8-year planning period. Pursuant to State law, Housing Element includes an inventory of land in the city suitable and available for residential development to meet the City's RHNA obligations for all income levels. The project site is identified in the Housing Element Sites Inventory for development of housing to meet the City's lower-income RHNA obligation. Concurrent with its approval of the Housing Element Update in 2021, the City Council adopted Ordinance No. 2925 creating the International West Mixed Use Overlay (GGMC § 9.18.190) to implement the goals and policies of the Housing Element and Land Use Element and amended the City Zoning Map to apply this new overlay zoning to the project site. The International West Mixed Use Overlay zone applies to certain properties along Harbor Boulevard identified in the Housing Element Sites Inventory to be suitable for the development of housing. The Overlay zone allows these parcels to be developed with mixed-use or stand-alone residential developments with a residential density of up to 70 dwelling units per acre, consistent with the Garden Grove Mixed Use 1 (GGMU-1) zone development standards.

As stated above, the project site has a General Plan land use designation of International West Mixed Use (IW). The IW land use designation is intended to provide for a mix of uses, including resort, entertainment, retail, hotel, and some higher density residential that are appropriate for a major entertainment and tourism destination. The IW land use designation is implemented by Planned Development PUD-128-12 and the International West Mixed Use Overlay Zone.

The project site is also identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing. The project site was included in the Housing Element Sites Inventory, as the parcels complied with the State's criteria for the development of lower income units. State law specifies that sites suitable for the development of lower income units must meet a minimum allowable density of 30 units per acre, and the parcels size be limited to between 0.5 and 10 acres. The project site has a maximum allowable residential density of 70 units per acre and has a combined lot area of 0.66 acres. Furthermore, State law correlates higher density sites with the ability to provide lower-income housing. As such, the majority of the lower income RHNA sites are located along mixed-use corridors, including along Harbor Boulevard.

The proposed Project, as designed, is consistent with numerous goals and policies of the General Plan Land Use Element and Housing Element, including the following:

1. Policy LU-1.2: Encourage modern residences in areas designated as Mixed Use.

2. Policy LU-1.3: Support the production of housing Citywide that is affordable to lower- and moderate-income households consistent with the policies and targets set forth in the Housing Element.

3. Policy LU-3.1: Preserve existing, and encourage new multi-family residential development in the Focus Areas, allowing mixed-use in older or underutilized commercial centers. Such housing provides convenient access to jobs and activities and supplies a resident clientele to support commercial sales and services in mixed-use areas.

4. Policy LU-3.2: Support development of multi-family housing that provides a diversity of densities, types, and prices that meet the needs of all household income levels.

5. Policy LU-3.3: Encourage developers to build housing projects at or maximum allowable densities.

6. Policy LU-3.4: Consider expanding affordable housing opportunities for lower income households in all land use designations that allow residential uses through the creation of a housing overlay zone or other similar tools.

7. Policy LU-IMP-3E: Use programs and incentives outlined in the Housing Element to produce all types of desired multi-family housing.

8. Policy LU-4.1: Locate higher-density residential uses within proximity of commercial uses to encourage pedestrian traffic, and to provide a consumer base for commercial uses.

9. GOAL H-2: Housing supply to accommodate housing needs at all affordability levels.

10. Policy H-2.1: Expanding Affordable Housing. Preserve and expand the City's supply of affordable rental and ownership housing for lower-income households.

11. Policy H-2.3: Provide density bonuses and other financial and regulatory incentives to facilitate the development of affordable housing.

12. GOAL H-3: A range of available housing types, densities, and affordability levels to meet diverse community needs

13. Policy H-3.1: Maintain land use policies and regulations that create capacity for development of a range of residential development types that can fulfill local housing needs, including accessory dwelling units, low-density single-family uses, moderate-density townhomes and middle housing, higher-density apartments and condominiums, senior housing, and mixed-use projects.

14. Policy H-3.2: Provide adequate sites to encourage housing development that will meet the needs of all income groups.

15. Policy H-3.3: Promote a balance of housing types, including mixed-use development, to meet the needs of the community.

16. Policy H-3.4: Maintain an inventory of vacant and underutilized land, and make available to the development community.

The applicant is requesting Planning Commission approval of (1) a Vesting Tentative Parcel Map to consolidate the four (4) existing parcels into a single lot to facilitate the development of a residential apartment complex and (2) a Site Plan for a six-story, 53 unit-residential apartment complex on the combined site. The proposed project includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" Households, and one unit designated for "Low-Income" households. Inclusion of the five (5) very low-income units qualifies the project for a density bonus, concessions, waivers of development standards, and reduced parking pursuant to the State Density Bonus Law. The proposed project has been designed to incorporate additional density and certain concessions and waivers of development standards pursuant to the State Density Bonus Law, which are described later in this Report.

The applicant filed a Housing Development Pre-Application pursuant to Government Code Section 65941.1 on October 18, 2022, making the project subject only to those City ordinances, policies, and standards in effect as of that date pursuant to Government Code Section 65589.5(o). Thus, the project was designed pursuant to the requirements of the International West Mixed Use Overlay zone prior to the adoption objective revised development standards under Amendment No. A-035-2022, which took effect on November 10, 2022. For projects utilizing the International West Mixed Use Overlay, the development standards are the same as those applicable to the GGMU-1 zone.

The developer conducted a neighborhood meeting to gather community feedback. Notices were mailed to property owners within 300 feet of the project site inviting them to participate in a neighborhood meeting. The neighborhood meeting was held on April 20, 2022, and one (1) member of the public was in attendance. The developer for the project gave a presentation of the proposed project and responded to questions. Questions and concerns raised by the attendee were generally regarding parking and traffic impacts, which were addressed by the developer.

PROJECT STATISTICS:

	Provided	Code Requirement	Meets Code	Requires a Concession or Waiver
Lot Size	28,793 S.F. (0.66 acres)	22,500 S.F.	Yes	
Density	53 units[1]	46 units before density bonus (70 units per acre)	State Density Bonus Law	Yes
Total Parking	58	70[2]	State Density Bonus Law	Yes
Garage	48			
Open	10			
Recreation Area Total[3]	7,820 S.F.	15,900 S.F.		

	Provided	Code Requirement	Meets Code	Requires a Concession or Waiver
Common Area Active – indoor fitness center and lounge area, and roof deck lounge and barbecue area	2,450 S.F.	(53 units x 300 S.F. = 15,900 S.F.)	State Density Bonus Law	Yes
Common Area Passive – at grade pedestrian path and landscaped areas that include seating areas/benches	3,910 S.F.			
Private Balconies	1,460 S.F.			
Active Recreation Area Dimensions[3]	25'-0" x 36'-6" (fitness center and lounge) 39'-0" x 41'-0" (roof deck)	20'-0" minimum	Yes	
Passive Recreation Area Dimensions[4]	Less than 10'-0" in certain parts of the walkway and landscaping area	10'-0" wide x 30'-0" long minimum	State Density Bonus Law	Yes
Building Setbacks				
North (Side)	46'-0"	None required unless abutting a residentially-zoned lot	Yes	
South (Side)	10'-0" ground floor 20'-00" (floors 2-6)	10'-0" plus encroachment plane[8] (Adjacent to R-1 property)	State Density Bonus Law	Yes
East (Front)	10'-0"	10'-0"	Yes	
West (Rear)	6'-6" to 16'-8"	None required unless abutting a residentially-zoned lot	Yes	
Building Height	6 stories (68'-9") to top of parapet; to top of elevator shaft (75'- 0")	110' or 10 stories, whichever is less	Yes	
Side Yard Stepback and Encroachment Plane[5]	10'-0" (parking/ground level) 20'-0" (residential levels, 2 to 6 floors)	Setback restriction in encroachment plane at a 45-degree angle, commencing 15 ft. above existing grade at property line abutting residential zone	State Density Bonus Law	Yes

1. The applicant is entitled to a Density Bonus of 32.5%, which yields 15 units above the base density permitted in the International West Mixed Use Overlay. However, the applicant is only requesting 7 units above the base density.

2. Based on the unit bedroom mix, State Density Bonus Law would generally permit the City to require a minimum of 70 parking spaces; however, the applicant has requested a concession pursuant to the State Density Bonus Law to allow it to provide fewer parking spaces than the maximum number of parking spaces the City is otherwise permitted to require. The project site is also located less than one-half mile from a major transit stop, and thus could be exempt from meeting minimum parking requirements pursuant to Assembly Bill 2097, which took effect on January 1, 2023.
3. Stand-alone multi-family developments in mixed-use zones are required to comply with the open space standards of the R-3 (Multiple-Family Residential) zone. Active recreation areas require a minimum dimension of less than 20 feet.
4. Stand-alone multi-family developments in mixed-use zones are required to comply with the open space standards of the R-3 (Multiple-Family Residential) zone. Passive recreation areas require a minimum dimension of 10 feet in width and 30 feet in length.
5. No buildings or structures are allowed to be located within an encroachment plane sloping upward and inward to the site at a 45-degree angle, commencing 15 feet above the existing grade at the property line for mixed-use zoned properties abutting residentially zoned lots along the side yard setback.

DISCUSSION:

STATE DENSITY BONUS LAW:

The State Density Bonus Law (Section 65915 *et seq*. of the California Government Code) entitles applicants to a density bonus, concessions, waivers, and reduced parking to encourage the construction of affordable housing units. The applicant has developed the proposed project based on the State Density Bonus law allowances. In exchange for providing five (5) units designated for "Very Low-Income" Households, the applicant is requesting a density bonus with concessions and waivers to deviate from the development standards of the GGMU-1 zone, which as noted above, are applicable to the International West Mixed Use Overlay zone.

Density Bonus

Under the International West Mixed Use Overlay zone, the base density for the site, which is the maximum number of units allowed by the zone, is 46 dwelling units (0.66 acres x 70 dwelling units per acre). The applicant proposes reserving five (5) of the apartment units, approximately 10% of the base density, for very low-income households. Under the State Density Bonus Law, this entitles the applicant to a density bonus of up to 32.5%. A density bonus of 32.5% allows fifteen (15) additional units above the base density, for a total of 61 units. However, the applicant proposes to construct only seven (7) additional units above the base density, for a total of 53 units. It should be noted that, in addition to the five (5) very low-income units, the project will also provide one (1) lower income unit.

Reduced Parking

Pursuant to the State Density Bonus Law, cities may not require more than one (1) parking space for each studio and one (1) bedroom unit, and one and one-half (1.5) parking spaces for each two (2) to three (3) bedroom unit. The project includes 1 studio unit, 18 one-bedroom units, 30 two-bedroom units, and 4 three-bedroom units, which equates to seventy (70) parking spaces using the State Density Bonus Law parking ratios. However, as discussed below, as one of the two concessions it is entitled to under

the Density Bonus Law, the applicant is proposing to provide fifty-eight (58) parking spaces, resulting in a parking concession of twelve (12) parking spaces.

Incentives / Concessions

The State Density Bonus Law provides that an applicant is entitled to two (2) "concessions or incentives" if it offers to restrict 10% of the housing units for very low-income households – which the applicant has done here. A "concession or incentive" includes a reduction in site development standards or a modification of zoning code requirements or architectural design requirements. The State Density Bonus Law provides that a city must grant a requested concession or incentive unless it makes a written finding, based upon substantial evidence, that the concession or incentive (1) does not result in identifiable and actual cost reductions to provide for affordable housing costs or for the targeted units; (2) would have a specific, adverse impact upon public health and safety or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact without rendering the development unaffordable to low-income and moderate-income households; or (3) would be contrary to state or federal law.

The applicant has requested the following two concessions/incentives to facilitate development of the Project:

Concession 1: The first concession requested by the applicant is to deviate from Section 9.18.110.030.D of the Municipal Code to allow the first habitable floor of the development to be on the second floor. The Code Section requires the first habitable floor of a residential-only building be located no more than four feet above the existing grade and no more than one foot below existing grade along the required front yard setback. Justification for the concession, as provided by the applicant, is that compliance with the Code Section would require the parking level to be subterranean, resulting in significant additional construction costs for the project. According to the applicant, the cost of constructing semi-subterranean parking is significantly higher than constructing an 'at grade' parking design. The purpose of this development standard is to provide ground entrances to residential units. While the first habitable floor of the project is on the second floor, the ground floor has been designed with elements to enhance the pedestrian experience including the following: new sidewalks and landscaping on the project site frontage; access to the main lobby will be on the ground floor facing the street, the ground floor exterior elevation will include a decorative brick veneer and black aluminum storefront windows; and decorative screening to the parking garage.

Concession 2: The second concession requested by the applicant is to provide twelve (12) fewer parking spaces than the maximum number of parking spaces the City is otherwise permitted to require pursuant to the State Density Bonus Law. Based on the maximum parking ratios the City could require under the State Density Bonus Law, the project would need to provide a minimum of 70 parking spaces; however, the project is designed to provide 58 parking spaces. Justification for the concession, as provided by the applicant, is that compliance with the parking standards under the State Density Bonus Law would require construction of a subterranean parking level, resulting in

significant additional construction costs for the project. Furthermore, the project is in a transit priority area, which is a half mile area around an existing major transit stop or existing high-quality transit corridor with fixed route bus service with intervals no longer than 15 minutes. Routes 43 and 543 provide northbound and southbound service on Harbor Boulevard, and offer service within intervals of 15 minutes or less. These routes also stop at the intersection of Harbor Boulevard and Chapman Avenue, providing connection to Route 53, which provides eastbound and westbound service on Chapman Avenue. The project site is located 0.2 miles or a 5-minute walk from the bus stops serving routes 43 and 543, which will provide residents with convenient access to public transportation.[6]

6. Effective January 1, 2023, AB 2097 prohibits cities from imposing or enforcing a minimum automobile parking requirement on most development projects (both residential and commercial projects) located within a half-mile radius from a major transit stop. The subject development application was filed in 2022, before AB 2097 went into effect on January 1, 2023, and the applicant therefore did not expressly invoke AB 2097's provisions. However, the project site is located less than one-half mile from a major transit stop and therefore would be subject to AB 2097.

Waivers of Development Standards

The State Density Bonus Law provides that, in addition to a density bonus and concessions or incentives required to be provided, an applicant may also request the waiver or reduction of development standards that will have the effect of physically precluding the construction of the proposed development, with the required density bonus and concessions or incentives. Similar to a concession or incentive, a city must waive or reduce a development standard that would physically preclude construction of the proposed development unless the waiver or reduction (1) would have a specific, adverse impact upon health or safety, and for which there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact; (2) would have an adverse impact on any real property that is listed in the California Register of Historical Resources; or (3) would be contrary to state or federal law.

The following waivers are requested for the Project:

Waiver 1: The applicant requests a waiver to deviate from Section 9.18.100.020.D.2 of the Municipal Code to allow the building to be constructed within the 45-degree encroachment plane required for mixed-use zoned properties abutting residentially zoned lots along the side yard setback. Since the subject site is located in the International West Overlay Zone, the project is subject to the mixed-use zone development standards of the GGMU-1 zone. These standards do not permit buildings or structures to be located within an encroachment plane sloping upward and inward to the site at a 45-degree angle, commencing 15 feet above the existing grade at the property line. The subject property abuts an R-1-7 zoned property to the south, which is improved with a single-family home. The project is designed with a 10'-00" setback from the at-grade garage to the property line and a 20'-00" setback from the residential levels above the garage to the side property line. Justification for the waiver, as provided by the Applicant, is that the encroachment plane would reduce the buildable area resulting in a reduction in the number of units. The proposed development plans include an exhibit showing the building encroachments to the 45-degree encroachment plane

on the west exterior architectural elevations. Additionally, a shade and shadow analysis was performed to assess potential impacts on residential properties by the project, which concluded the project would result in a less than significant impact related to shade and shadow (Project Shade and Shadow Analysis included Exhibit B).

Waiver 2: The applicant requests a waiver of Section 9.18.110.30.H.2 of the Municipal Code to deviate from the requirement to provide a separate storage space for each unit. At the time the pre-application was filed, the Code Section required each unit to provide a separate storage area having a minimum of 300 cubic feet of private and secure storage space. It should be noted that the recent Zoning Code update that became effective on November 10, 2022, reduced the size of the required storage area from 300 cubic feet to 150 cubic feet. This storage may be provided within the parking garage provided it does not interfere with garage use for automobile parking. Bedroom closet and cupboard space within the dwelling unit do not count towards meeting this requirement. Justification for the waiver, as provided by the Applicant, is that compliance with the Code Section would reduce the living area for each unit below the minimum dwelling unit size as required by the city. While each unit will not include a separate storage space, each unit will provide a common coat closet with dimensions of approximately 70 cubic feet for each unit. The reduction to the storage area allows the developer to earmark building area to each unit for purposes of meeting the minimum unit living area. The code requires a living area of 500 square feet for a studio unit, 750 square feet for 1-bedroom units, 900 square feet for 2-bedroom units, and 1,050 square feet for a 3-bedroom unit. The studio unit is designed with a living area of 729 square feet, each 1-bedroom unit is designed with a living area of approximately 729 to 799 square feet, each 2-bedroom unit is designed with a living area of approximately 1,075 to 1,140 square feet, and each 3-bedroom unit is designed with a living area of 1,075 square feet.

Waiver 3: The applicant requests a waiver to deviate from Section 9.18.110.30.F. of the Municipal Code, which requires at least 300 square feet of open space, recreation, and leisure area per unit, and to allow indoor fitness and lounge and roof deck lounge areas to contribute 100% of recreation area. It should be noted that the recent Zoning Code update allows common recreation areas located in upper story decks or on roof tops to contribute 100% toward the required common open space; therefore, a concession to allow the upper deck to contribute to the open space is no longer necessary. The project provides a total of 7,820 square feet of open space, recreation, and leisure area. To achieve compliance with the Code Section, the project would need to provide 15,900 square feet of open space, recreation, and leisure area. Justification for the waiver, as provided by the applicant, is that the site is constrained in size, and compliance with the Code Section would reduce the buildable area resulting in a reduction in the number of units. While the project does not provide 15,900 square feet of open space, recreation, and leisure area, the project proposes various active and passive open space including: an 838-square-foot indoor fitness center and lounge; 1,612 square-foot roof garden and barbecue lounge; and a 3,910 square-foot passive recreation area, consisting of a garden with benches and pedestrian path within the south and west building setback area.

The applicant proposes to count 100% of the total area of the 838 square-foot indoor fitness center lounge toward the total recreation area requirement. The project will also provide a 1,612 square-foot roof garden and barbecue lounge area toward the total recreation area requirement. The proposed project is designed as a six-story, urban, apartment complex project. The ground-level is designed to accommodate the project's vehicular circulation, drive-aisles, parking garage, and turn-around areas. Based on the design of the project, locating a major portion of the recreation area on the ground-level is not feasible. The recreation area for the project is proposed on the sixth floor, which includes a combination of usable roof deck and indoor recreation areas. The project includes an indoor fitness center and lounge and roof deck and barbecue lounge areas that are secured and conveniently located to the residential units. Allowing 100% of the indoor recreation to count toward the required recreation area allows the project to provide recreation amenities in a configuration that is more conducive to an urban project.

Waiver 4: The applicant requests a waiver to deviate from Section 9.18.110.30.F.1 of the Municipal Code, which requires each unit to provide private open space in the form of a patio, yard, balcony, or combination thereof and be directly adjacent to and accessible from each unit. Additionally, the private open space must have a minimum area of ninety 90 square feet and a minimum dimension of six feet. Of the fifty-three (53) units, twenty-five (25) units will include a balcony. The balcony sizes range from approximately fifty-six (56) square feet with dimensions of 10'-6" x 5'-7" and ninety-nine (99) square feet with dimensions of 15'-9" x 6'-7". Justification for the waiver, as provided by the applicant, is that the balcony size, as required by the City, is above the local market standard. According to the applicant, providing a balcony for each unit would result in significant additional construction costs for the project. While not all 53 units provides a balcony, the project provides a total of 7,820 square feet of open space, recreation, and leisure area including: an 838-square-foot indoor fitness center and lounge; 1,612-square-foot roof garden and barbecue lounge; and a 3,910-square-foot passive recreation area, consisting of a garden with benches and pedestrian path within the south and west building setback area.

Waiver 5: The applicant requests a waiver to deviate from Section 9.18.110.30.F.3 of the Municipal Code, which requires passive recreation areas with a minimum dimension of ten (10) feet in width and thirty (30) feet in length and to allow 100% of the recreation area to count toward the total recreation requirement. Justification for the waiver, as provided by the applicant, is that the rear (west) property line is irregular in shape, resulting in a narrowing between the rear property line and building, from approximately 9'-6" to 6'-6", along certain areas of the landscaping and pedestrian area. While the project does not provide the minimum dimension of passive recreation areas in certain areas, due to the irregular shape of the rear property line, the project proposes usable open space consisting of a continuous five-foot (5'-0") pedestrian path, complemented by landscaping and benches, within the rear and side yards. The project proposes various active and passive open space including: an 838 square-foot indoor fitness center and lounge; 1,612 square-foot roof garden and barbecue lounge; and a 3,910 square-foot passive recreation area, consisting of a garden with benches and pedestrian path within the south and west building setback area.

Waiver 6: The applicant requests a waiver to deviate from Section 9.18.140.40 of the Municipal Code, which requires the minimum dimensions of 9'-00" x 19'-00" for a standard parking space. The applicant proposes standard parking spaces having dimensions of 9'-0" x 18'-00". Justification for the waiver, as provided by the Applicant, is that the site is constrained in size, and compliance with the Code Section would result in encroachments within the minimum drive aisle width of twenty-five (25) feet. While the project proposes 9'-0" x 18'-00" stall sizes for a standard parking space, the parking stalls are still accessible by a variety of cars, trucks, and sport utility vehicles, as the parking spaces will maintain the minimum width of 9 feet (9'-00").

A copy of the density bonus application for the project is attached as Attachment 4, which includes the applicant's justification for the requested concessions and waivers to facilitate the development of the project.

SITE PLAN:

Site Design and Circulation

The applicant proposes to construct a six-story, fifty-three (53) unit apartment development on a 0.66-acre (28,793-square foot) site. The site design includes a parking garage on the ground level accessible via the main drive aisle on the north side of the building, with five residential levels above. The project proposes at grade parking, providing fifty-eight (58) parking spaces, with ten (10) on-site open parking spaces and forty-eight (48) garage parking spaces, including thirty-four (34) tandem parking spaces.

The project site will be accessible from a new drive approach located at the north dead-end of the Choisser Road cul-de-sac. The new drive approach will provide access to ten (10) open parking spaces abutting the project site's north property line. The 'at grade' garage, secured by a metal roll-up gate, will be accessible from the north side of the building adjacent to the ten (10) open parking spaces. Metal security fencing will be provided at the base of the front elevation to secure the garage. Pedestrian access to the site will include new sidewalks along the street frontage, and on-site walkways will provide access from the new sidewalks on Choisser Road to the building's main lobby on the first floor. Additionally, internal walkways will be provided along the side (south) and rear (west) yards, providing access around the building. Generally, the building footprint will occupy the majority of the site, excluding the building setback areas, driveway aisle, and 10 open parking spaces.

To comply with the Orange County Fire Authority (OCFA) fire lane turnaround area, the applicant will designate the fire lane turnaround area within Choisser Road, at the end of the cul-de-sac; curbs adjacent to the new drive approach and across the street will be painted red with "No Parking" signage prohibiting parking in the fire lane turnaround area.

The project proposes a seven-foot (7'-00") high, decorative block wall along the side (south) property line. An eight-foot (8'-00") high, decorative block wall will also be constructed along the rear property line by the developer of the Site "C" hotel resort.

Parking

The project will provide a total of fifty-eight (58) parking spaces. A total of forty-eight (48) parking spaces will be provided in the garage, including thirty-four (34) tandem and fourteen (14) non-tandem parking spaces. The remaining ten (10) spaces will be open parking spaces. Under the State Density Bonus Law, tandem parking may also be provided to satisfy the required on-site parking. The project will provide thirty-four (34) tandem parking spaces in the garage.

Parking Spaces Required per Unit

Units 1 – 53	**Required parking spaces**	**Provided**
1 studio	1 (1 spaces x 1)	
18 one-bedroom units	18 (1 spaces x 18)	
30 two-bedroom units	45 (1.5 spaces x 30)	
4 three-bedroom units	6 (1.5 spaces x 4)	
Total	**70 spaces**	**58**

Unit Design

The proposed project will consist of fifty-three (53) units, which would have a mix of studios, one-bedroom units, two-bedroom units, and three-bedroom units. The units range in size from 729 square feet (studio) to 1,247 square feet (3-bedroom unit). Each unit will be improved with a living/dining room, kitchen, bedroom, and bathroom. Twenty-five (25) of the 53 units will provide balconies.

Units

Number of Bedrooms	**Total Living Area**	**Total Number of Units**
Studio	729	1
One (1) bedroom unit	799	14
One (1) bedroom unit w/balcony	817	4
Two (2) bedroom unit	1,140	10
Two (2) bedroom unit w/balcony	1,075	20
Three (3) bedroom unit	1,247	4
	Total	**53**

Site Landscaping

Section 9.18.100.020.C.5 of the Municipal Code requires 60% of the surface area of the required side and rear setbacks to be landscaped in all mixed-use zones. The project proposes landscaping along the side and rear setbacks, except on areas designated for walkways, parking spaces, the drive aisle, and private recreation areas, using a variety of plant materials. The perimeter landscaping will consisting of a mix of trees, shrubs, and ground cover. Landscaping will be provided in front of the garage parking area facing the street to soften the street scape and complement the building architecture.

Furthermore, the applicant is required to submit a detailed landscape and irrigation plan to the City that complies with the landscaping requirements of Title 9 of the Municipal Code, including the City's Landscape Water Efficiency Guidelines.

Building Architecture

The six-story, fifty-three (53) unit apartment building proposes a contemporary modern architectural style in an off-white and grey color scheme. A burgundy accent color is also providing contrast to the off-white and grey color scheme and accentuating the balconies as seen from the street and adjacent properties. The building design includes stucco exteriors, trimmed white aluminum windows, perforated metal black railings for the balconies, and a brick veneer and black aluminum storefront windows at ground level. The building consists of an articulated roof line and varying wall planes on all building sides, creating shadow and architectural interests, which will visually enhance the overall massing of the structure. The entrance to the main lobby is at grade and facing the street. The area will be including landscaping for added decoration and visual interest.

Privacy

The south building elevation has been designed to address privacy concerns related to the existing single-family residence, R-1 zoned parcel, abutting the project site's south boundary. The windows on the south building elevation have been reduced in size and will incorporate obscure glass to reduce visibility into the neighboring property's side and rear yards from each unit. Additionally, landscaping is proposed along the south wall of the roof deck lounge area to further reduce visibility into the neighboring property's side and rear yards from the roof deck lounge area.

VESTING TENTATIVE PARCEL MAP

In accordance with the State Subdivision Map Act, the applicant is requesting approval of Vesting Tentative Parcel Map No. PM-2021-206 to consolidate four (4) existing parcels into a single lot to facilitate the development of the residential apartment complex. The consolidated project site will have a combined lot area of 0.66 acres. The vesting Tentative Parcel Map is the most appropriate instrument to consolidate the project site due to existing utilities easements, such as power poles, that have to be relocated and realigned to facilitate the development. The proposed Vesting Tentative Tract Map is in conformance with the City's General Plan, the City's Subdivision Ordinance, the International West Mixed Use Overlay, as implemented by the GGMU-1 zone requirements, and the State's Subdivision Map Act.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Staff has initially determined that the proposed development is exempt from the California Environmental Quality Act ("CEQA"), pursuant to Section 15332 (In-Fill Development Projects) of the CEQA Guidelines (14 Cal. Code Regs., Section 15303). As set forth in the Class 32 exemption, the proposed project is: (1) consistent with the applicable General Plan designation and all applicable General Plan policies as well as

with applicable zoning designation and regulations; (2) the proposed development occurs within City limits on a project site of no more than five acres substantially surrounded by urban uses; (3) the project site has no value as habitat for endangered, rare or threatened species; (4) approval of the project would not result in any significant effects relating to traffic, noise, air quality or water quality; and (5) the site can be adequately served by all required utilities and public services.

NO NET LOSS

Government Code Section 65863 requires jurisdictions to maintain adequate sites to accommodate their remaining unmet Regional Housing Needs Allocation (RHNA) by each income category at all times throughout the Housing Element planning period. A jurisdiction may not take any action to reduce a parcel's residential density unless it makes findings that the reduction is consistent with the General Plan, including the Housing Element, and that the remaining sites identified in its Housing Element sites inventory can accommodate its remaining unmet RHNA by each income category or it identifies additional sites so that there is no net loss of residential unit capacity.

In addition, if a jurisdiction approves a development on a parcel identified in its Housing Element sites inventory with fewer units than shown in the Housing Element, the jurisdiction must either make findings that the Housing Element's remaining sites have sufficient capacity to accommodate the remaining unmet RHNA by each income level, or identify and make available additional adequate sites to accommodate the remaining unmet RHNA for each income category. However, a jurisdiction may not disapprove a housing development project on the basis that approval of the development would trigger the identification or zoning of additional adequate sites to accommodate the remaining RHNA.

The City's 6th Cycle RHNA requires the City to plan for 19,168 housing units for all income levels. A component of preparing the City's Housing Element is the identification of vacant and underutilized sites suitable for residential development, and an evaluation of the housing development potential of these sites in fulfilling the City's RHNA. The combined project site is identified in the City's Housing Element sites inventory as having a realistic capacity to accommodate a total of 36 "lower income" units, consisting of nine (9) units on each property located at 12233, 12235, 12237, and 12239 Choisser Road. The project proposes a total of fifty-three (53) units, consisting of forty-seven (47) "above moderate income" units, five (5) "very low-income" units, and one (1) "very low-income" unit. Because the proposed project includes fewer lower-income units than shown in the Housing Element sites inventory, the City must determine whether the remaining Housing Element inventory sites have sufficient capacity to accommodate the City's remaining unmet RHNA by income level if the project is approved as proposed. Staff has evaluated the housing projects that have been permitted or approved during the current planning period, or which are otherwise not accounted for in the Housing Element site analysis, and has determined that the remaining sites identified in the sites inventory have sufficient capacity to accommodate the City's remaining unmet RHNA need for each income level.

At the time the Housing Element was prepared and adopted, the City's *unmet* RHNA was calculated to be 18,208 units, broken down as follows: 6,567 low and very low-income units, 3,087 moderate-income units, and 8,554 above moderate-income units. The sites identified in the adopted Housing Element were determined adequate to accommodate a total of 18,291 units, including 401 more units than the City's unmet RHNA in the low and very low-income categories and 240 more units than the City's unmet RHNA for the moderate-income category. Sites deemed adequate to accommodate the lower and moderate-income categories are also adequate to accommodate above-moderate income units. Overall, the sites inventory in the adopted Housing Element reflected a total capacity surplus of 83 units.

Beginning of the 6th RHNA cycle, October 15, 2021, to the time of writing the staff report, the City issued 474 building permits and entitled 105 units. After accounting for these permitted and entitled units, and the 53 units in the proposed project, the City's total remaining unmet RHNA would be 17,567 units, broken down as follows: 6,555 low and very low-income units, 3,087 (no change) moderate-income units, and 7,925 above-moderate income units. The remaining capacity of the sites identified in the Housing Element would be 18,186 units, resulting in a total capacity surplus of 145 units. The remaining sites are also adequate to accommodate a surplus of low and very low-income units (413) and moderate-income units (221), and such sites are also adequate to accommodate the City's remaining unmet above moderate-income RHNA. Due to this surplus, the overall residential capacity on sites identified in the Housing Element will still be sufficient to accommodate the City's total remaining unmet RHNA if the proposed project is approved. The required No Net Loss findings can be made and are included in Resolution No. 6058-23.

SB 330 / DENSITY BONUS LAW REPLACEMENT HOUSING COMPLIANCE:

Pursuant to State law, housing projects that require the demolition of existing affordable "protected" residential rental units, or which are located on property where affordable "protected" residential rental units have been demolished within the five (5) year period preceding the application date, must provide replacement units for each existing or previously demolished affordable "protected unit" at the same or greater affordability level as those "protected" units. A housing project cannot reduce the number of existing residential rental units on a property. In accordance with Government Code §65915(c)(3)(B), where the applicable household income level for a unit is unknown or cannot be verified, it is rebuttably presumed that lower- and/or very-low income renter households occupied those units in the same proportion of lower- and/or very-low income renter households to all renter households within the City, and replacement units in the specified proportions must be provided. Four (4) residential rental units located within the project site were demolished within five (5) years from when the project application was submitted to the City. Three (3) of the four (4) units are presumed to have been occupied very-low-income households and the other unit is presumed to have been occupied by a low-income household, and the applicant is not refuting these rebuttable presumptions. The proposed project will replace the dwelling units that were demolished by providing five (5) very low-income household units and one (1) low-income household unit.

REVIEW OF HOUSING DEVELOPMENT PROJECTS:

The Planning Commission's discretion is limited when reviewing proposed housing development projects. State law generally limits the City's evaluation of a proposed housing development project to its consistency with applicable existing *objective* General Plan and zoning standards, and the City may no longer use *subjective* criteria to determine whether a proposed housing project serves the general welfare or is in the public interest. In addition, as discussed above, the State Density Bonus Law allows development projects that include affordable housing to deviate from stated objective development standards and other zoning requirements. The Housing Accountability Act, State Housing Element Law, and other State laws also impose additional requirements and limitations on the review of housing development projects.

Further, the Planning Commission's review is subject to the provisions of Garden Grove Municipal Code Section 9.60.020(C), which provides, in pertinent part, as follows:

> Findings Required for Disapproval of Housing Development Projects. The findings set forth in subdivision D of Section 9.32.030 of this title shall not be required to be made in order to approve an application for a land use permit for a housing development project. Rather, the hearing body shall approve an application for a land use permit for a housing development project unless it makes one or more of the following findings based on the information presented at the public hearing and/or on the record:
>
> a. That the proposed development project is inconsistent, not in compliance, or not in conformity with one or more applicable, objective standards, provisions, conditions or requirements of the General Plan, Title 9, or other applicable ordinances or policies of the City.
>
> b. That the provisions of the California Environmental Quality Act have not been complied with.
>
> c. That, based on a preponderance of the evidence on the record, the proposed development project would have a specific, adverse impact, as defined in subdivision (j)(1)(A) of Government Code Section 65589.5, on public health and safety unless the project is disapproved, and there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact, other than the disapproval of the proposed project.

RECOMMENDATION:

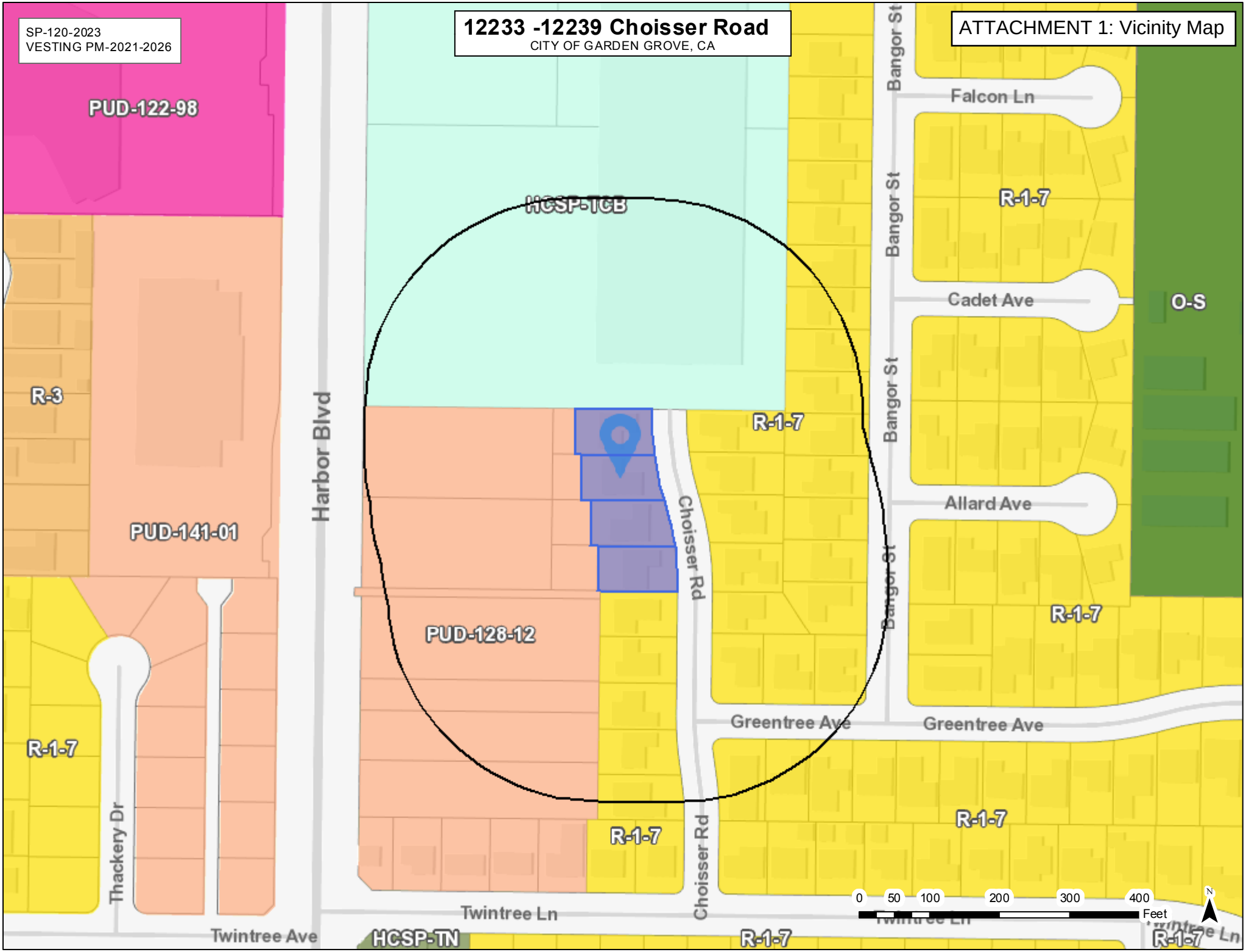
Staff recommends that the Planning Commission take the following action:

1. Adopt Resolution No. 6058-23 approving Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206, subject to the recommended Conditions of Approval.

Maria Parra
Planning Services Manager

By: Nick Lagura
Urban Planner

Attachment 1: Vicinity Map
Attachment 2: Plans
Attachment 3: Vesting Tentative Parcel Map
Attachment 4: Density Bonus Application
Attachment 5: Trip Generation and Vehicles Miles Traveled Analysis
Attachment 6: Air Quality and Greenhouse Gas Impact Study
Attachment 7: Noise Impact Study
Attachment 8: Shade/Shadow Study


SP-120-2023
VESTING PM-2021-2026
12233 -12239 Choisser Road
CITY OF GARDEN GROVE, CA
ATTACHMENT 1: Vicinity Map
PUD-122-98
HCSP-TCB
R-3
PUD-141-01
Harbor Blvd
R-1-7
Bangor St
Falcon Ln
Cadet Ave
Allard Ave
O-S
Choisser Rd
PUD-128-12
Greentree Ave
Thackery Dr
Twintree Ln
Twintree Ave
HCSP-TN
0
50
100
200
300
400
Feet
N

ABBREVIATIONS

°	DEGREE	LAM	LAMINATE
±	PLUS OR MINUS	LAV	LAVATORY
Ø	DIAMETER	LBR	LUMBER
≈	ALMOST EQUAL	LDG	LANDING
≠	NOT EQUAL	LGTH	LENGTH
∠	ANGLE	LIN	LINEAR
	BOUNDARY LINE	LKR	LOCKER
℄	CENTER LINE	LONG	LONGITUDINAL
Δ	DELTA	LT	LIGHT
		LTG	LIGHTING
A/C	AIR CONDITIONING	LT WT	LIGHT WEIGHT
ACST	ACOUSTIC	LVR	LOUVER
AD	AREA DRAIN		
ADA	AMERICAN WITH DISABILITIES ACT	MACH	MACHINE
ADJ	ADJACENT / ADJUSTABLE	MAINT	MAINTENANCE
ADR	ACCESS DOOR	MAR	MARBLE
AFF	ABOVE FINISH FLOOR	MAS	MASONRY
AGG	AGGREGATE	MATL	MATERIAL
ALUM	ALUMINUM	MAX	MAXIMUM
ALT	ALTERNATE	MECH	MECHANICAL
APPROX	APPROXIMATELY	MEMB	MEMBRANE
APT	APARTMENT	MET	METAL
ARCH	ARCHITECTURAL	MFG	MANUFACTURING
ASPH	ASPHALT	MFR	MANUFACTURER
AUTO	AUTOMATIC	MIN	MINIMUM
AVG	AVERAGE	MISC	MISCELANEOUS
		MLDG	MOULDING
BATH	BATHROOM	MO	MASONRY OPENING
BD	BOARD	MTD	MOUNTED
BE	BOTTOM ELEVATION	MUL	MULLION
BL	BUILDING LINE		
BLDG	BUILDING	N	NORTH
BLKG	BLOCKING	(N)	NEW
BM	BENCH MARK / BEAM	NIC	NOT IN CONTRACT
BR	BARE ROOT	NG	NATURAL GRADE
BRG	BEARING	NO	NUMBER
		NOM	NOMINAL
CAB	CABINET	NTS	NOT TO SCALE
CB	CATCH BASIN	#	NUMBER
C/C	CENTER TO CENTER		
CE	COVER ELEVATION	OBSC	OBSCURE
CEM	CEMENT	OC	ON CENTER
CG	CORNER GUARD	OD	OUTSIDE DIAMETER
CIP	CAST IRON PIPE	OFF	OFFICE
CJ	CEILING JOIST	OH	OVERHEAD
CL	CENTER LINE	OPNG	OPENING
CLG	CEILING	OPP	OPPOSITE
CLO	CLOSET	OPS	OPERATIONS
CLR	CLEAR	OV	OVEN
CMU	CONCRETE MASONRY UNIT	OVFL	OVERFLOW
CO	CLEANOUT		
COL	COLUMN	P	POINT
COM	COMMON	PART	PARTITION
COMB	COMBINATION / COMBINE	PAVT	PAVEMENT
COMP	COMPOSITION	PED	PEDESTAL
CONC	CONCRETE	PKG	PARKING
CONN	CONNECTION	PL	PLATE / PROPERTY LINE
CONST	CONSTRUCTION	PLAS	PLASTER
CONT	CONTINUOUS / CONTINUATION	PLBG	PLUMBING
CONTR	CONTRACTOR	PLWD	PLYWOOD
COR	CORNER	PNL	PANEL
CORR	CORRIDOR	PR	PAIR
CTR	CENTER	PRC	PORCELAIN
CUYD	CUBIC YARD	PRCST	PRECAST
CW	COLD WATER	PREFAB	PREFABRICATED
CYL	CYLINDER	PROP	PROPERTY
		PROJ	PROJECTION
D	DRAIN / DIFFUSER	PRTN	PARTITION
DIFF	DIFFUSER	PVMT	PAVEMENT
DBL	DOUBLE		
DET	DETAIL	R	RISER
DEPT	DEPARTMENT	RAD	RADIUS
DF	DRINKING FOUNTAIN	RD	ROOF DRAIN
DIAG	DIAGONAL	RECP	RECEPTACLE
DIAM	DIAMETER	REF	REFERENCE
DIM	DIMENSION	REFR	REFRIGERATOR
DISC	DISCONNECT	REINF	REINFORCMENT
DISP	DISPENSER	REQD	REQUIRED
DIST	DISTRIBUTION	REV	REVISIONS
DK	DECK	RFG	ROOFING
DN	DOWN	RGH	ROUGH
DR	DOOR	RM	ROOM
DS	DOWNSPOUT	RND	ROUND
DW	DISHWASHER	RO	ROUGH OPENING
DWG	DRAWING	RUB	RUBBER
DWT	DRAWER		
		S	SOUTH
E	EAST	SC	SOLID CORE
(E)	EXISTING	SD	SMOKE DETECTOR
EA	EACH	SHT	SHEET
EL	ELEVATION	SHT MET	SHEET METAL
ELEC	ELECTRIC	SHTHG	SHEATHING
ELEV	ELEVATOR	SHWR	SHOWER
EMERG	EMERGENCY	SIM	SIMILAR
ENCL	ENCLOSURE	SPECS	SPECIFICATIONS
ENTR	ENTRANCE	SPKR	SPEAKER
EQ	EQUAL	SQ	SQUARE
EQUIP	EQUIPMENT	SS	STAINLESS STEEL
EXH	EXHAUST	STC	SOUND TRANS CLASS
EXIST	EXISTING	STD	STANDARD
EXP JT	EXPANSION JOINT	STL	STEEL
EXPN	EXPANSION	STOR	STORAGE
EXPO	EXPOSED	STRL	STRUCTURAL
EXT	EXTERIOR	STWY	STAIRWAY
		SUSP	SUSPENDED
F	FIRE MAIN	SYM	SYMMETRICAL
FA	FIRE ALARM		
FCU	FAN COIL UNIT	TB	TOWEL BAR
FD	FLOOR DRAIN	TBD	TO BE DETERMINED
FDN	FOUNDATION	TEL	TELEPHONE
FE	FIRE EXTINGUISHER	TEMP	TEMPERATURE
FEC	FIRE EXTINGUISHER CABINET	THERMO	THERMOSTAT
FG	FUEL GAS	THK	THICK
FGL	FIXED GLASS	THRES	THRESHOLD
FH	FIRE HYDRANT	TOC	TOP OF CURB
FHC	FIRE HOSE CABINET	TOF	TOP OF FENCE
FIN	FINISH	TOW	TOP OF WALL
FIXT	FIXTURE	TOIL	TOILET
FJ	FLOOR JOIST	TOPO	TOPOGRAPHY
FL	FLOOR	TPD	TOILET PAPER DISPENSER
FLASH	FLASHING	TV	TELEVISION
FLG	FLOORING	TYP	TYPICAL
FLUOR	FLUORESCENT	THRU	THROUGH
FPRF	FIRE PROOF		
FR	FIRE RATED	UNFIN	UNFINISHED
FS	FLOW SWITCH / FLOOR SINK	UON	UNLESS OTHERWISE NOTED
FTG	FOOTING	UR	URINAL
G	GAS / GRILLE	VCT	VINYL COMPOSITE TILE
GA	GAGE	VENT	VENTILATOR
GALV	GALVANIZED	VERT	VERTICAL
GB	GRAB BAR	VIF	VERIFY IN FIELD
GEN	GENERAL	VTR	VENT THROUGH ROOF
GI	GALVANIZED IRON		
GL	GLASS / GLAZE	W	WEST
GLB	GLASS BLOCK	W/	WITH
GND	GROUND	W.C	WATER CLOSET
GOVT	GOVERNMENT	WD	WOOD
GR	GRADE	WDT	WIDTH
GYP	GYPSUM	WDW	WINDOW
GYP BD	GYPSUM WALL BOARD	WNSCT	WAINSCOT
		W/O	WITHOUT
HB	HOSE BIB	WP	WATERPROOF
HC	HOLLOW COR / HEATING COIL	WT	WEIGHT
HD	HEAD		
HDR	HEADER	MISCELLANEOUS REFERENCE	
HDRL	HANDRAIL	AA	ARTWORK / ARTIFACTS
HDW	HARDWARE	ACT	ACOUSTICAL TILE
HDWD	HARDWOOD	C	CARPET
HORIZ	HORIZONTAL	CT	CERAMIC TILES
HP	HORSEPOWER	LP	LAMINATED PLASTIC
HPT	HIGH POINT	MT	METAL FINISH
HR	HOUR	MIR	MIDORO / GLASS
HT	HEIGHT	PL	PLASTER
HTG	HEATING	PT	PAINT FINISH
HTR	HEATER	QT	QUAFFY TILES
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	RF	RESILENT FINISH
		SF	SPECIAL FINISH
HW	HOT WATER	ST	STONE / MARBLE / TRAVERTINE
		UP	UPHOLSTEPY
ID	INSIDE DIAMETER	WC	WALL COVERING
IN	INCH	WD	WOOD FINISH
INSUL	INSULATION		
INT	INTERIOR	MATERIAL FINISH REFERENCE	
INTERMD	INTERMEDIATE	FF	FIXTURE & FURNITURE
INV	INVERT	FF&E	FIXTURE, FURNITURE & EQUIPMENT
IPS	IRON PIPE SIZE	FC	FLOOR COVERING
		G.R	GUESTROOM
JAN	JANITOR	GC	GENERAL CONTRACTOR
JB	JUNCTION BOX	IE	INTERIOR ELEVATION
JST	JOIST	IF	INTERIOR FURNISHING
JT	JOINT	KEC	KITCHEN EQUIPMENT CONTRACTOR
		MUR	MOCK-UP ROOM
KC	KEENE'S CEMENT	PS	POWER SUPPLY
KIT	KITCHEN	RC	REFLECTED CEILING
KP	KICK PLATE	RP	REFERENCE PLAN

PROJECT DATA

PROJECT ADDREASS: 12233 CHOISSER ROAD, GARDEN GROVE, CA 92840
12235 CHOISSER ROAD, GARDEN GROVE, CA 92840
12237 CHOISSER ROAD, GARDEN GROVE, CA 92840
12239 CHOISSER ROAD, GARDEN GROVE, CA 92840
LEGAL DESCRIPTION: APN-23149112
APN-23149113
APN-23149114
APN-23149115, TRACT NO.88403
ZONE: PUD(C), PUD-128-12
LAND USE: IW (INTERNATIONAL WEST MIXED USE)
ALLOWABLE RESIDENTIAL DENSITY: 70 DWELLING UNITS PER ACRE

BUILDING TYPE: MULTIFAMILY DWELLING
OCCUPANCY: R-2 (APARTMENT HOUSES)
S-2 (PARKING)
CONSTRUCTION TYPE: TYPE I FOR S-2 (1 STORY)
TYPE IIIA FOR R-2 (5 STORIES)
SPRINKLER: YES (FULLY SPRINKLED)
BUILDING HEIGHT: 68 FT. 9 IN. (6-STORY)

SITE AREA: 0.66± ARCE (28,793± S.F.)
BUILDING AREA: 88,492 S.F.
LANDSCAPE AREA: 7,406 S.F. (25.7%)
PAVING AREA: 4,888 S.F.

A) PARKING COMPUTATION:

	REQUIRED	PROPOSED (CONCESSION REQUESTED)
REGULAR	TBD	46
COMPACT	17 (MAX)	4
HCP	2 (MIN)	2
EVS	6 (MIN)	6
TOTAL	70 (MAX)	58

*PARKING RATIO PER SECTION 65915 ET SEQ. OF THE CALIFORNIA GOVERNMENT (DENSITY BONUSES AND OTHER INCENTIVES):

UNIT TYPE	UNIT SIZES	RATIO	REQUIRD NUMBER
STUDIO	1	1 / UNIT	1
ONE-BEDROOM	18	1 / UNIT	18
TWO-BEDROOM	30	1.5 / UNIT	45
THREE-BEDROOM	4	1.5 / UNIT	6
TOTAL			70

B) BUILDING AREA BREAKDOWN:
PARKING GARAGE: (S-2 OCCUPANCY AND TYPE I CONSTRUCTION)
LEVEL 01 = 16,538 S.F.

RESIDENTIAL: (R-2 OCCUPANCY AND TYPE III CONSTRUCTION)
LEVEL 02 = 14,721 S.F.
LEVEL 03, 04, 05 = 14,674 S.F.
LEVEL 06 = 13,211 S.F.
SUB-TOTAL = 71,954 S.F.

TOTAL BUILDING AREA = 88,492 S.F.

C) DWELLING UNIT COMPUTATION (53 UNITS):

TYPE	STUDIO	1-BEDROOM	2-BEDROOM	3-BEDROOM
2/F	1	3	6	1
3/F	0	4	6	1
4/F	0	4	6	1
5/F	0	4	6	1
6/F	0	3	6	0
TOTAL	1	18	30	4

AFFORDABLE UNIT COMPUTATION (6 UNITS):
VERY LOW INCOME UNITS:

TYPES	QUANTITY	TOTAL BEDROOMS
1-BEDROOM	2	2
2-BEDROOM	2	4
3-BEDROOM	1	3
TOTAL	5	9

*TOTAL 5 REPLACEMENT UNITS INCLUDED (TOTAL 9 BEDROOMS)

LOW INCOME UNITS:

TYPES	QUANTITY	TOTAL BEDROOMS
3-BEDROOM	1	3

*TOTAL 1 REPLACEMENT UNIT INCLUDED (TOTAL 3 BEDROOMS)

D) RECREATION AREA BREAKDOWN:
PRIVATE OPEN SPACE (BALCONY):
LEVEL 02-06 = 51 S.F. PER UNIT X 4
= 88 S.F. PER UNIT X 1
SUB-TOTAL = 1,460 S.F.

ACTIVE RECREATION AREAS (AMENITIES):
LEVEL 6 - INDOOR:
FITNESS CENTER = 838 S.F.
& LOUGNE
LEVEL 6 - ROOF DECK:
ROOF GARDEN
& BBQ LOUNGE = 1,612 S.F.
SUB-TOTAL = 2,450 S.F.

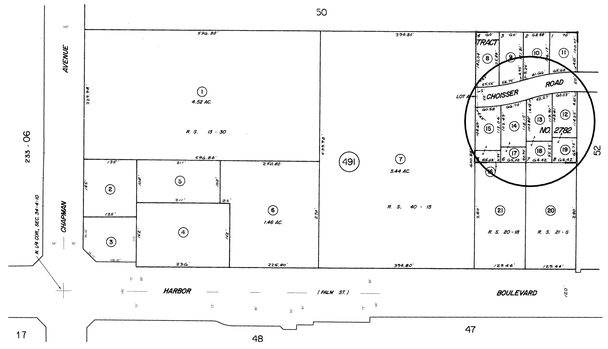
PASSIVE RECREATION AREAS (LANDSCAPE):
ON-SITE GARDEN = 3,910 S.F.

TOTAL RECREATION AREA = 7,820 S.F.

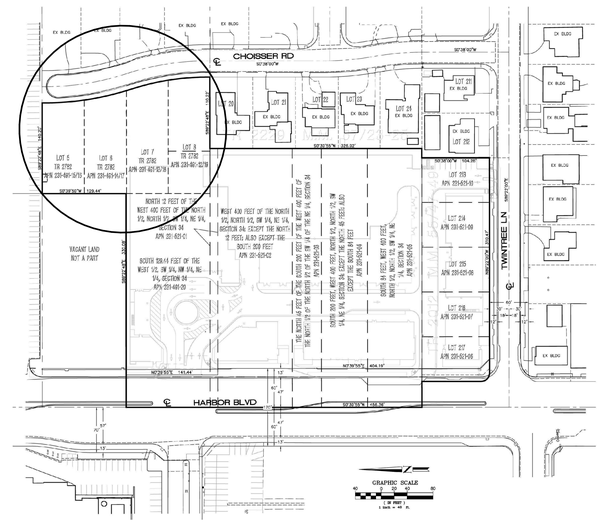
PROJECT CONTACTS

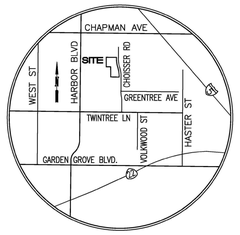
OWNER:	INVESTEL GARDEN RESORTS LLC. DANNY WEI 714.696.0000 danny.wei@scgamerica.com
DESIGN ARCHITECT:	SCG AMERICA CONSTRUCTION INC. KENHAO HSU 714.696.0000 kenhao.hsu@scgamerica.com
EXECUTIVE ARCHITECT:	AC MARTIN PATRICK SIN 213.683.1900 patrick.sin@acmartin.com
CIVIL ENGINEER & SURVEYOR:	kpff ISHWAR DHUNGANAL 213.418.0201 ishwar.dhungana@kpff.com
PLUMBING / ELECTRICAL ENGINEER:	SCG AMERICA CONSTRUCTION INC. TEE YATPIYAKUL 714.696.0000 tee.yatpiyakul@scgamerica.com
STRUCTURAL ENGINEER:	LFA RICHARD CHEN 213.239.9700 richard.chen@labibfunk.com

TENTATIVE PARCEL MAP



VICINITY PLAN





SCOPE OF WORK

APARTMENT HOUSES DESIGN AND PLANNING

GENERAL:
1. NEW 6-STORY CONSTRUCION OF MULTI-FAMILY HOUSES
2. PLANNING OF THE SITE INCLUDING THE MAIN ENTRANCE, PARKING ENTRANCE, AND DRIVEWAY
3. LANDSCAPING OF THE SITE

CODE COMPLIANCE

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES AND REGULATIONS:
2019 CALIFORNIA BUILDING CODE WITH LOCAL AMENDMENTS
2019 CALIFORNIA RESIDENTIAL CODE WITH LOCAL AMENDMENTS
2019 CALIFORNIA ELECTRICAL CODE WITH LOCAL AMENDMENTS
2019 CALIFORNIA ENERGY CODE (TITLE 24 PARTG)
2019 CALIFORNIA MECHANICAL CODE WITH LOCAL AMENDMENTS
2019 CALIFORNIA PLUMBING CODE WITH LOCAL AMENDMENTS
2019 CALIFORNIA FIRE CODE

INDEX OF SHEETS

LEGEND: X - SHEET ISSUED
R - SHEET ISSUED FOR REFERENCE AND COORDINATION ONLY
SEE TITLEBLOCK FOR REVISION ISSUE DATE(S)

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A-3.02	BUILDING ELEVATION - NORTH & SOUTH	X	X	X			
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A-6.02	EXTERIOR MATERIAL BOARD	X	X	X			
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C-1.0	PRELIMINARY GRADING AND DRAINAGE PLAN			X			
VTPM-1	VESTING TENTATIVE PARCEL MAP			X			
VTPM-2	VESTING TENTATIVE PARCEL MAP			X			

MEP SYMBOLS

- DOWNLIGHTS, INCANDESCENT
- DECORATIVE FIXTURE
- WALLWASHER
- SPEAKER
- WALLSCONCE
- JUNCTION BOX
- PENDANT LIGHTING FIXTURE
- TRACK LIGHT
- CEILING FAN
- COVE LIGHTING
- PROJECTOR MOUNT & FEED (ABOVE CEILING)
- SPRINKLER / WALL
- SPRINKLER
- THERMOSTAT
- HVAC REMOTE CONTROLLER
- DOOR BELL
- PENDANT LIGHTING FIXTURE
- SMOKE DETECTOR
- EXHAUST FAN
- TELEVITION OUTLET
- DOOR CONTACT SWITCH
- FLUORESCENT "STRIP LIGHT" UNDER CABINENT FIXTURE
- DUPLEX RECEPTACLE OUTLET
- DUPLEX WATERPROOF OUTLET
- GROUND FAULT INTERRUPT
- DUPLEX RECEPTACLE OUTLET - HALF HOT SWITCH
- RANGE OUTLET
- REFRIGERATOR OUTLET
- QUADPLEX RECEPTACLE OUTLET
- SINGLE SWITCH
- DIMMER SWITCH
- 3-WAY SWITCH
- 4-WAY SWITCH
- FLOOR DUPLEX OUTLET
- FLOOR QUADPLEX OUTLET
- TELEPHONE OUTLET
- USB CHANGING PORT

DRAWING SYMBOLS

- SECTION / EXTERIOR ELEVATION INDICATOR
- INTERIOR ELEVATION INDICATOR
- DETAIL INDICATOR
- DRAWING TITLE
- COLUMN GRID INDICATOR
- ROOM NUMBER / ROOM TYPE
- DOOR NUMBER INDICATOR
- WINDOW NUMBER INDICATOR
- PARTITION TYPE
- FF&E ITEM AND NUMBER
- MATERIAL FINISH AND NUMBER
- KEYNOTE INDICATOR
- BATHROOM ACCESSORY KEY
- CENTER LINE
- DEMOLITION LINE
- CEILING HEIGHT TO FINISH FLOOR
- ROOM NUMBER / ROOM TYPE / SHEET NUMBER
- REVISION INDICATOR
- REVISION CLOUD
- LINE BREAK
- DENOTES HEARING IMPAIRED ROOMS
- DENOTES ACCESSIBLE ROOMS
- BUILDING EXIT OR EXIT ACCESS
- DETAIL INDICATOR

SP-120-2023
PM-2021-206

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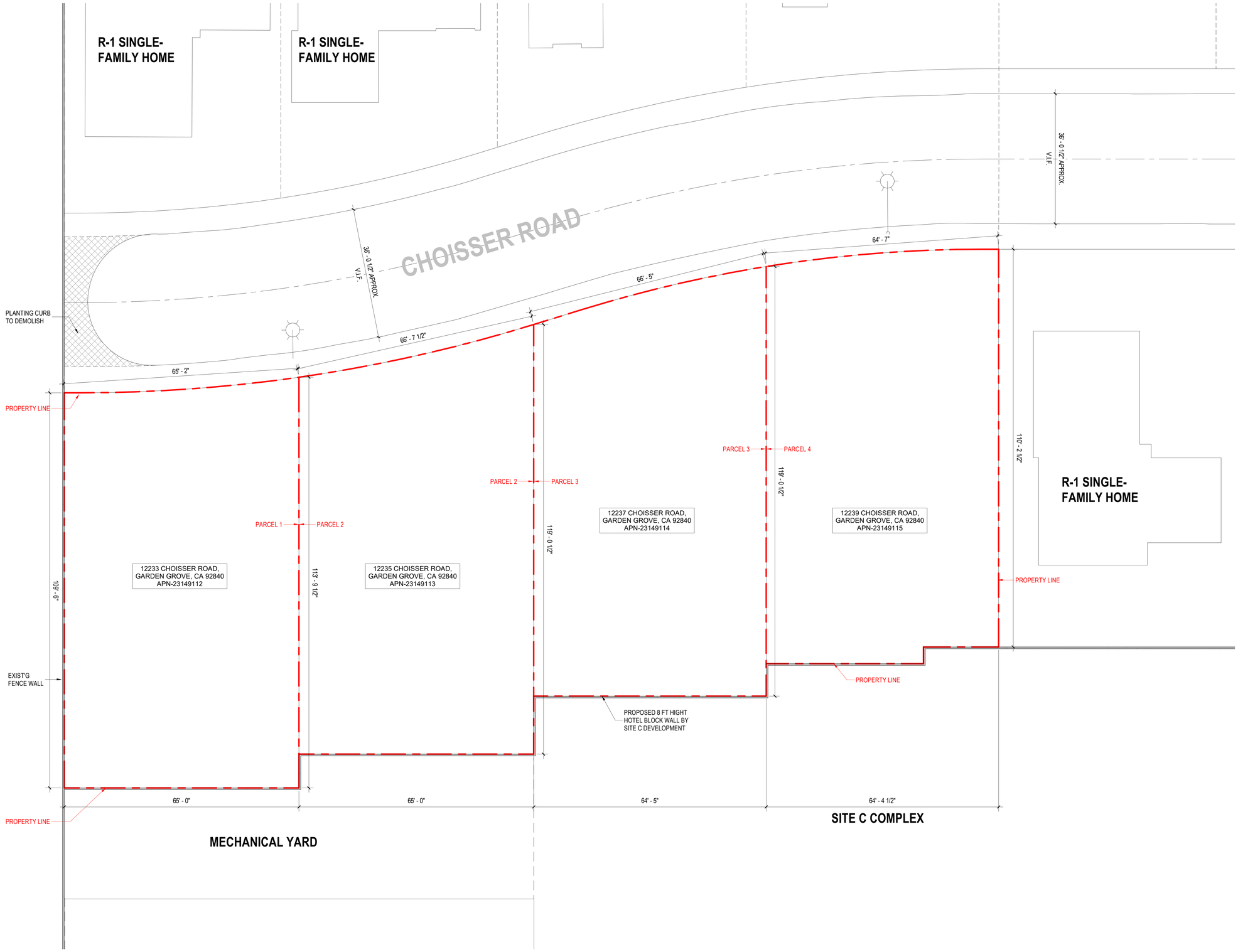
Sheet Title

GENERAL INFORMATION

Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	As indicated
Sheet Number	A-0.01



SITE PLAN (EXISTING) 1 SCALE: 3/32"=1'-0"

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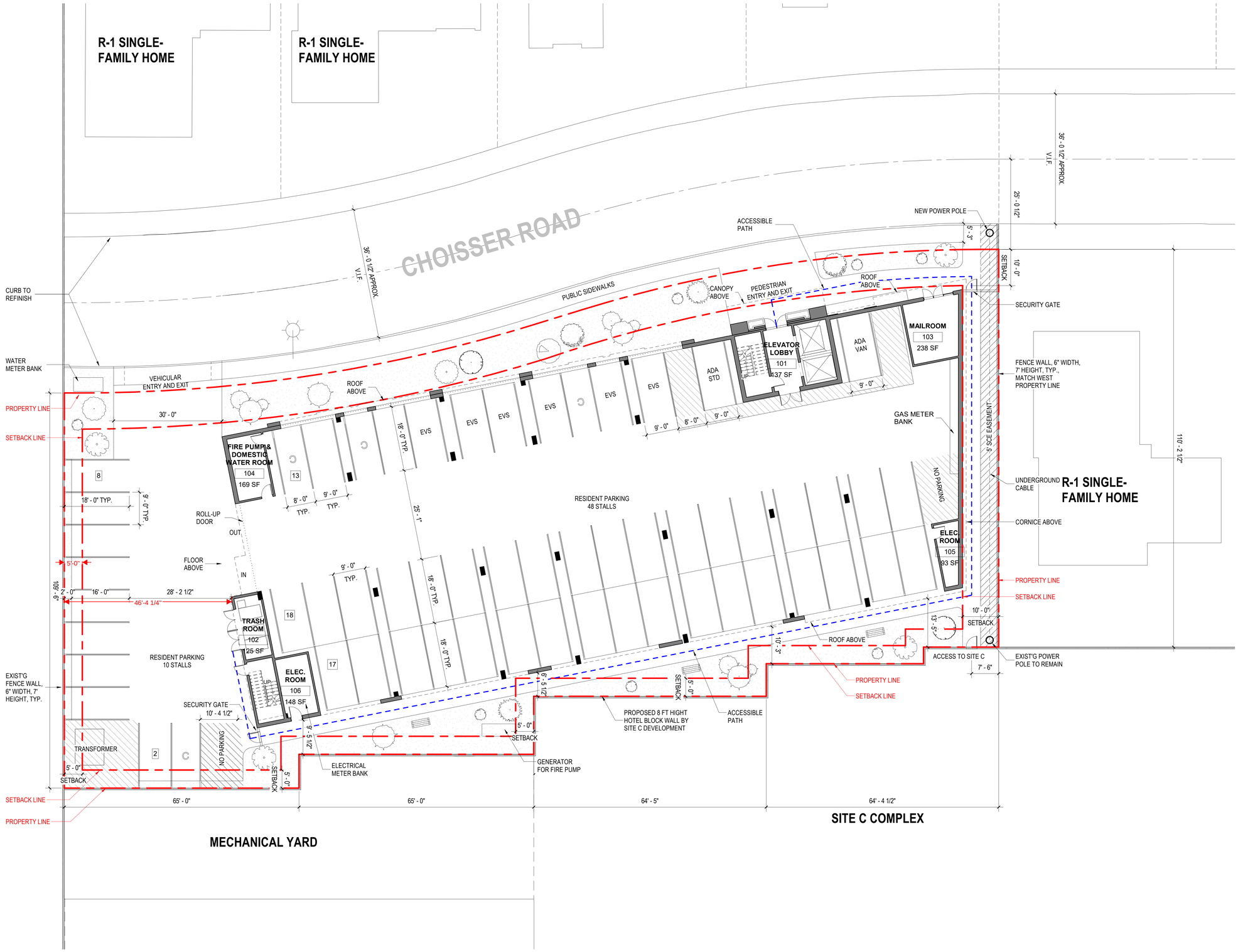
A-1.01



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SITE PLAN (GROUND FLOOR)

Project Number	2020001
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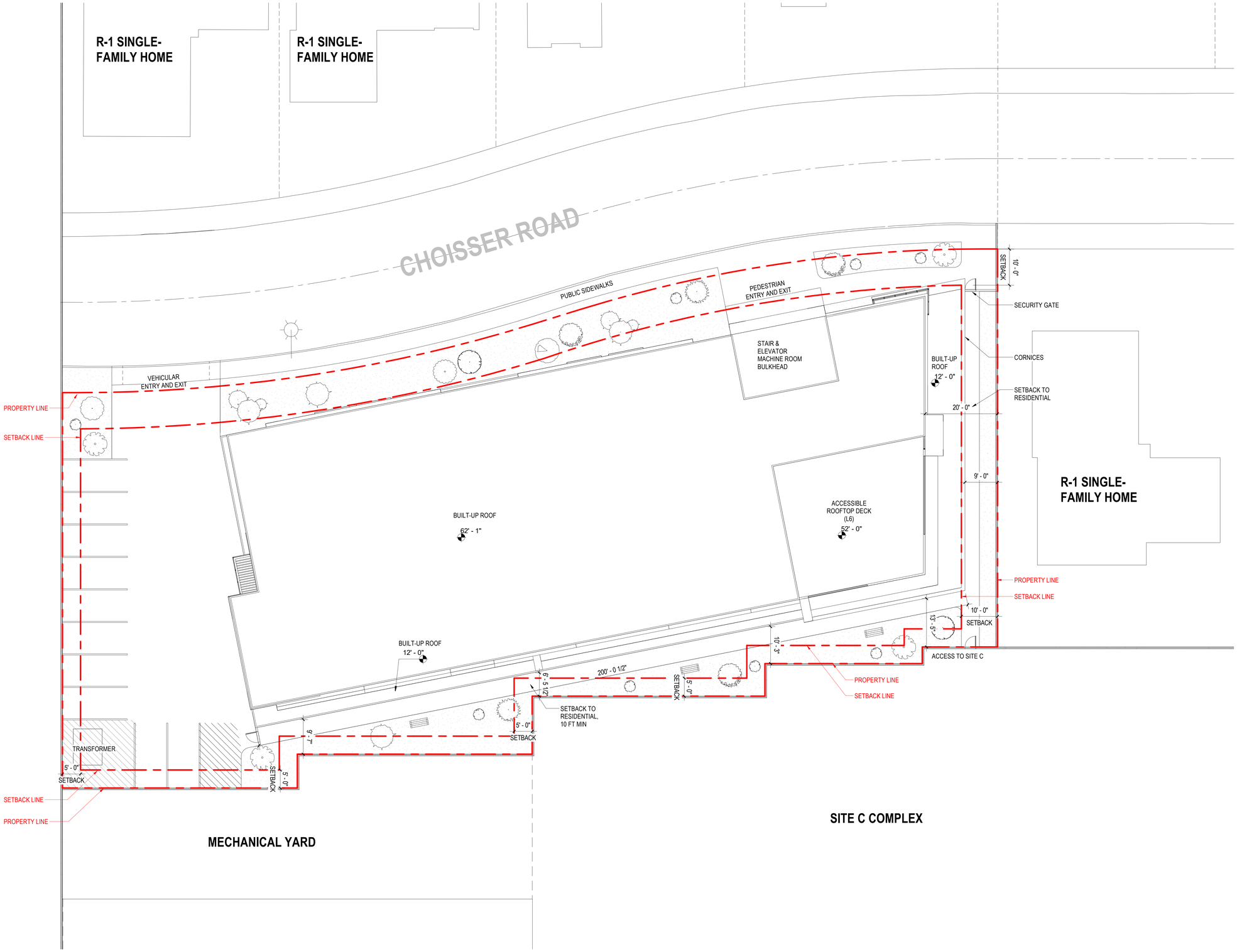
Drawn By	CL
Checked By	KH
Scale	3/32" = 1'-0"
Sheet Number	A-1.02

SITE PLAN (GROUND FLOOR) 1 SCALE: 3/32"=1'-0"



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SITE PLAN (ROOF)

Project Number	2020001
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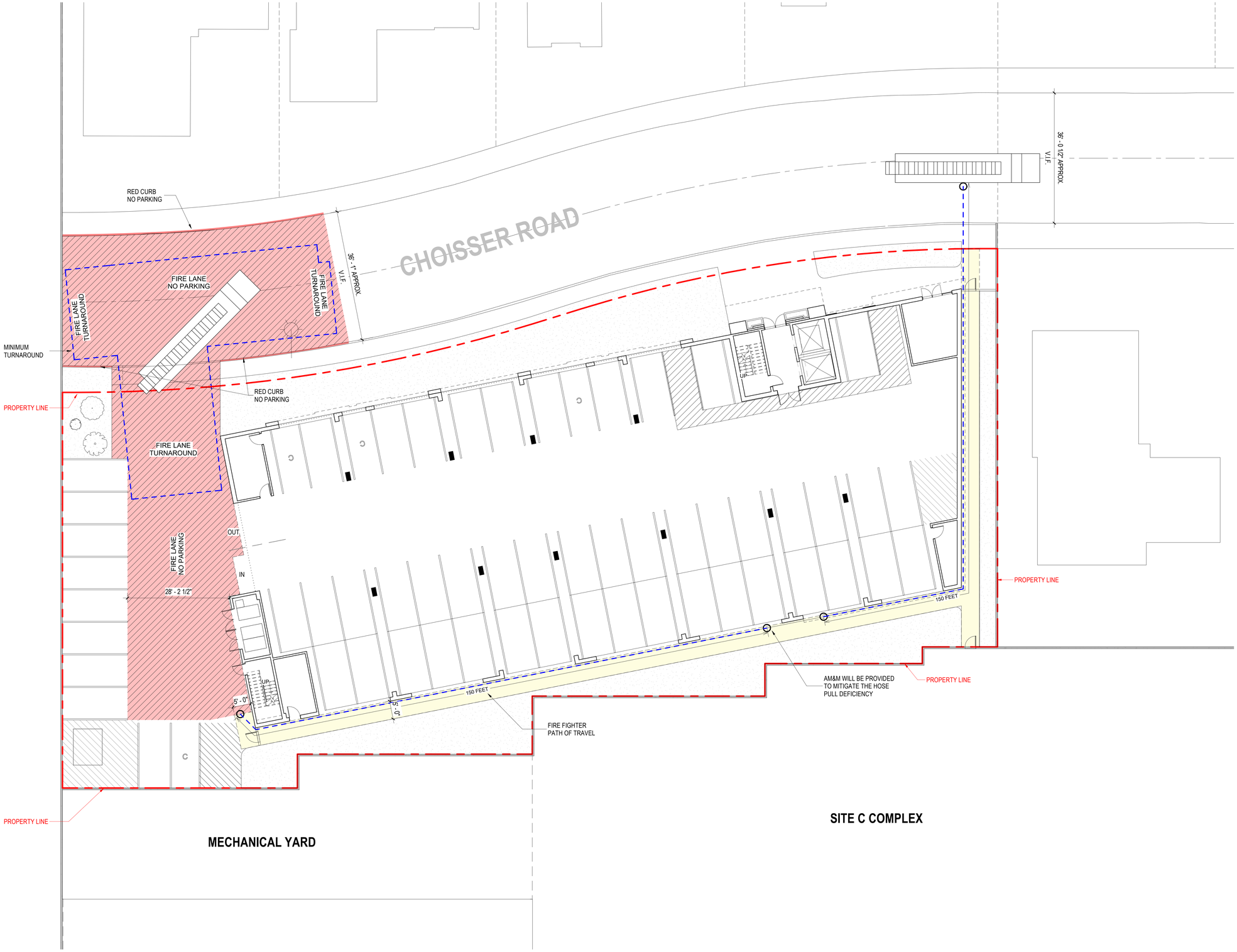
Drawn By	CL
Checked By	KH
Scale	3/32" = 1'-0"

Sheet Number

A-1.03

SITE PLAN (ROOF) 1 SCALE: 3/32"=1'-0"



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No.	Description	Date

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FIRE PREVENTION SITE PLAN

Project Number	2020001
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Drawn By	CL
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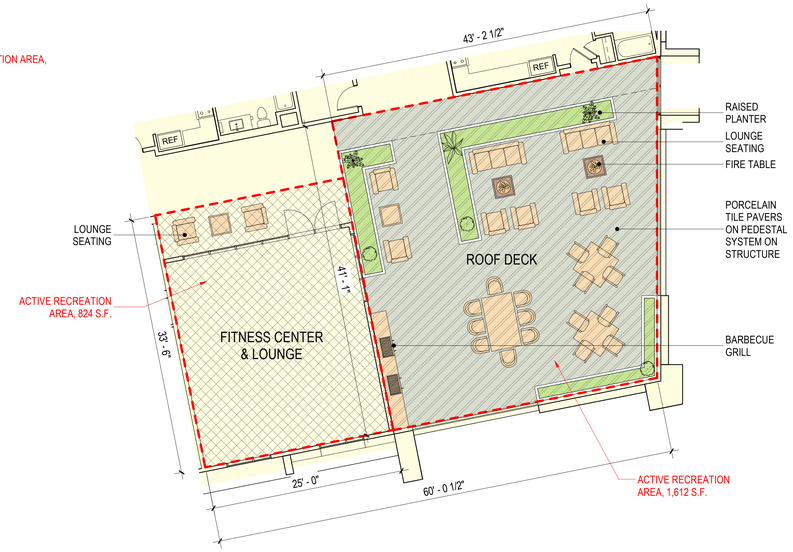
Scale	3/32" = 1'-0"

Sheet Number

A-1.10

1 LANDSCAPE SITE PLAN - LEVEL 1
Scale: 3/32" = 1'-0"



2 ENLARGED LANDSCAPE PLAN - LEVEL 6
Scale: 1/8" = 1'-0"

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No.	Description	Date

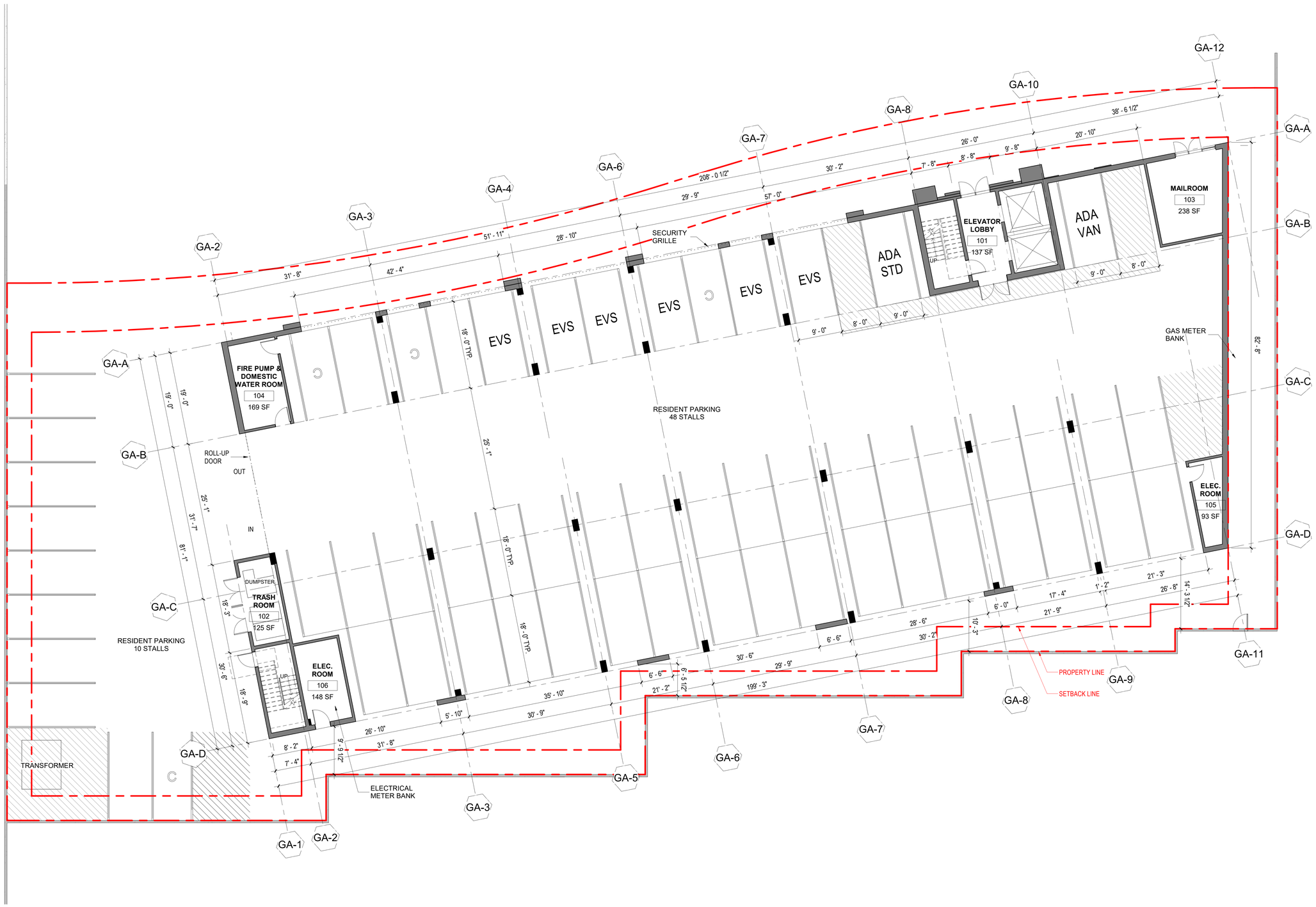
Sheet Title

LANDSCAPE PLAN - LEVEL 1 & LEVEL 6

Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	As indicated

Sheet Number

A-1.20



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No.	Description	Date

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FLOOR PLAN - LEVEL 1

Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	1/8" = 1'-0"

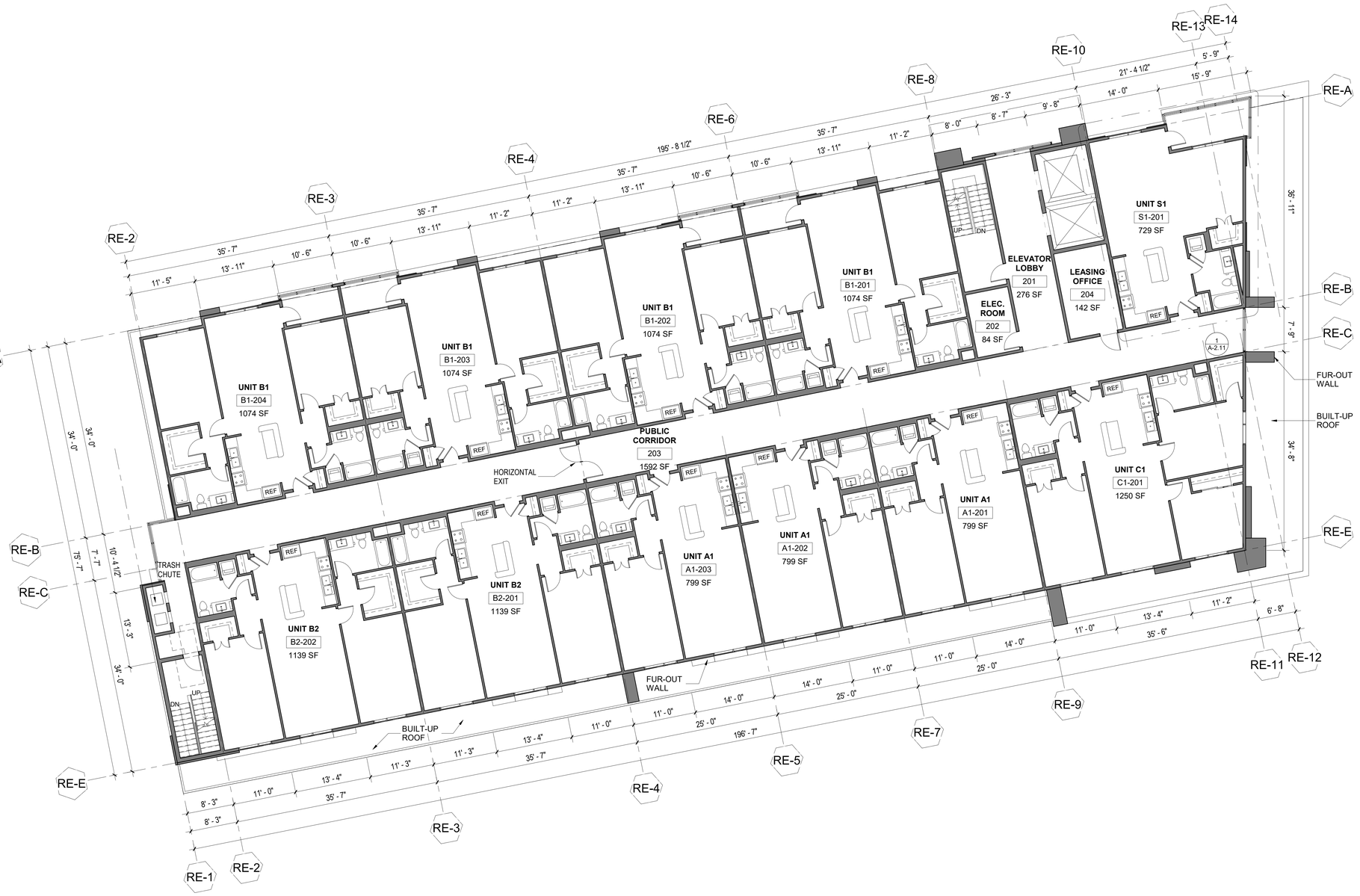
Sheet Number

A-2.01

FLOOR PLAN - LEVEL 1

1

SCALE: 1/8"=1'-0"



FLOOR PLAN - LEVEL 2 1 SCALE: 1/8"=1'-0"

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No.	Description	Date

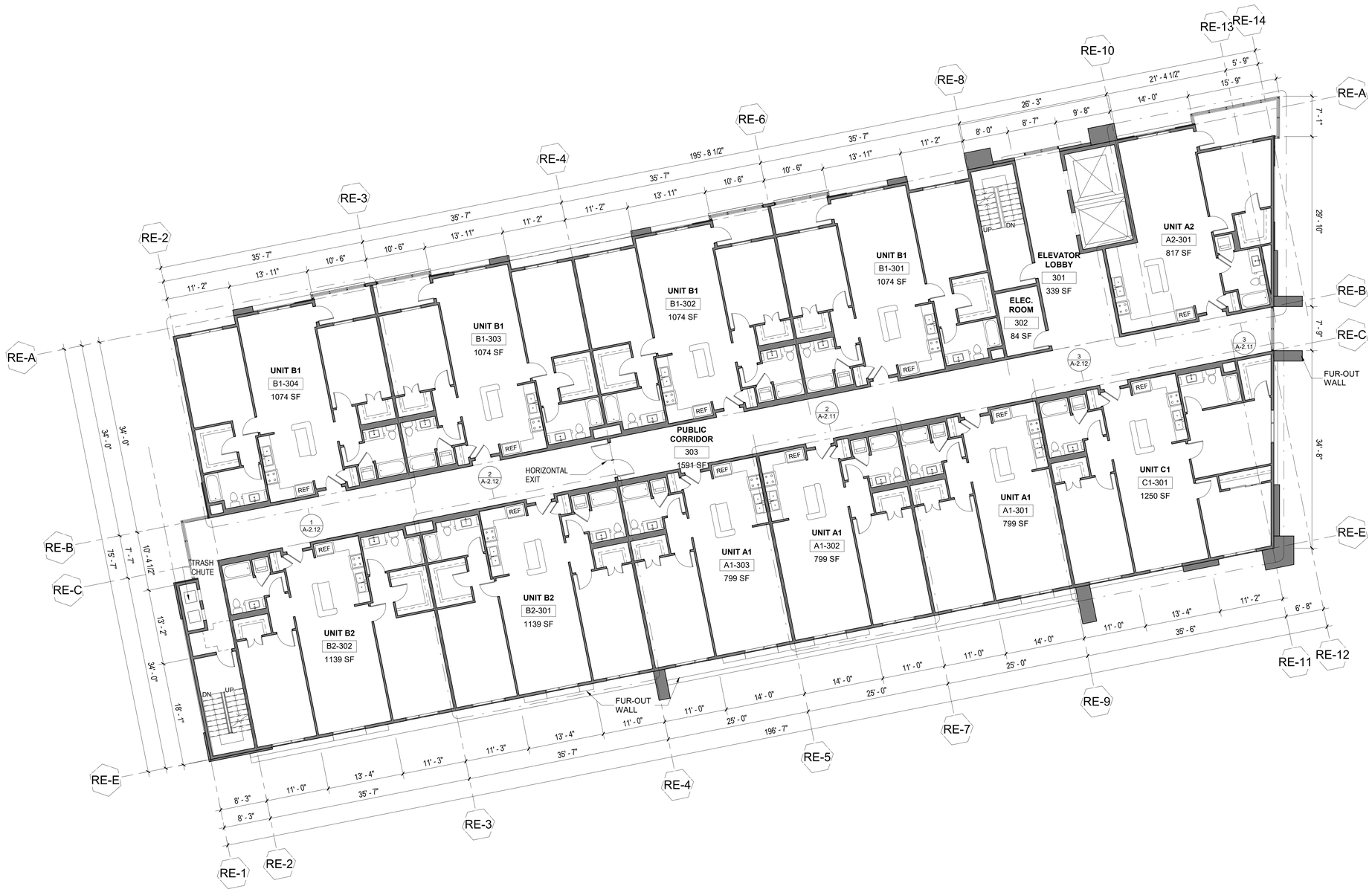
Sheet Title

FLOOR PLAN - LEVEL 2

Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	1/8" = 1'-0"

Sheet Number

A-2.02



FLOOR PLAN - LEVEL 3-5 1 SCALE: 1/8"=1'-0"

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No.	Description	Date

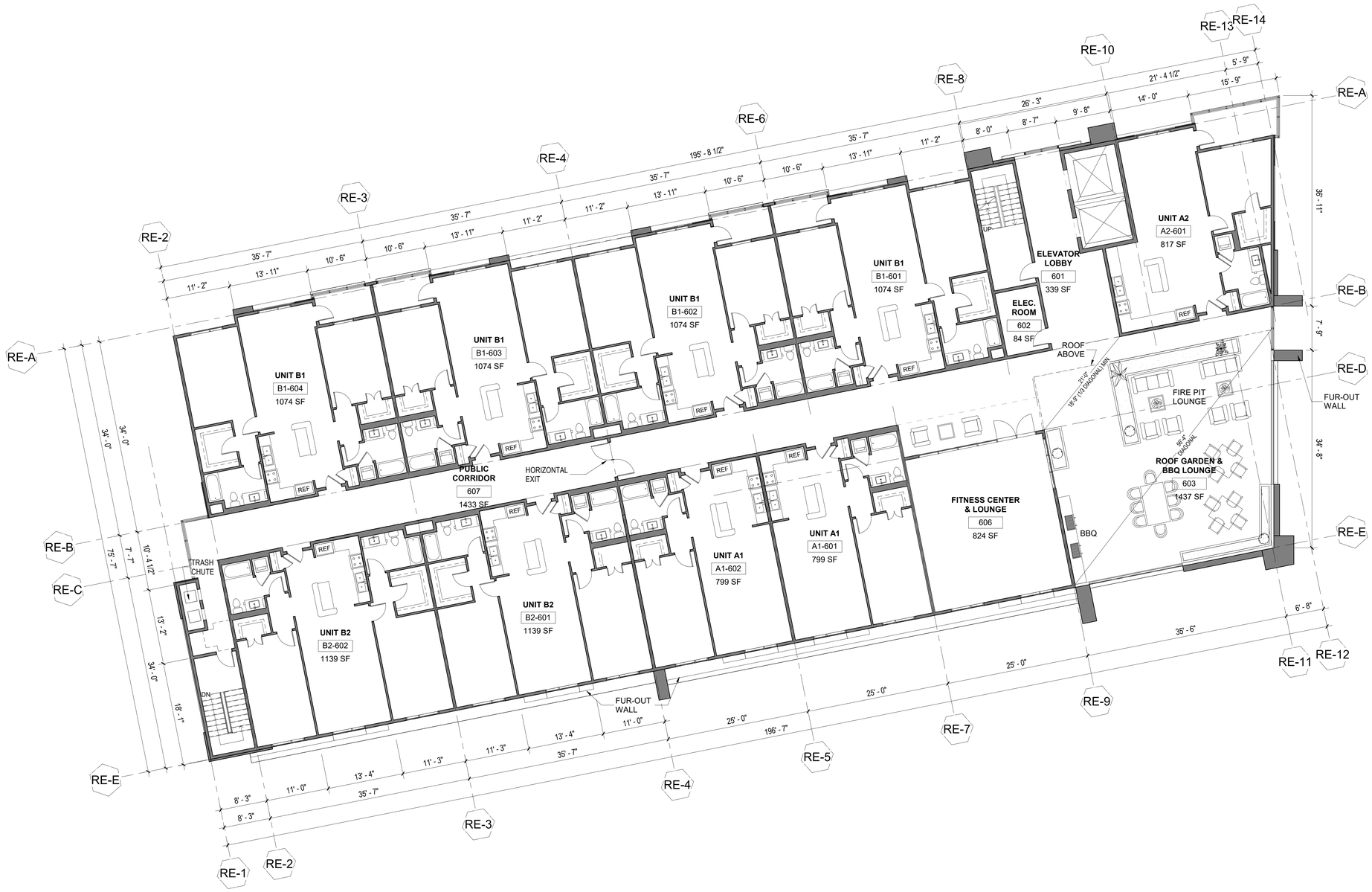
Sheet Title

FLOOR PLAN - LEVEL 3-5

Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	1/8" = 1'-0"

Sheet Number

A-2.03



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No.	Description	Date

Sheet Title

FLOOR PLAN - LEVEL 6

Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	1/8" = 1'-0"

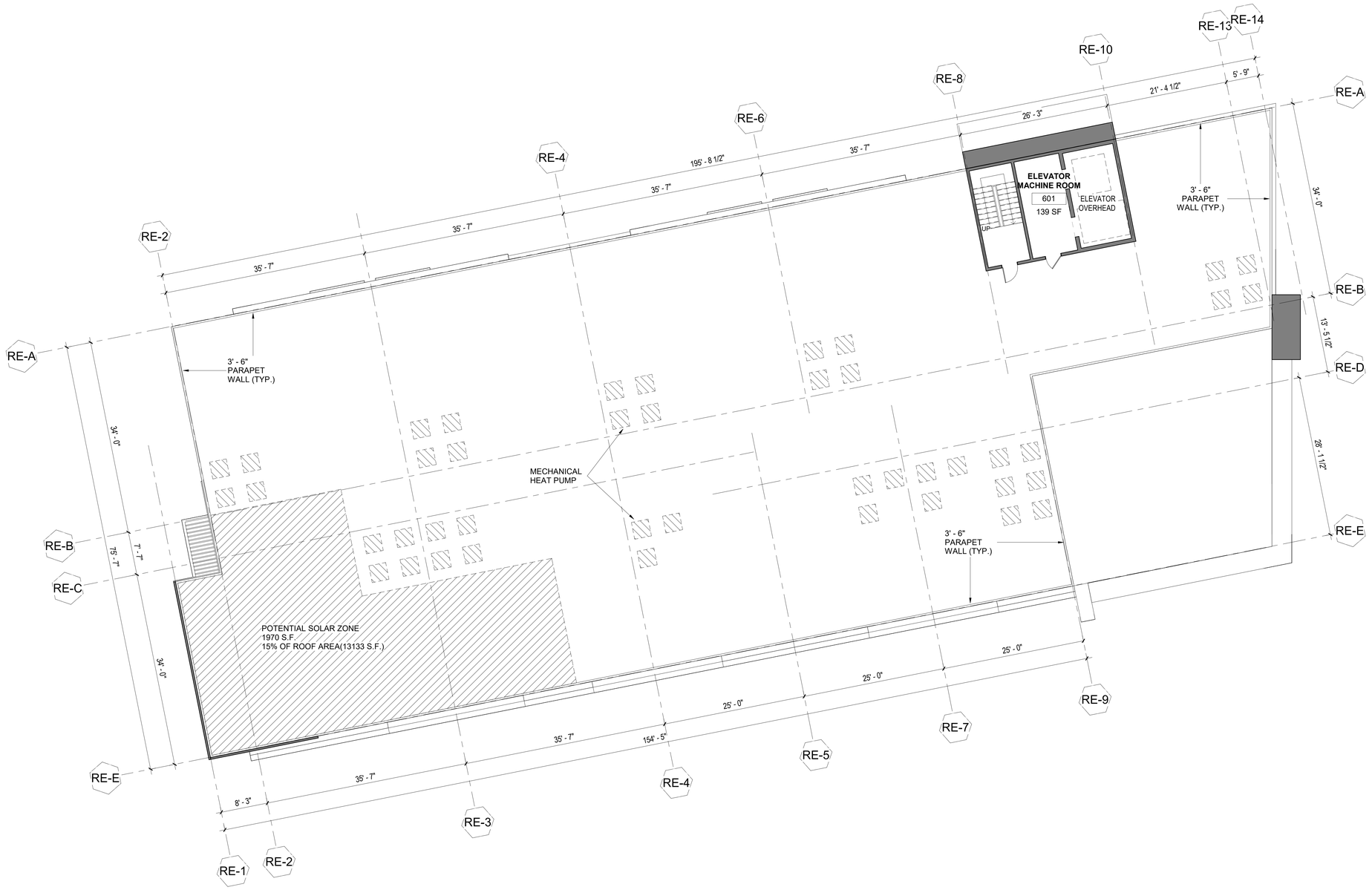
Sheet Number

A-2.04

FLOOR PLAN - LEVEL 6

1

SCALE: 1/8"=1'-0"



ROOF PLAN 1
SCALE: 1/8"=1'-0"

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No.	Description	Date

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ROOF PLAN

Project Number	2020001
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Drawn By	CL
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Scale	1/8" = 1'-0"

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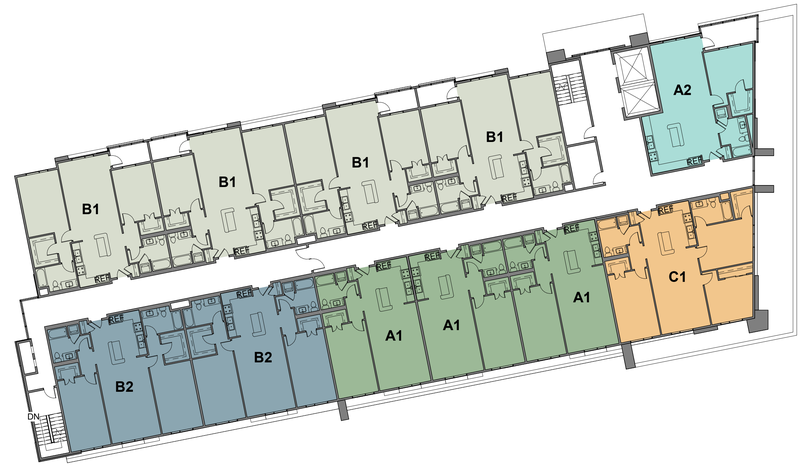
UNIT COUNT - LEVEL 6					
BEDROOM COUNT	UNIT TYPE	DESCRIPTION	SQ FT.	QTY.	TOTAL
1-BEDROOM	A1	1B1B	799	2	2
	A2	1B1B/BALCONY	817	1	1
2-BEDROOM	B1	2B2B/BALCONY	1075	4	6
	B2	2B2B	1140	2	
TOTAL UNITS					9

UNIT MATRIX - LEVEL 6

4

SCALE: 1/16"=1'-0"



UNIT COUNT - LEVEL 4-5					
BEDROOM COUNT	UNIT TYPE	DESCRIPTION	SQ FT.	QTY.	TOTAL
1-BEDROOM	A1	1B1B	799	3	4
	A2	1B1B/BALCONY	817	1	
2-BEDROOM	B1	2B2B/BALCONY	1075	4	6
	B2	2B2B	1140	2	
3-BEDROOM	C1	3B2B	1247	1	1
TOTAL UNITS					11

UNIT MATRIX - LEVEL 4-5

3

SCALE: 1/16"=1'-0"

UNIT COUNT - LEVEL 3					
BEDROOM COUNT	UNIT TYPE	DESCRIPTION	SQ FT.	QTY.	TOTAL
1-BEDROOM	A1	1B1B	799	3	4
	A2	1B1B/BALCONY	817	1	
2-BEDROOM	B1	2B2B/BALCONY	1075	4	6
	B2	2B2B	1140	2	
3-BEDROOM	C1	3B2B	1247	1	1
TOTAL UNITS					11

UNIT MATRIX - LEVEL 3

2

SCALE: 1/16"=1'-0"

UNIT COUNT - LEVEL 2					
BEDROOM COUNT	UNIT TYPE	DESCRIPTION	SQ FT.	QTY.	TOTAL
STUDIO	S1	STUDIO/BALCONY	729	1	1
1-BEDROOM	A1	1B1B	799	1	3
2-BEDROOM	B1	2B2B/BALCONY	1075	4	6
	B2	2B2B	1140	2	
3-BEDROOM	C1	3B2B	1247	1	1
TOTAL UNITS					11

UNIT MATRIX - LEVEL 2

1

SCALE: 1/16"=1'-0"

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UNIT MATRIX

Project Number	2020001
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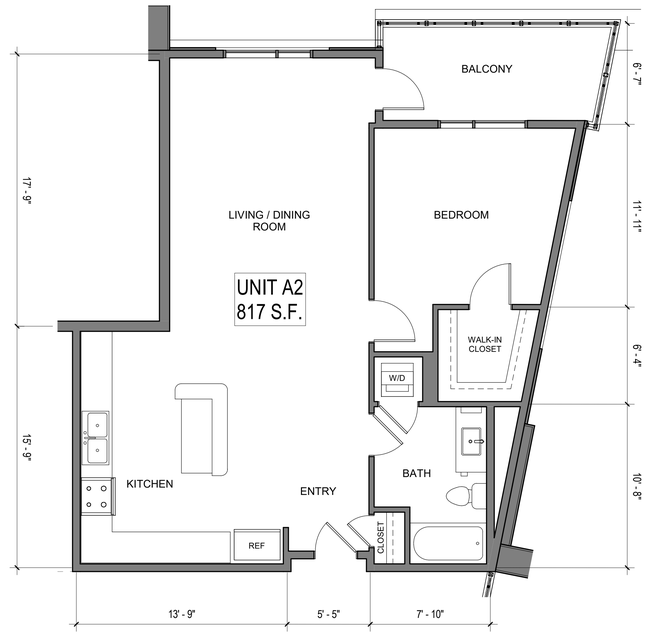
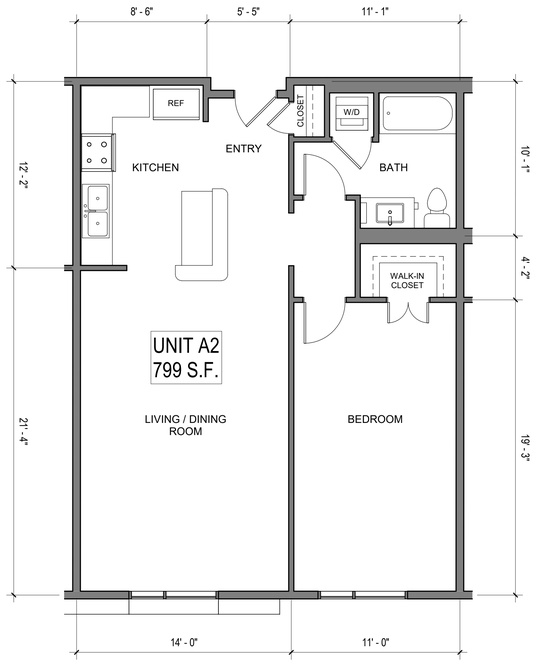
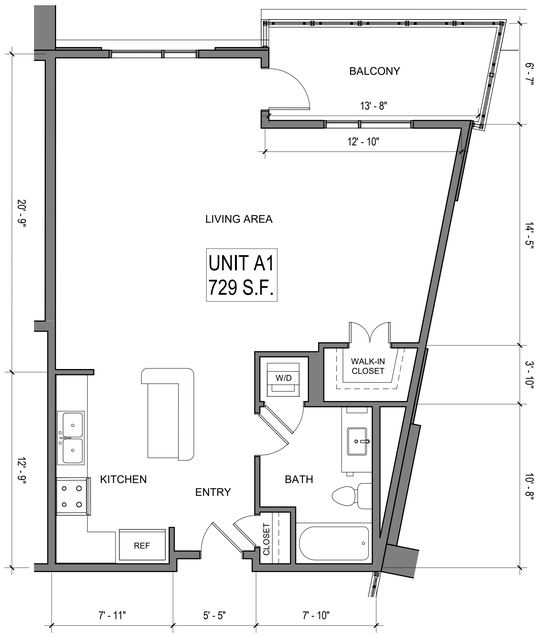
A-2.10



ENLARGED ROOM PLAN - A2 | 3 | SCALE: 1/4"=1'-0"



ENLARGED ROOM PLAN - A1 | 2 | SCALE: 1/4"=1'-0"



ENLARGED ROOM PLAN - S1 | 1 | SCALE: 1/4"=1'-0"

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No.	Description	Date

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ENLARGED ROOM PLAN - STUDIO & 1B1B

Project Number	2020001
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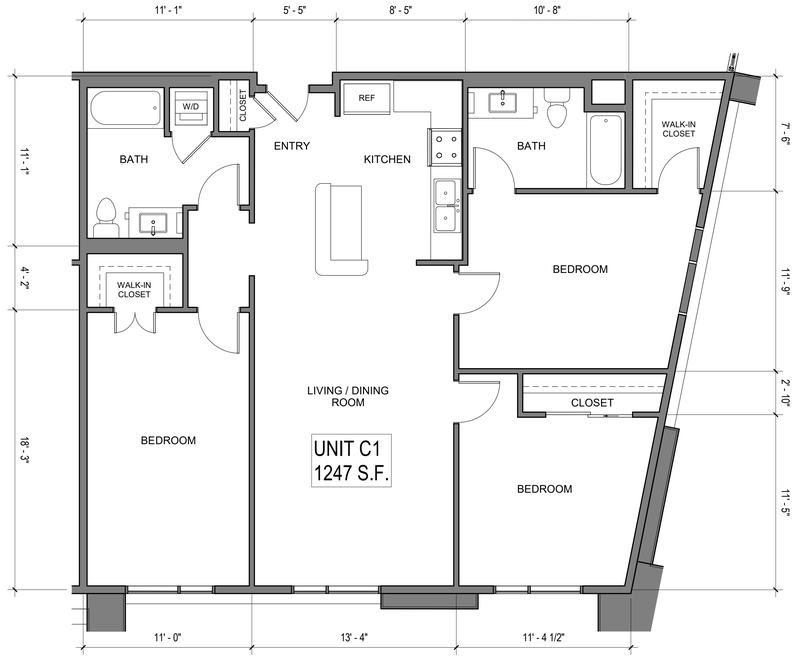
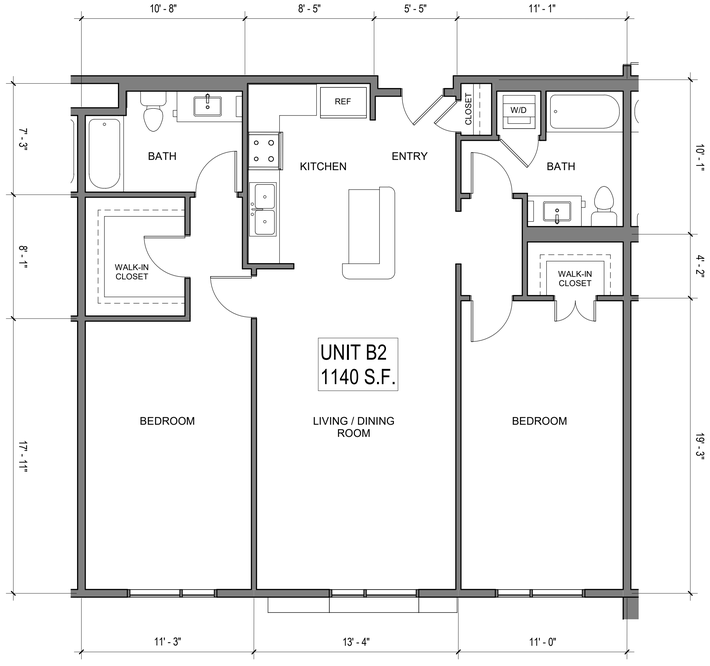
Checked By	KH
Scale	1/4" = 1'-0"
Sheet Number	A-2.11



ENLARGED ROOM PLAN - C1

3

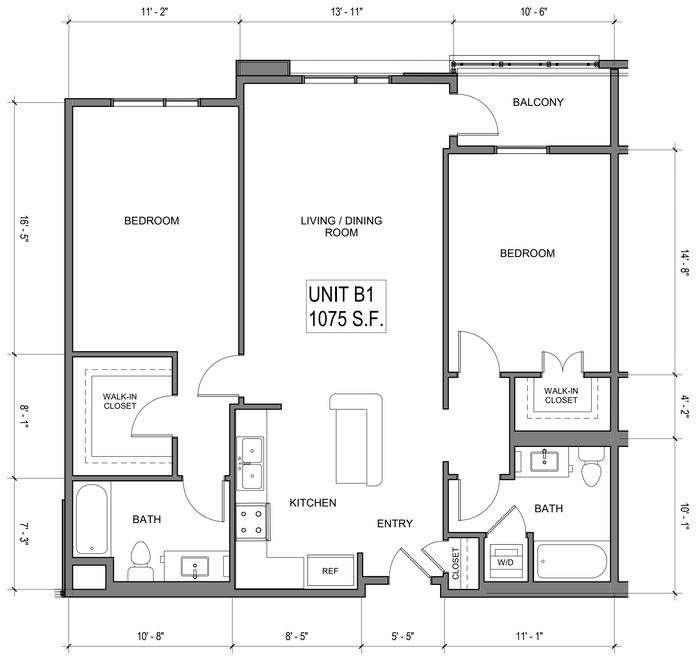
SCALE: 1/4"=1'-0"



ENLARGED ROOM PLAN - B2

2

SCALE: 1/4"=1'-0"



ENLARGED ROOM PLAN - B1

1

SCALE: 1/4"=1'-0"

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No.	Description	Date

Sheet Title

ENLARGED ROOM PLAN - 2B2B & 3B2B

Project Number	2020001
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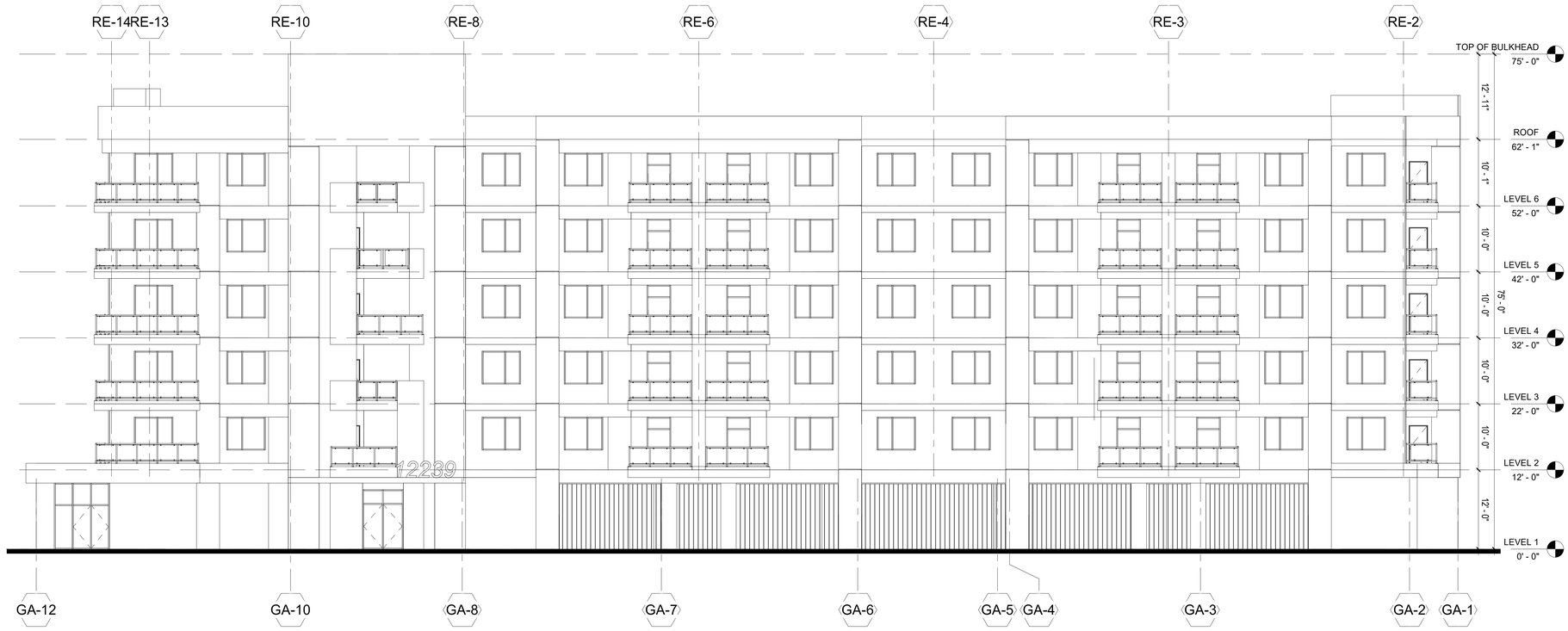
Drawn By	CL
Checked By	KH
Scale	1/4" = 1'-0"

Sheet Number

A-2.12

BUILDING ELEVATION - WEST | 2 | SCALE: 1/8"=1'-0"



BUILDING ELEVATION - EAST | 1 | SCALE: 1/8"=1'-0"

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No.	Description	Date

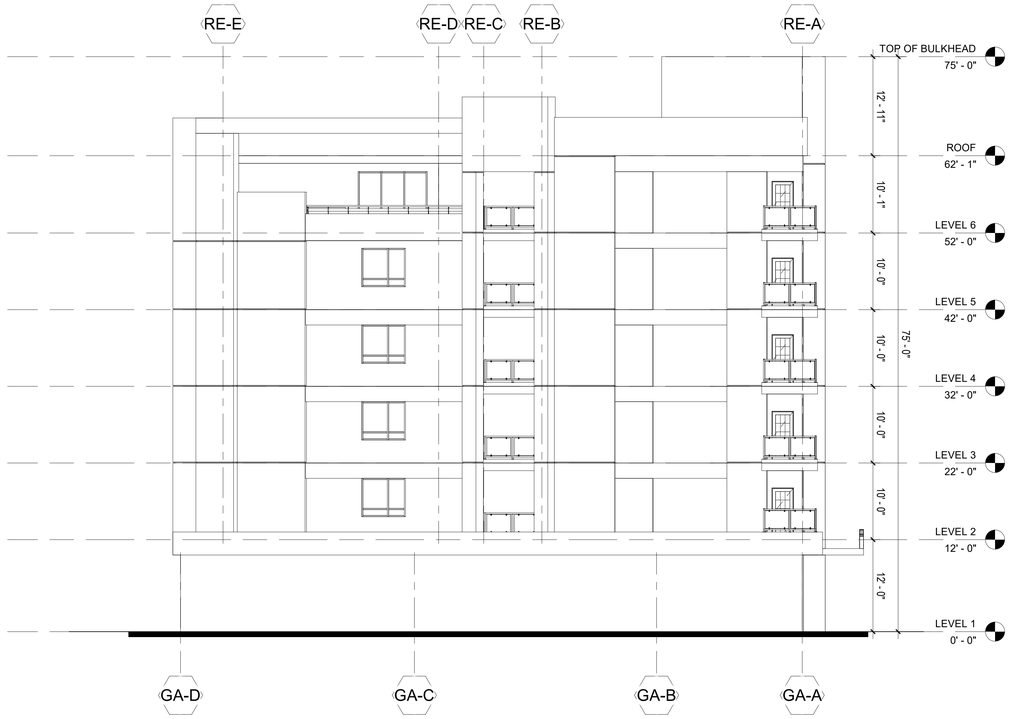
Sheet Title

BUILDING ELEVATION - WEST & EAST

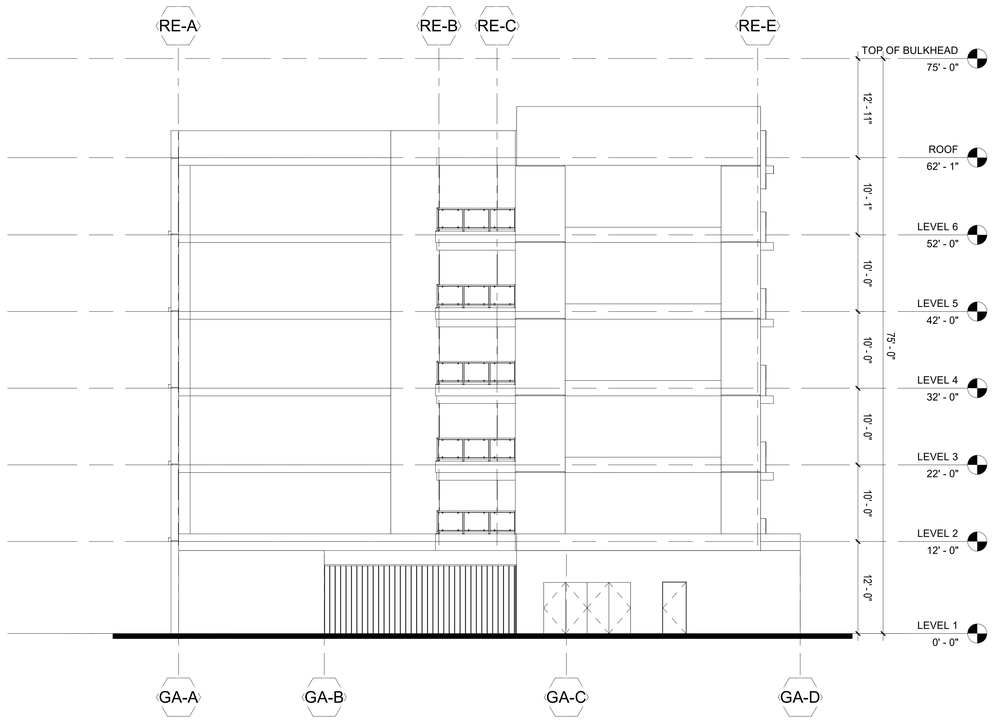
Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	1/8" = 1'-0"

Sheet Number

A-3.01



BUILDING ELEVATION - SOUTH 2 SCALE: 1/8"=1'-0"



BUILDING ELEVATION - NORTH 1 SCALE: 1/8"=1'-0"

SCG AMERICA

INVESTEL GARDEN RESORTS LLC.

12966 Euclid St, Suite 300,
Garden Grove, CA, 92840
T 714.696.0000

CHOISSER APARTMENT

12233 Choisser Road,
Garden Grove, CA, 92840

12235 Choisser Road,
Garden Grove, CA, 92840

12237 Choisser Road,
Garden Grove, CA, 92840

12239 Choisser Road,
Garden Grove, CA, 92840

No.	Description	Date

Sheet Title

BUILDING ELEVATION - NORTH & SOUTH

Project Number	2020001
Date	08/22/2022
Drawn By	CL
Checked By	KH
Scale	1/8" = 1'-0"
Sheet Number	A-3.02

EAST PERSPECTIVE RENDERING

SCG AMERICA

INVESTEL GARDEN RESORTS LLC.

12966 Euclid St, Suite 300,
Garden Grove, CA, 92840
T 714.696.0000

CHOISSER APARTMENT

12233 Choisser Road,
Garden Grove, CA, 92840

12235 Choisser Road,
Garden Grove, CA, 92840

12237 Choisser Road,
Garden Grove, CA, 92840

12239 Choisser Road,
Garden Grove, CA, 92840

No.	Description	Date

Sheet Title

RENDERING

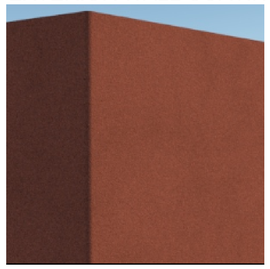
Project Number	2020001
Date	08/22/2022
Drawn By	Author
Checked By	Checker
Scale	

Sheet Number

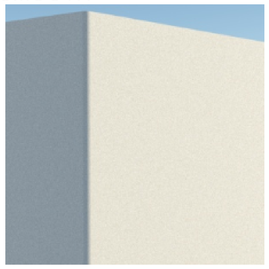
A-6.01

EXTERIOR WALL COATING, SMOOTH

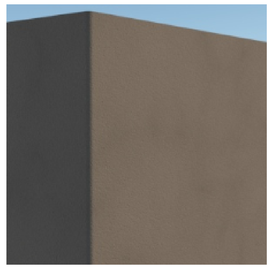
BRICK VENEER WALL CLADDING



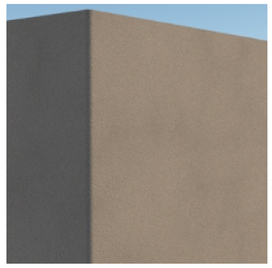
BURGUNDY



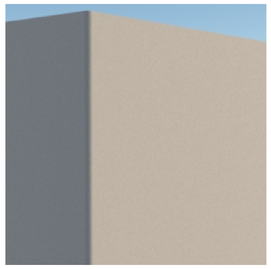
WARM WHITE



DARK GRAY

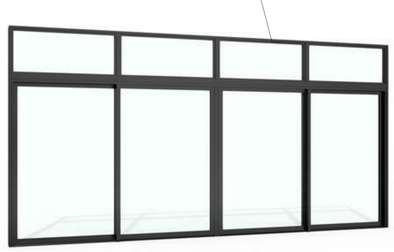


GRAY



LIGHT GRAY

EAST PERSPECTIVE RENDERING



ALUMINUM STOREFRONT, BLACK

METAL SECURITY FENCE RAILING, BLACK

PERFORATED METAL RAILING, BLACK

ALUMINUM WINDOWS UNIT, WHITE

SCG AMERICA

INVESTEL ONE LLC.

12966 Euclid St. Suite 300,
Garden Grove, CA, 92840
T 714.696.0000

DOUBLETREE POMONA EXPANSION

3099 W. Temple Ave.,
Pomona, CA, 91768

No.	Description	Date

Sheet Title

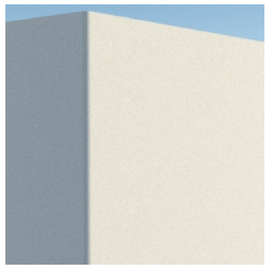
EXTERIOR MATERIAL BOARD

Project Number	Date	Drawn By	Checked By	Scale
2020001	08/22/2022	Author	Checker	

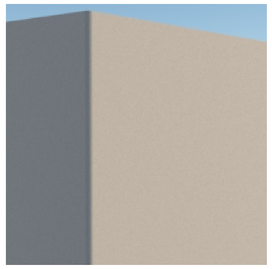
Sheet Number

A-6.02

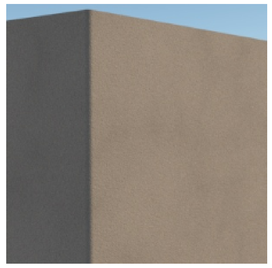
EXTERIOR WALL COATING, SMOOTH



WARM WHITE



LIGHT GRAY



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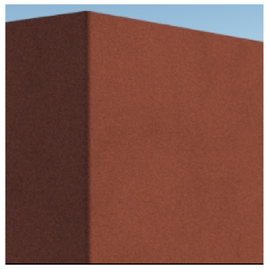


BURGUNDY

WEST PERSPECTIVE RENDERING

METAL RAILING, BLACK

ALUMINUM WINDOWS UNIT, WHITE

SCG AMERICA

INVESTEL ONE LLC.

12966 Euclid St, Suite 300,
Garden Grove, CA, 92840
T 714.696.0000

DOUBLETREE POMONA EXPANSION

3099 W. Temple Ave.,
Pomona, CA, 91768

No.	Description	Date

Sheet Title: EXTERIOR MATERIAL BOARD

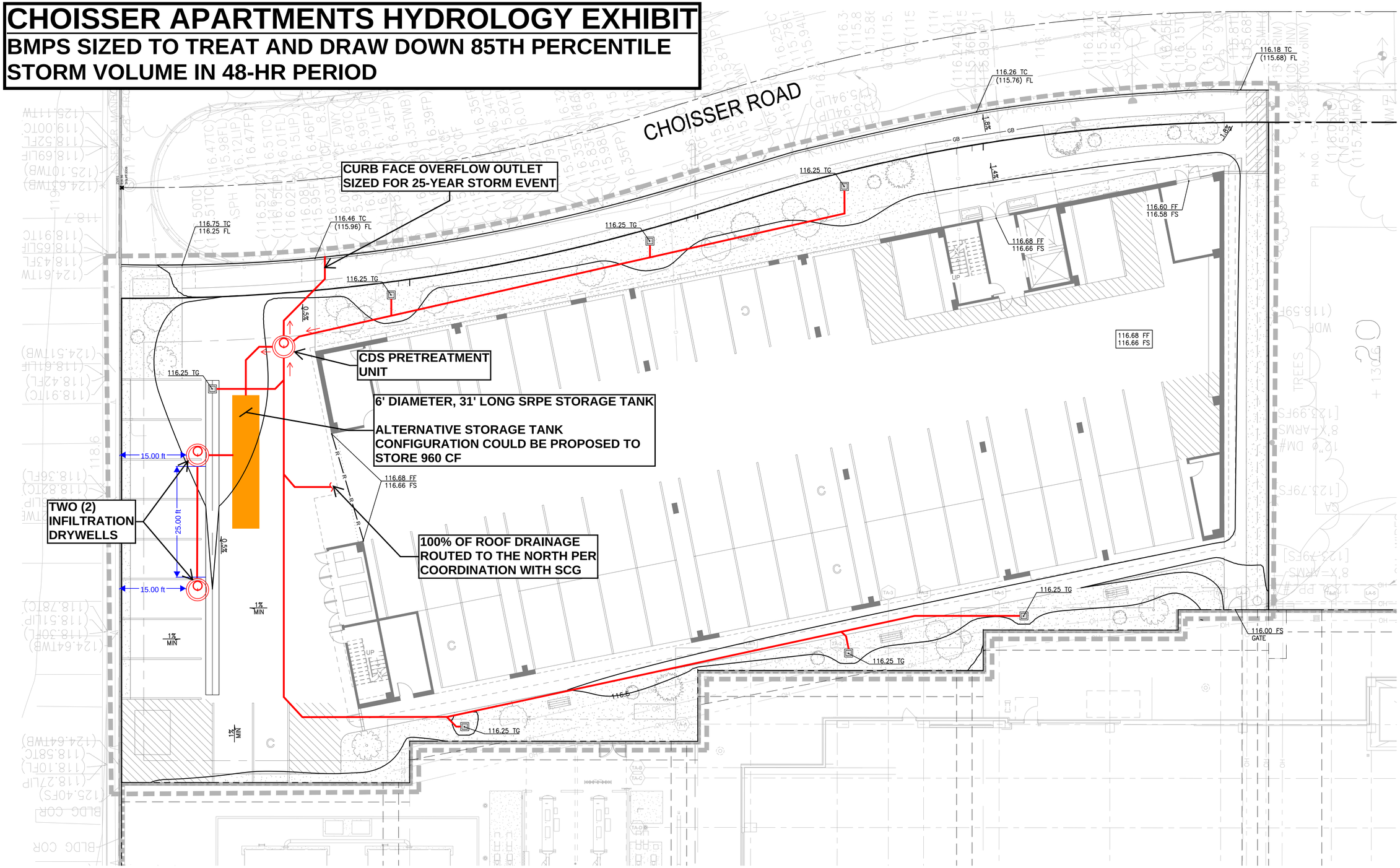
Project Number	2020001
Date	08/22/2022
Drawn By	Author
Checked By	Checker
Scale	

Sheet Number

A-6.03

CHOISSER APARTMENTS HYDROLOGY EXHIBIT

BMPS SIZED TO TREAT AND DRAW DOWN 85TH PERCENTILE STORM VOLUME IN 48-HR PERIOD



LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- FLOW LINE
- GRADE BREAK
- RIDGE LINE
- 100 PROPOSED MAJOR CONTOUR
- 102 PROPOSED MINOR CONTOUR

0 5' 10'
SCALE: 1"=10'

kpff
700 South Flower Street
Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
F: 213.266.5294
www.kpff.com

CONSULTANTS

STAMP

REVISIONS

DATE		ISSUED FOR
XX/XX/XX	1	DESCRIPTION

DATE	05.17.2022
PROJECT NUMBER	2000455
DESIGNED BY	NE
DRAWN BY	NE
CHECKED BY	XX
SCALE	AS SPECIFIED

KEY MAP

PROJECT DESCRIPTION

CHOISSER RESIDENTIAL

12233-12239 CHOISSER ROAD
GARDEN GROVE, CA 92840

DRAWING TITLE

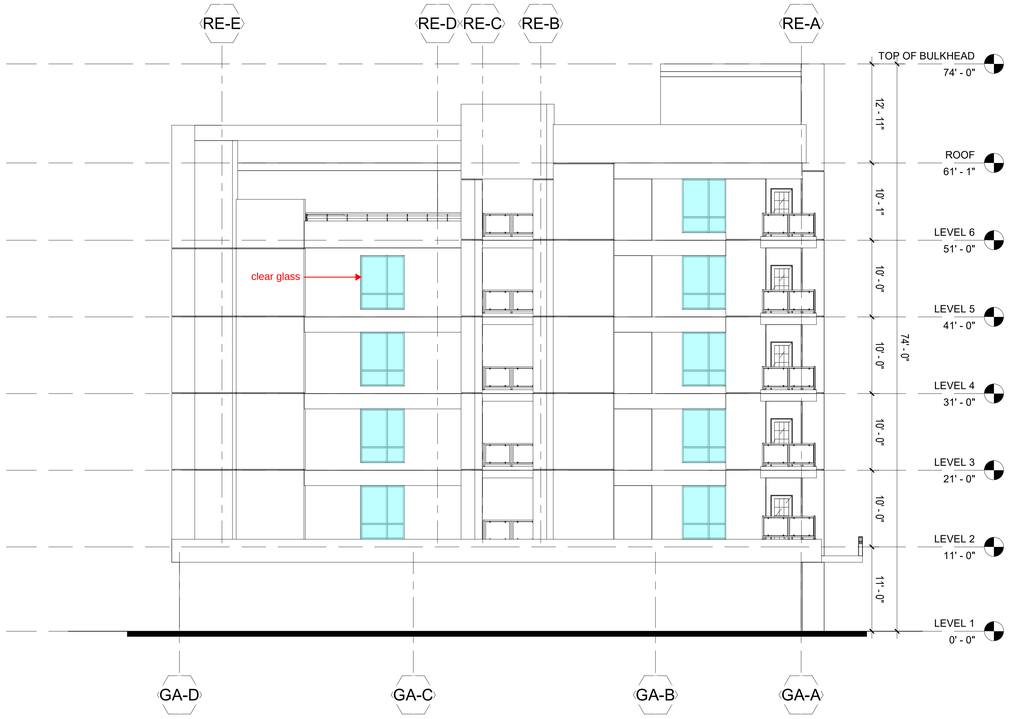
PRELIMINARY GRADING AND DRAINAGE PLAN

SHEET NUMBER (EXHIBIT NUMBER)

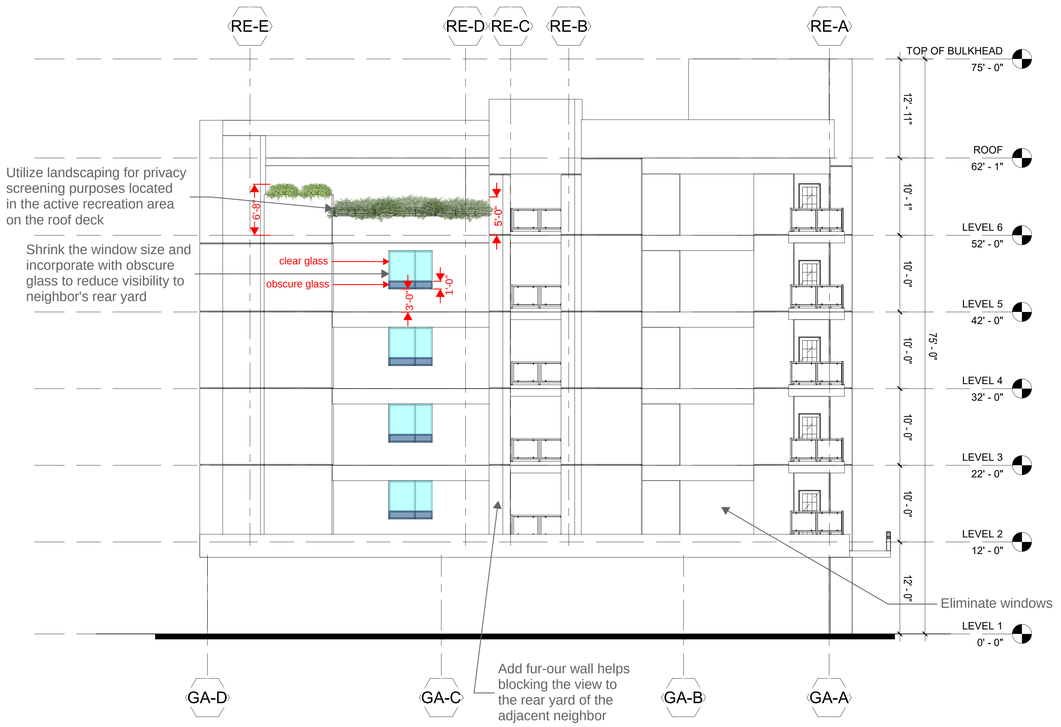
C1.00

P:\2020\2000455 Choisser Residential Lots\5 CAD\Sheets\2000455-C1.00GP.dwg, Jul 06, 2022 - 3:12pm

South Facade Neighborhood Privacy



SOUTH ELEVATION - BEFORE



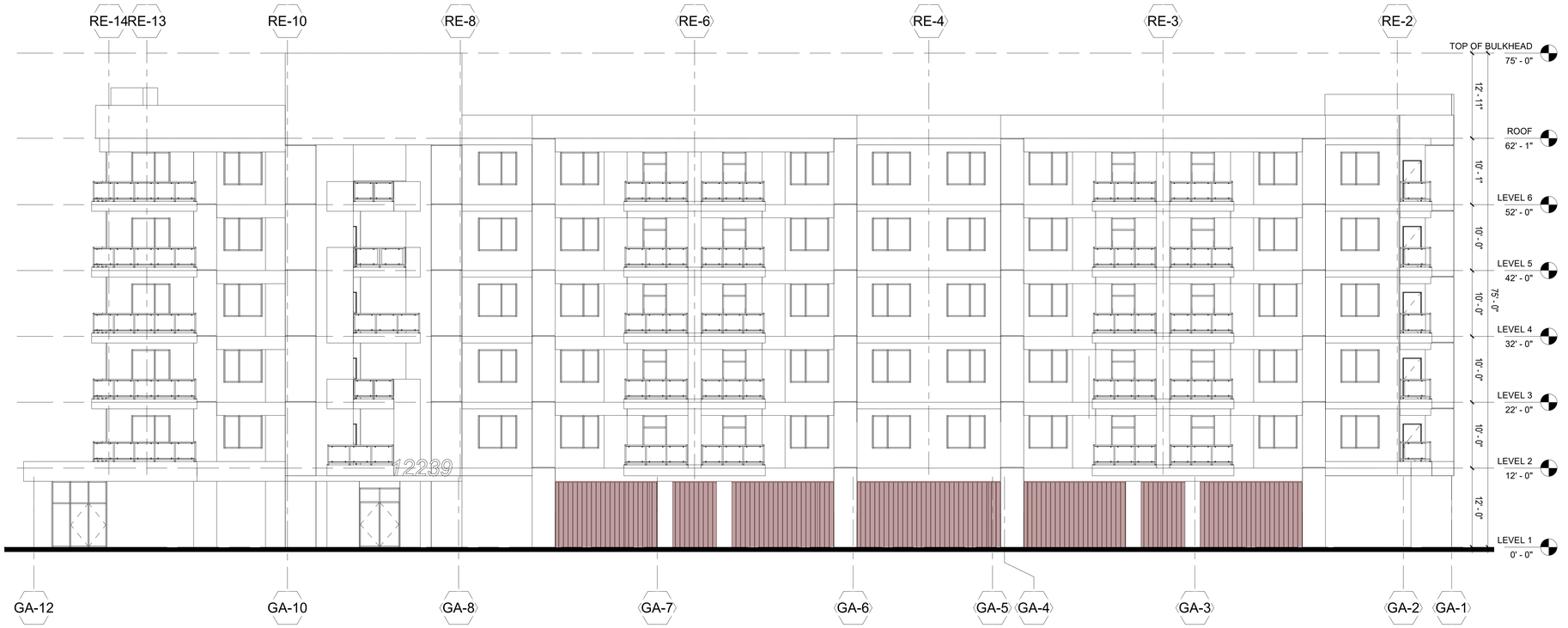
SOUTH ELEVATION - AFTER

Green Screen for Privacy Protection

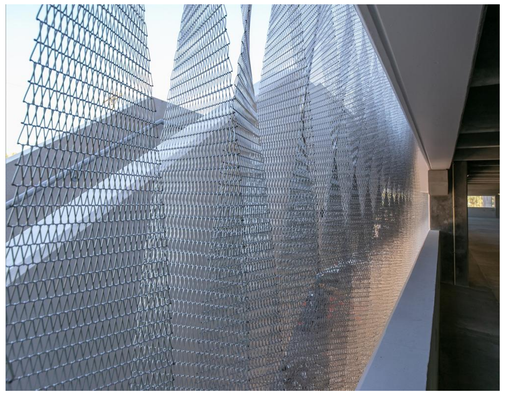
South End Residential Setback

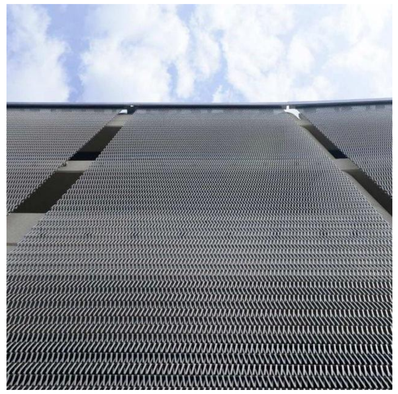
WEST ELEVATION

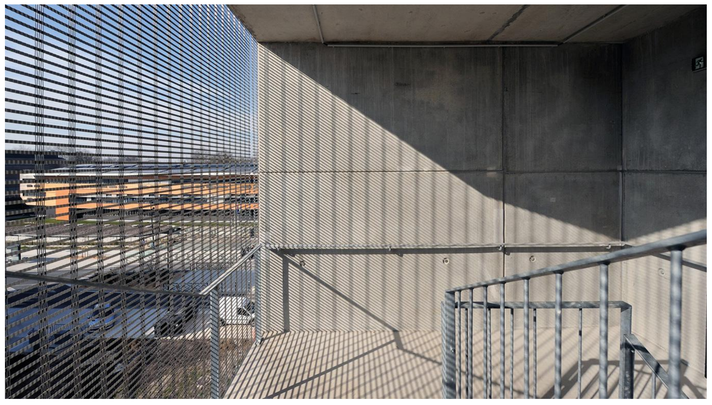
East Facade Ground Floor Garage Metal Panel



EAST ELEVATION







Storage Area Calculation

TYPICAL FLOOR PLAN

UNIT TYPES	QUANTITY	STORAGE PER UNIT (CUBIC FT.)	TOTAL STORAGE (CUBIC FT.)
STUDIO S1	1	243	243
1-BEDROOM A1	14	261	3,654
1-BEDROOM A2	4	387	1,548
2-BEDROOM B1/B2	30	711	21,330
3-BEDROOM C1	4	801	3,204
TOTAL	53		29,979

ATTACHMENT 3 - Vesting Tentative Parcel Map

VESTING TENTATIVE PARCEL MAP No. 2021-206

FOR RESIDENTIAL PURPOSES

LEGAL DESCRIPTION

(PER CHICAGO TITLE INSURANCE COMPANY ORDER No. 00131350-996-SD1-RT4 DATED DECEMBER 13, 2021)

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF GARDEN GROVE, IN THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1: (NOT A PART OF THIS VTTM)

LOTS 213, 214, 215, 216 AND 217 OF TRACT NO. 2012, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP RECORDED IN BOOK 55, PAGES 47 THROUGH 49, INCLUSIVE OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, TOGETHER WITH PORTIONS OF LOTS 5, 6, 7 AND 8 OF TRACT NO. 2782, IN SAID CITY, SAID COUNTY AND SAID STATE AS PER MAP RECORDED IN BOOK 89, PAGES 24 AND 25 OF MISCELLANEOUS MAPS, IN SAID RECORDER'S OFFICE, TOGETHER WITH THE SOUTH 129.44 FEET OF THE WEST ½ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34, IN TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS IN SAID CITY, SAID COUNTY AND SAID STATE AS SHOWN ON A MAP THEREOF RECORDED IN BOOK 51, PAGE 7, ET SEQ. OF MISCELLANEOUS MAPS, IN SAID RECORDER'S OFFICE, TOGETHER WITH THE NORTH 12 FEET OF THE WEST 400 FEET OF THE NORTH ½ OF THE NORTH ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34, TOWNSHIP 4 SOUTH, RANGE 10 WEST IN SAID RANCHO LAS BOLSAS TOGETHER WITH THE WEST 400 FEET OF THE NORTH ½ OF THE NORTH ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST OF SECTION 34, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN SAID RANCHO LOS BOLSAS, EXCEPTING THEREFROM THE NORTH 12 FEET AND ALSO EXCEPTING THEREFROM THE SOUTH 200 FEET TOGETHER WITH THE NORTH 45 FEET OF THE SOUTH 200 FEET OF THE WEST 400 FEET OF THE NORTH ½ OF THE NORTH ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34, TOWNSHIP 4 SOUTH, RANGE 10 WEST, OF SAID RANCHO LAS BOLSAS TOGETHER WITH THE SOUTH 200 FEET OF THE WEST 400 FEET OF THE NORTH ½ OF THE NORTH ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34 IN TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN SAID RANCHO LAS BOLSAS EXCEPT THE NORTH 45 FEET THEREOF AND ALSO EXCEPT THEREFROM THE SOUTH 84 FEET THEREOF, TOGETHER WITH THE SOUTH 84 FEET OF THE WEST 400 FEET OF THE NORTH ½ OF THE NORTH ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN SAID RANCHO LAS BOLSAS DESCRIBED MORE PARTICULARLY AS A WHOLE AS FOLLOWS:

COMMENCING AT THE CENTERLINE INTERSECTION OF HARBOR BOULEVARD AND TWINTREE LANE AS SHOWN ON SAID TRACT MAP 2012; THENCE EASTERLY ALONG THE CENTERLINE OF SAID TWINTREE LANE SOUTH 89°22'00" EAST 53.02 FEET; THENCE DEPARTING SAID CENTERLINE NORTH 00°38'00" EAST 30.00 FEET TO THE NORTHERLY RIGHT OF WAY OF SAID TWINTREE LANE AND THE SOUTHERLY LINE OF SAID LOT 217, SAID POINT BEING ALSO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 13.00 FEET, A RADIAL LINE TO SAID CURVE BEARS SOUTH 00°38'00" WEST AND THE TRUE POINT OF BEGINNING; THENCE ALONG SAID LINE OF LOT 217 AND WESTERLY, NORTHWESTERLY AND NORTHERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 90°01'37" AN ARC DISTANCE OF 20.43 FEET TO THE WESTERLY LINE OF SAID LOT 217 AND A LINE PARALLEL WITH AND DISTANT EASTERLY 40 FEET MEASURED AT RIGHT ANGLES FROM THE CENTERLINE OF SAID HARBOR BOULEVARD; THENCE NORTHERLY ALONG SAID LOT LINE AND SAID PARALLEL LINE NORTH 00°39'55" EAST 91.26 FEET TO THE NORTHWEST CORNER OF SAID LOT 217; THENCE DEPARTING SAID PARALLEL LINE NORTH 89°22'11" WEST 40.00 FEET TO THE CENTERLINE OF SAID HARBOR BOULEVARD; THENCE ALONG SAID CENTERLINE NORTH 00°39'55" EAST 456.36 FEET TO THE SOUTHERLY LINE OF THE NORTH 129.44 FEET OF THE SOUTH 258.88 FEET OF THE WEST ½, SOUTHWEST ¼, NORTHWEST ¼, NORTHEAST ¼, SECTION 34; THENCE DEPARTING SAID CENTERLINE AND ALONG SAID SOUTHERLY LINE SOUTH 89°22'48" EAST 330.08 FEET TO THE WESTERLY TRACT LINE OF SAID TRACT NO. 2782; THENCE LEAVING SAID SOUTHERLY LINE AND ALONG SAID WESTERLY TRACT LINE NORTH 00°39'59" EAST 129.44 FEET TO THE NORTHERLY TRACT LINE OF SAID TRACT NO. 2782; THENCE ALONG SAID NORTHERLY TRACT LINE SOUTH 89°22'48" EAST 30.79 FEET; THENCE LEAVING SAID NORTHERLY LINE SOUTH 00°39'59" WEST 65.02 FEET TO THE NORTHERLY LINE OF LOT 6 OF SAID TRACT; THENCE ALONG SAID NORTHERLY LINE SOUTH 89°22'48" EAST 9.40 FEET; THENCE LEAVING SAID NORTHERLY LINE OF LOT 6 SOUTH 00°39'59" WEST 65.02 FEET TO THE NORTHERLY LINE OF LOT 7 OF SAID TRACT; THENCE ALONG SAID NORTHERLY LINE SOUTH 89°22'48" EAST 16.12 FEET; THENCE LEAVING SAID NORTHERLY LINE OF LOT 7 SOUTH 00°39'59" WEST 64.42 FEET TO THE NORTHERLY LINE OF LOT 8 OF SAID TRACT; THENCE ALONG SAID NORTHERLY LINE OF LOT 8 SOUTH 89°22'48" EAST 9.08 FEET; THENCE LEAVING SAID NORTHERLY LINE OF LOT 8 SOUTH 00°39'59" WEST 43.57 FEET; THENCE SOUTH 89°20'05" EAST 4.61 FEET; THENCE SOUTH 00°39'59" WEST 20.85 FEET TO THE SOUTHERLY LINE OF SAID TRACT NO. 2782; THENCE LEAVING SAID SOUTHERLY TRACT LINE AND ALONG THE EASTERLY LINE OF THE SAID WEST 400 FEET OF THE NORTH ½ OF THE NORTH ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SAID SECTION 34, SAID LINE BEING ALSO THE WESTERLY LINE OF TRACT NO. 2229 AS SHOWN ON A MAP RECORDED IN BOOK 67, PAGES 23 THROUGH 25, INCLUSIVE OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE RECORDER OF SAID COUNTY SOUTH 00°39'55" WEST 326.99 FEET TO THAT NORTHERLY TRACT LINE OF SAID TRACT NO. 2012 COMMON TO LOTS 200 THROUGH 217 PER SAID TRACT; THENCE ALONG SAID TRACT LINE NORTH 89°22'11" WEST 14.59 FEET TO THE REAR CORNER OF LOTS 212 AND 213 OF SAID TRACT NO. 2012; THENCE LEAVING SAID TRACT LINE AND ALONG THE LINE COMMON TO SAID LOTS 212 AND 213 OF SAID TRACT NO. 2012 SOUTH 00°38'00" WEST 104.28 FEET TO THE NORTHERLY RIGHT OF WAY OF SAID TWINTREE LANE; THENCE LEAVING SAID LOT LINE AND ALONG SAID RIGHT OF WAY NORTH 89°22'00" WEST 332.46 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM ALL OIL, GAS, MINERALS AND OTHER HYDROCARBONS, BELOW A DEPTH OF 500 FEET, WITHOUT THE RIGHT OF SURFACE ENTRY, AS RESERVED IN INSTRUMENTS OF RECORD AND AS SET FORTH IN GRANT DEED RECORDED DECEMBER 20, 2017 AS INSTRUMENT NO. 2017000548401 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM OIL, GAS, MINERALS AND OTHER HYDROCARBONS, AS RESERVED IN GRANT DEED RECORDED MARCH 31, 1949 IN BOOK 1823, PAGE 196 OF OFFICIAL RECORDS.

PARCEL 2:

LOT 5 OF TRACT NO. 2782, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP RECORDED IN BOOK 89, PAGES 24 AND 25 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM THE WESTERLY 30.7 FEET THEREOF.

PARCEL 3:

LOT 6 OF TRACT NO. 2782, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP RECORDED IN BOOK 89, PAGES 24 AND 25 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM THE WESTERLY 40.10 FEET THEREOF.

PARCEL 4:

LOT 7 OF TRACT NO. 2782, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP RECORDED IN BOOK 89, PAGES 24 AND 25 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM THE WESTERLY 56.22 FEET THEREOF.

PARCEL 5:

LOT 8 OF TRACT NO. 2782, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP RECORDED IN BOOK 89, PAGES 24 AND 25 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM THE WESTERLY 65.30 FEET THEREOF.

EXCEPTIONS

(PER CHICAGO TITLE INSURANCE COMPANY ORDER No. 00131350-996-SD1-RT4 DATED DECEMBER 13, 2021)

1. THE RESERVATION FOR ROADS, RAILROADS AND DITCHES OF A STRIP OF LAND 15 FEET WIDE, ALONG, ADJOINING AND EACH SIDE OF THE QUARTER SECTION LINES, AND THE RESERVATION OF THE USE AND CONTROL OF CIENEGAS AND NATURAL STREAMS OF WATER, IF ANY, NATURALLY UPON, FLOWING ACROSS, INTO OR BY SAID TRACT, AND THE RIGHT OF WAY FOR AND TO CONSTRUCT IRRIGATION OR DRAINAGE DITCHES THROUGH SAID TRACT TO IRRIGATE OR DRAIN THE ADJACENT LAND, AS RESERVED IN THE DEED FROM THE STEARNS RANCHOS COMPANY RECORDED DECEMBER 13, 1892 IN BOOK 78, PAGE 181 OF DEEDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
2. THE RESERVATION OF A PORTION OF THE LAND FOR ROADS, RAILROADS, AND DITCHES AND THE RESERVATION OF THE USE AND CONTROL OF CIENEGAS, AND NATURAL STREAMS OF WATER, IF ANY, NATURALLY UPON, FLOWING, ACROSS, INTO OR BY SAID DESCRIBED TRACT, AND THE RIGHT OF WAY FOR AND TO CONSTRUCT IRRIGATION OR DRAINAGE DITCHES THROUGH SAID TRACT TO IRRIGATE OR DRAIN THE ADJACENT LAND, AS CONTAINED IN THE DEED FROM STEARNS RANCHO COMPANY RECORDED APRIL 07, 1894 IN BOOK 87, PAGE 87 OF DEEDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
3. THE COUNTY OF ORANGE, HOLDER OF AN EASEMENT FOR ROAD PURPOSES BY DOCUMENT RECORDED APRIL 4, 1917 IN BOOK 300 PAGE 376 OF DEEDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
4. THE COUNTY OF ORANGE, HOLDER OF AN EASEMENT FOR ROAD PURPOSES BY DOCUMENT RECORDED OCTOBER 14, 1926 IN BOOK 681 PAGE 186 OF DEEDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
5. THE COUNTY OF ORANGE, HOLDER OF AN EASEMENT FOR ROAD PURPOSES BY DOCUMENT RECORDED MAY 13, 1947 IN BOOK 1521 PAGE 294 OF OFFICIAL RECORDS AND RE-RECORDING DOCUMENT RECORDED MARCH 29, 1948 IN BOOK 1743 PAGE 131 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
11. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR PUBLIC UTILITIES BY DOCUMENT RECORDED FEBRUARY 10, 1954 IN BOOK 2667 PAGE 2 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
14. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR POLE LINES AND CONDUITS BY DOCUMENT RECORDED APRIL 13, 1955 IN BOOK 3030 PAGE 91 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
15. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR POLE LINES AND CONDUITS BY DOCUMENT RECORDED APRIL 20, 1955 IN BOOK 3037 PAGE 116 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
16. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR POLE LINES AND CONDUITS BY DOCUMENT RECORDED APRIL 20, 1955 IN BOOK 3037 PAGE 117 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
17. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR HIGHWAY PURPOSES BY DOCUMENT RECORDED AUGUST 15, 1955 IN BOOK 3174 PAGE 569 OF OFFICIAL RECORDS AND RESOLUTION NO. 3298-57 OF THE CITY COUNCIL OF THE CITY OF GARDEN GROVE RECORDED MARCH 8, 1967 IN BOOK 8193 PAGE 441 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)

⟨19⟩ SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR POLE LINES AND CONDUITS BY DOCUMENT RECORDED JUNE 20, 1956 IN BOOK 3551 PAGE 382 OF OFFICIAL RECORDS.

⟨20⟩ THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY, HOLDER OF AN EASEMENT FOR POLE LINES BY DOCUMENT RECORDED JUNE 29, 1956 IN BOOK 3562 PAGE 584 OF OFFICIAL RECORDS.

21. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR STREET AND HIGHWAY PURPOSES BY DOCUMENT RECORDED OCTOBER 9, 1956 IN BOOK 3671 PAGE 384 OF OFFICIAL RECORDS AND RESOLUTION NO. 2961-65 OF THE CITY COUNCIL OF THE CITY OF GARDEN GROVE RECORDED MAY 19, 1965 IN BOOK 7525 PAGE 992 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
22. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR STREET AND HIGHWAY PURPOSES BY DOCUMENT RECORDED APRIL 21, 1960 IN BOOK 5206 PAGE 459 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
23. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR STREET AND HIGHWAY PURPOSES BY DOCUMENT RECORDED APRIL 21, 1960 IN BOOK 5206 PAGE 460 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
24. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR STREET AND HIGHWAY PURPOSES BY DOCUMENT RECORDED NOVEMBER 27, 1961 IN BOOK 5924 PAGE 192 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
25. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR STREET AND HIGHWAY PURPOSES BY DOCUMENT RECORDED NOVEMBER 27, 1961 IN BOOK 5924 PAGE 195 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
26. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR STREET AND HIGHWAY PURPOSES BY DOCUMENT RECORDED DECEMBER 14, 1961 IN BOOK 5943 PAGE 952 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
27. THE CITY OF GARDEN GROVE, HOLDER OF AN EASEMENT FOR STREET AND HIGHWAY PURPOSES BY DOCUMENT RECORDED MAY 15, 1963 IN BOOK 6549 PAGE 879 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
29. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR PUBLIC UTILITIES BY DOCUMENT NO. 2686 RECORDED JUNE 1, 1979 IN BOOK 13170 PAGE 730 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
30. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR PUBLIC UTILITIES BY DOCUMENT RECORDED MAY 26, 1987 IN INSTRUMENT NO. 1987-293660 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
31. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR PUBLIC UTILITIES BY DOCUMENT RECORDED NOVEMBER 23, 1987 IN INSTRUMENT NO. 1987-656163 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
32. THE PACIFIC BELL TELEPHONE COMPANY, HOLDER OF AN EASEMENT FOR PUBLIC UTILITIES BY DOCUMENT RECORDED AUGUST 29, 2017 IN INSTRUMENT NO. 2017000364545 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
33. SOUTHERN CALIFORNIA EDISON COMPANY, HOLDER OF AN EASEMENT FOR PUBLIC UTILITIES BY DOCUMENT RECORDED SEPTEMBER 22, 2017 IN INSTRUMENT NO. 2017000404700 OF OFFICIAL RECORDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)
41. THE RESERVATION OF LAND FOR INGRESS AND EGRESS, AND PUBLIC UTILITIES, AS CONTAINED IN THE DEED FROM CLARENCE A. PINGSTON AND ANN PINGSTON, RECORDED AS BOOK 1926 PAGE 334 OF DEEDS. (LOCATED OUTSIDE OF VTTM PROPERTY IN QUESTION)

*REMAINING PRELIMINARY TITLE REPORT ITEMS NOT NOTED AS BEING "PLOTTED HEREON" ARE EITHER NOT PLOTTABLE, BLANKET IN NATURE OR NOT A SURVEY MATTER.

PROJECT NOTES

PROJECT CONSISTS OF 1 GROUND LOT.

PROPOSED RESIDENTIAL DEVELOPMENT WITH UP TO 55 RESIDENTIAL UNITS ACROSS THE SITE.

CHOISSER ROAD IS A PUBLIC STREET.

THE PROJECT IS WITHIN A LIQUEFACTION ZONE PER OC SERVICES WEBSITE.

ALL PROPOSED SLOPES (IF ANY) ARE 2:1 (H:V) MAXIMUM AS REQUIRED BY THE CALIFORNIA BUILDING CODE UNLESS OTHERWISE NOTED.

BUILDING SETBACK LINES SHALL BE SET AS FOLLOWS UNLESS OTHERWISE NOTED:
REAR YARD – 10 FT

AVERAGE SLOPE OF BOTH FEASIBLE ACCESS ROUTE AND FEASIBLE BUILDING SIDE DOES NOT EXCEED TEN PERCENT (10%).

THE PROJECT SHALL BE IN COMPLIANCE WITH APPENDIX 33 OF THE UNIFORM BUILDING CODE (CURRENT EDITION).

EXISTING UTILITIES: UNDERGROUND UTILITIES SHOWN HEREON WERE OBTAINED FROM CITY SUBSTRUCTURE MAPS. CERTAIN UTILITIES SUCH AS TRAFFIC SIGNAL LINES AND ABANDONED LINES MAY NOT BE SHOWN HEREON.

PROPOSED UTILITIES: SEWAGE AND DRAINAGE WILL BE PROVIDED BY THE CITY OF GARDEN GROVE INFRASTRUCTURE SYSTEMS.

THE SITE SHALL TE INTO EXISTING SEWER INFRASTRUCTURE.

LOT CONFIGURATIONS AND SIZES ARE APPROXIMATE IN NATURE AND WILL BE FINALIZED DURING THE FINAL MAP PHASE.

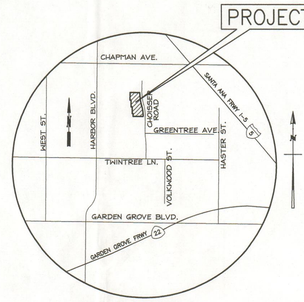
WE RESERVE THE RIGHT TO CONSOLIDATE LOTS.

PROPOSED RECIPROCAL INGRESS/EGRESS EASEMENTS (IF ANY) ARE YET TO BE DETERMINED.

THE SITE DOES NOT CONTAIN ANY PROTECTED TREES. ALL TREES ARE TO BE REMOVED.

ALL EXISTING BUILDINGS ARE TO BE REMOVED, UNLESS NOTED OTHERWISE.

WE RESERVE THE RIGHT TO PHASE THE FINAL MAP.



VICINITY MAP
(NOT TO SCALE)

COMMENTS

DATES OF SURVEY . . .	OCTOBER & NOVEMBER 2019 SEPTEMBER 2020
SITE ADDRESS	12233, 12235, 12237 & 12239 CHOISSER ROAD, GARDEN GROVE, CA 92840
APN NO.	231-491-12, 231-491-13, 231-491-14 & 231-491-15
BOUNDARY LINES . . .	WERE ESTABLISHED FROM THE RECOVERED CITY, COUNTY AND/OR PRIVATE ENGINEER MONUMENTS WHOSE CHARACTER AND SOURCE ARE SO NOTED ON THE SURVEY.
BASIS OF BEARINGS . .	THE BEARING OF N00°12'40"W OF THE CENTERLINE OF HARBOR BOULEVARD AS SHOWN ON THE MAP OF TRACT NO. 2012 AS RECORDED IN BOOK 55, PAGE 47 OF MAPS, RECORDS OF RECORDS COUNTY, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY.
BENCHMARK	ORANGE COUNTY BENCHMARK NO. 1F-161-92: DESCRIBED BY O.C.S. 2002-FOUND 3 3/4" O.C.S. ALUMINUM BENCHMARK DISK STAMPED "1F-161-92", SET IN THE SOUTHEASTERLY CORNER OF 4 FT BY 10 FT CONCRETE CATCH BASIN. MONUMENT IS LOCATED IN THE NORTHEASTERLY CORNER OF THE INTERSECTION OF LAMPSON AVENUE AND HARBOR BOULEVARD, 92 FT EASTERLY OF THE CENTERLINE OF HARBOR BOULEVARD AND 25 FT NORTHERLY OF THE CENTERLINE OF LAMPSON AVENUE. MONUMENT IS SET LEVEL WITH THE SIDEWALK. ELEVATION: 111.988' (NAVD 88) YEAR LEVELED 2010
⟨#⟩	INDICATES PRELIMINARY TITLE REPORT SCHEDULE B EXCEPTION NUMBER PLOTTED HEREON.
UTILITIES	ALL VISIBLE ABOVE-GROUND UTILITY FEATURES SHOWN ON THIS MAP WERE OBTAINED BY CONVENTIONAL MEANS. ABOVE-GROUND UTILITIES WERE COMBINED WITH CITY OF GARDEN GROVE SUBSTRUCTURE MAPS TO PLOT UNDERGROUND UTILITY LINES SHOWN HEREON. NO REPRESENTATION IS MADE AS TO THE COMPLETENESS OF SAID UTILITY INFORMATION AND ANY USER OF THIS INFORMATION SHOULD CONTACT THE UTILITY OR GOVERNMENT AGENCY DIRECTLY.
FLOOD INSURANCE RATE MAP.	ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PER FLOOD INSURANCE RATE MAP (FIRM) MAP PANEL MAP NO. 06037C1636G EFFECTIVE DATE DECEMBER 21, 2018.
ZONING INFORMATION	PUD(C), PUD-128-12

SITE AREA

GROSS AREA (EXISTING CONDITIONS)

LOT 5 TRACT NO. 17455	7,209 SQ. FT. OR 0.165 ACRES
LOT 6 TRACT NO. 17455	7,229 SQ. FT. OR 0.166 ACRES
LOT 7 TRACT NO. 17455	7,223 SQ. FT. OR 0.166 ACRES
LOT 8 TRACT NO. 17455	7,223 SQ. FT. OR 0.166 ACRES
TOTAL AREA	28,884 SQ. FT. OR 0.663 ACRES

NET AREA (PROPOSED CONDITIONS)
28,884 SQ. FT. OR 0.663 ACRES

UTILITY PROVIDERS

WATER: CITY OF GARDEN GROVE WATER DIVISION (714) 741-5395
SEWER: CITY OF GARDEN GROVE SEWER DIVISION (714) 741-5395
GAS: SOUTHERN CALIFORNIA GAS COMPANY (714) 634-3052
ELECTRIC: SOUTHERN CALIFORNIA EDISON COMPANY (714) 973-5449
TELEPHONE: PACIFIC BELL (714) 666-5440
CABLE TV: TIME WARNER COMMUNICATIONS (714) 903-8307

ENGINEERING RESOURCES OF SOUTHERN CALIFORNIA, INC.
9/15/22 DATE
RECOMMENDED FOR APPROVAL

PREPARED UNDER THE DIRECTION OF:

CHRISTOPHER M. JONES
CHRIS.JONES@KPFF.COM

LICENSED LAND SURVEYOR
CHRISTOPHER M. JONES
No. 8193
STATE OF CALIFORNIA

kpff
700 FLOWER ST., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
F: 213.266.5294
www.kpff.com

GENERAL NOTES:

OWNER:
INVESTEL GARDEN RESORTS LLC
12966 EUCLID STREET, SUITE 300
GARDEN GROVE, CA 92840
ATTN: KENHAO HSU
(626) 660-8718

SUBDIVIDER:
INVESTEL GARDEN RESORTS LLC
12966 EUCLID STREET, SUITE 300
GARDEN GROVE, CA 92840
ATTN: KENHAO HSU
(626) 660-8718

LAND SURVEYOR:
KPFF CONSULTING ENGINEERS, INC.
700 FLOWER ST., SUITE 2100
LOS ANGELES, CA 90017
ATTN: CHRISTOPHER JONES, PLS 8193
(213) 418-0201

CITY OF GARDEN GROVE
PW/ENGINEERING
PLAN CHECK No. 2ND
DATE RECEIVED 9/14/22
RECEIVED BY MH
DATE RETURNED 9/15/22
RETURNED BY

REVISIONS		
DATE	△	ISSUED FOR

DATE	06/29/2022
PROJECT NUMBER	2100802
DRAWN BY	DB
CHECKED BY	CJ
SCALE	AS SPECIFIED

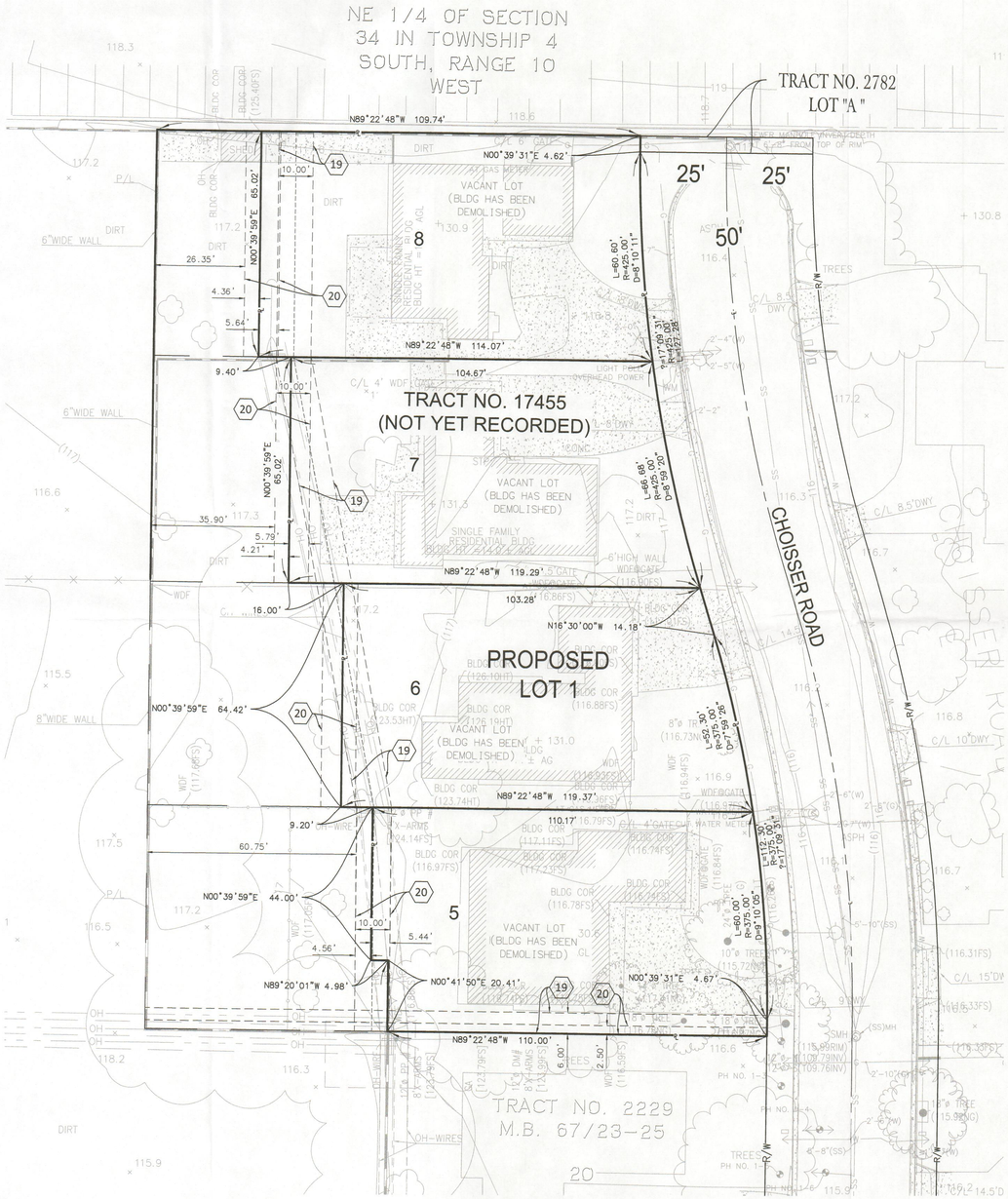
PROJECT DESCRIPTION

CHOISSER LOT

SHEET NUMBER

SHEET 1 0F 2

VESTING TENTATIVE PARCEL MAP No. 2021-206



ABBREVIATION

ASPH	ASPHALT
BW	BACK OF WALK
CB	CATCH BASIN
CF	CURB FACE
CD	CURB DRAIN
CONC	CONCRETE
CO	CLEAN OUT
CL	CENTER LINE
CLF	CHAIN LINK FENCE
D/L	DAYLIGHT
DCV	DETECTOR CONTROL VALVE
DI	DRAIN INLET
DF	DRINKING FOUNTAIN
DM	DEAD MAN
DP	DRAIN PIPE
DWY	DRIVE WAY
EC	EDGE OF CONCRETE
EFOW	EAST FACE OF WALL
ELEC	ELECTRICAL
EPB	ELECTRICAL PULL BOX
EP	EDGE OF PAVEMENT
EMH	ELECTRICAL MANHOLE
EVLT	ELECTRICAL VAULT
EUTIL	ELECTRICAL UTILITY
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
FLGP	FLAG POLE
FOW	FACE OF WALL
FP	FINISH PAVEMENT
FS	FINISH SURFACE
GA	GUY ANCHOR
GVA	GAS VALVE ASSEMBLY
GB	GRADE BREAK
GP	GUARD POST
GV	GAS VALVE
GM	GAS METER
HB	HOSE BIB
HH	HAND HOLE
HP	HIGH POINT
HR	HAND RAIL
INV	INVERT
LD	LANDING AREA
LIP	LIP OF GUTTER
LTLT	LOT LIGHT
MH	MANHOLE
MISC	MISCELLANEOUS
MON-SIGN	MONUMENT SIGN
MON-WELL	MONITORING WELL
N	NORTH
NFOW	NORTH FACE OF WALL
N.T.S	NOT TO SCALE
NG	NATURAL GROUND
OH	BUILDING OVERHANG
OH-WIRES	OVERHEAD WIRES
PA	PLANTING AREA
PRKWY DRN	PARKWAY DRAIN
PIV	POST INDICATOR VALVE
P/L	PROPERTY LINE
PP	POWER POLE
PVC PIPE	POLYVINYL CHLORIDE PIPE
SCO	SEWER CLEANOUTS
SFOW	SOUTH FACE OF WALL
SDMH	STORM DRAIN MANHOLE
SP	SIGN POST
STP	STEPS
STLT	STREET LIGHT/LIGHT STANDARD
TC	TOP OF CURB
TE	TRASH ENCLOSURE
TELE-CAB	TELEPHONE CABINET
TELE-PED	TELEPHONE PEDESTAL
TH	THRESHOLD
TSPB	TRAFFIC SIGNAL PULL BOX
TSLT	TRAFFIC SIGNAL LIGHT
TW	TOP OF WALL
TVLT	TELEPHONE VAULT
TWC	TOP OF WALL CONCRETE
TWB	TOP OF WALL BLOCK
UTIL	UTILITY
UTIL-CAB	UTILITY CABINET
VLT	VAULT
W	WEST
WB	BLOCK WALL
WDF	WOOD FENCE
WFOW	WEST FACE OF WALL
WM	WATER METER
WRIF	WROUGHT IRON FENCE
WSO	WATER SHUT OFF VALVE
WTR	WATER
WVLT	WATER VAULT
WV	WATER AVLVE

LEGEND

SEWER MANHOLE
WATER VALVE
CONCRETE
UTILITY PULL BOX
SIGN POST
POST
STREET LIGHT
POWER POLE
CHAIN LINK FENCE
EDGE OF PAVEMENT
WALL
RETAINING WALL

kpff
700 FLOWER ST., Suite 2100
Los Angeles, CA 90017
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F: 213.266.5294
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REVISIONS		
DATE	△	ISSUED FOR

DATE	06/29/2022
PROJECT NUMBER	2100802
DRAWN BY	DB
CHECKED BY	CJ
SCALE	AS SPECIFIED

PROJECT DESCRIPTION

CHOISSER LOT

SHEET NUMBER

SHEET 2 0F 2

CITY OF GARDEN GROVE
PLANNING SERVICES DIVISION
11222 ACACIA PARKWAY
GARDEN GROVE, CA 92840
TEL: (714) 741-5312 FAX: (714) 741-5578
ggcity.org

Density Bonus Application
(Government Code §65915 *et seq.*)

Housing development project applicants intending to request a density bonus, incentives or concessions, modifications or waivers, and/or reduced parking pursuant to the Section 65915 et seq. of the California Government (Density Bonuses and Other Incentives) must complete the following application. For additional information regarding density bonuses and affordability agreements, please refer to Section 9.12.030.070 of the Garden Grove Municipal Code, and to the Garden Grove Density Bonus Agreement Guidelines.

Date Filed: 02/23/2022

DENSITY BONUS TYPE	
Please check one of the following (as proposed at the time of application submittal):	
☐	100% of all units in the development, including Total Units and density bonus units, but exclusive of a manager's unit or units, are for low income households, as defined by Section 50079.5 of the Health and Safety Code, except that up to 20 percent of the units in the development, including Total Units and density bonus units, may be for moderate income households, as defined in Section 50053 of the Health and Safety Code.
☒	At least 5% of the Total Units for very low income households, as defined in Section 50105 of the California Health and Safety Code.
☐	At least 10% of the Total Units for lower income households, as defined in Section 50079.5 of the California Health and Safety Code.
☐	At least 10% of the Total Units for moderate income households, as defined in Section 50093 of the California Health and Safety Code (common interest development offered to the public for purchase unless on-site option for Impact Fees, see 15.72.100.B.4).
☐	A senior citizen housing development, as defined in Sections 51.3 and 51.12 of the California Civil Code.
☐	At least 10% of the Total Units for transitional foster youth, as defined in California Education Code section 66025.9 (very low income households as defined in Section 50105 of the California Health and Safety Code).
☐	At least 10% of the Total Units for disabled veterans, as defined in California Government Code Section 18541 (very low income households as defined in Section 50105 of the California Health and Safety Code).
☐	At least 10% of the Total Units for homeless persons, as defined in the federal McKinney-Vento Homeless Assistance Act (42 U.S.C. Sec. 11301 et seq.) (very low income households, as defined in Section 50105 of the California Health and Safety Code).
☐	At least 20% of the Total Units for lower income students in a student housing development (that satisfies the requirements of California Government Code Section 65915(b)(1)(F)).
☐	Land donation (at least one acre in size, or of sufficient size to permit development of at least 40 units and otherwise satisfies the requirements of California Government Code Section 65915(g).)
☐	Child care facility (that satisfies the requirements of California Government Code Subsection 65915(h)).
☐	Condominium Conversion (that satisfies the requirements of California Government Code 65915.5)).

PRIMARY CONTACT INFORMATION
Name: Investel Garden Resorts LLC
Contact Type: ☐ Architect ☐ Engineer ☒ Property Owner ☐ Representative ☐ Other
Mailing Address: 12966 Euclid Street, Suite 300
City, State, Zip Code: Garden Grove, CA, 92840
Phone No.: 714-696-0000
E-mail: investel2@scgamerica.com

PROPERTY OWNER CONTACT INFORMATION (If different than Primary Contact)
Name:
Mailing Address:
City, State, Zip Code:
Phone No.:
E-mail:

PROJECT INFORMATION:		
Project Address: 12233, 12235, 12237, 12239 Choisser Rd, Garden Grove, CA, 92840		
APN(s): APN-23149112, APN-23149113, APN-23149114, APN-23149115		
Zoning & General Plan Land Use: ZONE: PUD(C), PUD-128-12 LAND USE: IW (INTERNATIONAL WEST MIXED USE)		
Maximum Allowable Residential Density (before density bonus): 70 units per acre		
Total Base Number of Housing Units (before density bonus): 46 units		
Market Rate Base Housing Units (before density bonus): 40 units		
Affordable Base Housing Units (before density bonus): 6 units		
Size of Market Rate Units (# of Studios, 1 bedroom, 2 bedroom, etc.): Studio: 729 sq ft, 1-bedroom: 799-817 sq ft, 2-bedroom: 1040-1175 sq ft, 3-bedroom: 1247 sq ft		
Size of Affordable Units (# of Studios, 1 bedroom, 2 bedroom, etc.): 1-bedroom: 799 sq ft, 2-bedroom: 1140 sq ft, 3-bedroom: 1247 sq ft		
Proposed number of Very Low Income units : 5 units (1 3-bedroom, 2 2-bedroom, 2 1-bedroom)		
Proposed number of Low Income units : 1 unit (1 3-bedroom)		
Proposed number Moderate Income units : 0 units		
Percentage of Total Base Housing Units that are Affordable: 13% (10%+3%)		
Maximum Density Bonus Percentage (See chart on page 4): 32.5%		
Number of Required Parking Spaces: No more than 70		
Number of Parking Spaces Provided: 58		
Residential Tenure: Does the project propose rental or ownership units? Rental		
DENSITY BONUS REQUEST		
Density Bonus Percentage (calculate using "Density Bonus Chart"): 32.5%		
Total Number of Density Bonus Units: 15 units		
Total Units in Development After Density Bonus is Applied: 61 units		
If requesting a Density Bonus for the following project types, please check the appropriate box and provide the following information:		
☐	Land Donation	Address (or APN) of land to be dedicated:
		Attach proof of site control.
		Attach evidence of meeting conditions for a land transfer density bonus as specified in the State Housing Density Bonuses and Incentives Law
☐	Child-Care Facility	Address and APN of child-care facility:
		Square footage of facility:
		Attach evidence of meeting conditions for a child care facility density bonus or Incentive as specified in the State Housing Density Bonuses and Incentives Law.
☐	Condominium Conversion	Attach evidence of meeting conditions for a condominium conversion Density Bonus as specified in the State Housing Density Bonuses and Incentives Law.

INCENTIVES/CONCESSIONS REQUEST

An applicant for a density bonus may also propose specific incentives/concessions pursuant to Subsection (d) of Government Code Section 65915. The number of incentives/concessions an applicant may receive is based on the number of affordable units and level of affordability provided. Use the Incentives/Concessions Calculator below to determine the number of incentives or concessions you are eligible for.

INCENTIVES/CONCESSIONS CALCULATOR

Affordability Level	Restricted Affordable Units Provided in Project	% of Base Project	Threshold for one (1) Incentive/ Concession (# of units)		Threshold for two (2) Incentives/ Concessions (# of units)		Threshold for three (3) Incentives/ Concessions (# of units)		Threshold for four (4) Incentives/ Concessions* (# of units)	
Very Low Income	5	10%	5%	3	10%	5	15%		100% affordable with ≥80% low income, ≤20% moderate	
Low Income	1	3%	10%		17%		24%			
Moderate Income			10%		20%		30%			

** If a 100% affordable project is located within ½ mile of a major transit stop, the project is eligible for a height increase of up to three (3) additional stories, or thirty-three feet (33'-0"); however, if the project also seeks a waiver from any maximum controls on density, the project cannot receive a waiver of any other development standards (but can still receive four incentives). If this allowance is sought, please describe/identify the major transit stop that is within ½ mile of the qualifying 100% affordable project:*

DESCRIPTION OF INCENTIVES/CONCESSIONS REQUESTED

List all requested incentives/concessions. If a reduction in site development standards or a modification of zoning code requirements is sought, include references to specific Municipal Code Sections in question, and reference the requested incentives/concessions on the submitted plans.

1. Municipal Code 9.18.110.030.D requires that the first habitable floor of a residential-only building shall not be located more than 4 feet above the existing grade and no more than one foot below the existing grade along the required front yard setback. The project doesn't have residential on first level which is the parking garage. So the first habitable floor is 11 feet above the grade.

2. Municipal Code 9.12.030.070. E.3 (From Government Code Section 65915 (p)(1)) states that upon request of the developer, the City shall grant a reduction in the vehicular parking ratio, inclusive of handicapped and guest parking, to at least the following ratios:
a. Zero to one bedrooms: one onsite parking space.
b. Two to three bedrooms: two onsite parking spaces.
c. Four and more bedrooms: two and one-half parking spaces.
The project propose about 1.1 parking spaces per unit. The Density Bonus allows applicants to request parking incentive or concession beyond those provided in state law.

Provide evidence substantiating the applicant's eligibility for each incentive/concession requested, including information that clearly demonstrates that the requested incentive/concession will result in identifiable and actual cost reductions to provide for affordable housing costs. The Applicant may attach additional documentation as required.

1. In order to comply with Municipal Code 9.18.110.030.D, the parking level would need to be subterranean, which would impose significant additional construction costs. Estimates show for semi-subterranean parking required in order to maintain the first floor below 4 feet, the cost is about $41,000 / stall, and the cost per original design (parking structure above ground) is $36,384 / stall. Locating parking level on ground level with residential levels above results in actual cost reductions.

2. The project is located within one-half mile of a major transit stop, and there is unobstructed access to the major transit stop from the development. Our proposed percentage for very low income unit is 10.8% which is very close to the threshold to achieve 0.5 spaces per unit per Government Code Section 65915 (p)(2). Also, in order to achieve below ratios the project need to add one more subterranean parking level to incorporate more parking stalls and driveway ramp, which would increase significant additional construction costs. Cost estimate is stated in the above paragraph.

MODIFICATION/WAIVER REQUEST

Pursuant to Subsection (e) of Government Code Section 65915, an applicant may also propose the waiver or reduction of development standards that have the effect of physically precluding the construction of a housing development incorporating the density bonus and any incentives or concessions granted to the applicant.

DESCRIPTION OF MODIFICATIONS/WAIVERS REQUESTED

List all development standards for which you are seeking a waiver or reduction pursuant to Subsection (e) of Government Code Section 65915. Include references to specific Municipal Code Sections in question, and reference development standards to be modified or waived on the submitted plans.

1. Since the project abuts a residential property to the south, the project is required to comply with the encroachment plane requirement of 9.18.100.020.D.1. of the Municipal Code. The encroachment plane requirement ensures that no shade and shadow impact occur to the adjacent residential properties. The project proposes 10 feet setback on parking ground level and 20 feet setback on residential levels above, which are lower than the referenced code section would require.

2. Municipal Code Section 9.18.110.030.H.2 requires each unit to have a separate storage area
having minimum of 300 cubic feet of private and secured storage space. Closet and cupboard space within the dwelling unit shall not count to meet this requirement. The project proposes no extra separate storage area per unit.

3. Municipal Code standards Section 9.18.110. 030. F
The code requires 300 S.F. of recreation space per unit. The total recreation area required is 15,900 S.F. The project proposes a total of 7,820 square feet of open space and it allows indoor and roof area to contribute to 100% of the recreation space requirement.

4. Municipal Code standards Section 9.18.110. 030. F.1
The code requires that each unit provide private open space in the form of patio, yard or balcony and located directly adjacent and accessible to each unit. The private space requirement includes a minimum area of 90 square feet and minimum dimensions of 6 feet. The project proposes 25 units out of the 51 units will have a balcony. For the units with a balcony, the minimum size/dimension is not met. The project proposes a balcony size of approximately 51 S.F. with dimensions of 10' x 5'-1, and 88 S.F. with dimensions of 14'-6" x 6'-1".

5. Municipal Code standards Section 9.18.110. 030. F.3
Passive recreation areas shall have a minimum dimension of 10 feet in width and 30 feet in length. Since the property boundary is pretty irregular, some of points of landscape area fails to maintain minimum 10 feet in width and it allows indoor and roof area to contribute to 100% of the recreation space requirement.

6. Municipal Code standards Section 9.18.140.040. A
The code requires standard parking spaces to maintain dimensions of 9 ft by 19 ft. The proposed project will provide standard stall size dimensions of 9 ft by 18 feet.

Provide evidence substantiating the applicant's eligibility for each waiver or reduction of a development standard being requested, including documentation demonstrating that the waiver or reduction is physically necessary to construct the housing development with the additional density allowed pursuant to the density bonus and incorporating any incentives or concessions required to be granted. Where more than one modification or waiver is sought, the applicant should clearly demonstrate why the modifications/waivers are cumulatively necessary to prevent a development standard from physically precluding the construction of the development.

1. In order to comply with the encroachment plane requirement, the number of units would need to significantly decrease. The project as physically designed, with the density bonus, the affordable units, and the approvable incentives, cannot physically accommodate the encroachment plane requirement. Also, the goal of encroachment plane is to ensure that no shade and shadow impact occur to the adjacent residential properties. The attached analysis shows that there is no shade and shadow impacts to adjacent residential units. See Exhibit A - Choisser Apts_Shade and Shadow Study_1.3.22.

2. Given the current 6-story programming, any additional and separated storage space for each unit cannot be accommodated into the project as physically designed, with the density bonus, the affordable units, and the approvable incentives. Otherwise it would decrease the usable dwelling area of each unit and even be lower than the minimum dwelling unit area the code require.

3. Municipal Code standards Section 9.18.110. 030. F
To meet the minimum recreation area, extra square footage need to be reserved and built for landscape space, patio, yard, balcony and amenity space. As one of the waivers required to be granted, balconies area cannot be sufficient. Amenities space need to be minimize to construct the additional density bonus allowed. Also the landscape area need to be limited given the tight site condition. The project as physically designed, with the density bonus, the affordable units, and the approvable incentives cannot physically accommodate the 300 square feet per unit in recreation area.

4. Municipal Code standards Section 9.18.110. 030. F.1
Adding balcony to each unit and expand the size of the balcony would significantly increase construction cost. Balcony costs depending upon the type, railing, drainage, lighting, waterproofing, etc. can be as low as $90/sf and as high as $150/sf plus the sliding door system used. Code required balcony size is also above the local market standard.The current proposed balcony size can serve the function for daily use. Also estimates show the cost to add one balcony per our plans is about $9,000 / unit, which include wood framing, sheet-metal, drainage, light-wt. concrete with deck system, additional plaster work, ventilation, railing and additional exterior lighting. With the requested concession, actual cost reductions will be obtained in the range of $300,000 to $400,000.

5. Municipal Code standards Section 9.18.110. 030. F.3
Compliance with this requirement would squeeze the footprint of the building, and the project as physically designed, with the density bonus, the affordable units, and the approvable incentives cannot be physically accommodated on the project site. On the ground parking level, it is impossible to maintain 9 by 18 standard parking stalls or minimum 25' driveway width. See Exhibit B - Diagram of Modifications Waivers Requested.

6. Municipal Code standards Section 9.18.140.040
The current designed driveway width (minimum 25 feet) does comply with the code requirement, The parking stall dimensions of 9 ft by 18 ft also meets lots of other Cities' requirement. Due to the current zoning setback requirement and actual tight site condition,The project as physically designed, with the density bonus, the affordable units, and the approvable incentives, cannot physically accommodate the requirement that parking spaces be 19 feet in length. See Exhibit B - Diagram of Modifications Waivers Requested.

PARKING RATIOS			
Are you requesting application of the onsite vehicular parking ratios set forth in Subsection (p)(1) of Government Code Section 65915?			
☒	Yes	☐	No

SPECIAL PARKING REQUIREMENTS	
If you are requesting application of a reduced onsite parking ratio pursuant to Subsections (p)(2), (p)(3), or (p)(4) of Government Code Section 65915, select the onsite parking standard requested per the appropriate development type:	
☐	Rental/for sale projects with at least 11% very low income or 20% lower income units, within ½ mile of accessible major transit stop** – 0.5 spaces per unit
☐	Rental projects 100% affordable to lower income, within ½ mile of accessible major transit stop** – 0 spaces per unit
☐	Rental senior projects 100% affordable to lower income, either with paratransit service or within ½ half mile of accessible bus route** (operating ≥8 times per day) – 0 spaces per unit
☐	Rental special needs projects 100% affordable to lower income households, either with paratransit service or within ½ half mile of accessible bus route** (operating ≥8 times per day) – 0 spaces per unit
☐	Rental supportive housing developments 100% affordable to lower income households – 0 spaces
*** If applicable, please describe/identify the major transit stop or accessible bus route that is within ½ mile of the project.*	

ASSOCIATED HOUSING DEVELOPMENT FORMS & APPLICATIONS	
Dependent upon the nature of the request, and the design of the project, the following forms may also be required:	
☒ Replacement Unit Determination	☐ SB 330 Housing Development Pre-Application
☐ SB 35 Housing Streamlining Eligibility Checklist	☐ Preliminary Development Review Application

CERTIFICATION:

I certify and declare under penalty of perjury under the laws of the State of California that the answers furnished above, and in any attached exhibits, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. I further understand that additional information may be required by the City of Garden Grove to complete my review. Furthermore, developments requesting a density bonus shall enter into a density bonus housing agreement with the City. A density bonus housing agreement shall be made a condition of the discretionary planning permits for all housing developments, and shall be recorded as a restriction on any parcels on which the target units or density bonus units will be constructed. The density bonus housing agreement shall be recorded prior to final or parcel map approval, or, where the housing development does not include a map, prior to issuance of a building permit for any structure in the housing development. The density bonus housing agreement shall run with the land and bind on all future owners and successors in interest.

____________________________ ____________________

Applicant Signature Date

____________________________ ____________________

Property Owner Signature Date

DENSITY BONUS CHART*							
Affordable Unit Percentage**	Very Low Income Density Bonus	Low Income Density Bonus	Moderate Income Density Bonus***	Land Donation Density Bonus	Senior****	Foster Youth/ Disabled Vets/ Homeless	College Students
5%	20%	-	-	-	20%	-	-
6%	22.50%	-	-	-	20%	-	-
7%	25%	-	-	-	20%	-	-
8%	27.50%	-	-	-	20%	-	-
9%	30%	-	-	-	20%	-	-
10%	32.50%	20%	5%	15%	20%	20%	-
11%	35%	21.50%	6%	16%	20%	20%	-
12%	38.75%	23%	7%	17%	20%	20%	-
13%	42.50%	24.50%	8%	18%	20%	20%	-
14%	46.25%	26%	9%	19%	20%	20%	-
15%	50%	27.50%	10%	20%	20%	20%	-
16%	50%	29%	11%	21%	20%	20%	-
17%	50%	30.50%	12%	22%	20%	20%	-
18%	50%	32%	13%	23%	20%	20%	-
19%	50%	33.50%	14%	24%	20%	20%	-
20%	50%	35%	15%	25%	20%	20%	35%
21%	50%	38.75%	16%	26%	20%	20%	35%
22%	50%	42.5%	17%	27%	20%	20%	35%
23%	50%	46.25%	18%	28%	20%	20%	35%
24%	50%	50%	19%	29%	20%	20%	35%
25%	50%	50%	20%	30%	20%	20%	35%
26%	50%	50%	21%	31%	20%	20%	35%
27%	50%	50%	22%	32%	20%	20%	35%
28%	50%	50%	23%	33%	20%	20%	35%
29%	50%	50%	24%	34%	20%	20%	35%
30%	50%	50%	25%	35%	20%	20%	35%
31%	50%	50%	26%	35%	20%	20%	35%
32%	50%	50%	27%	35%	20%	20%	35%
33%	50%	50%	28%	35%	20%	20%	35%
34%	50%	50%	29%	35%	20%	20%	35%
35%	50%	50%	30%	35%	20%	20%	35%
36%	50%	50%	31%	35%	20%	20%	35%
37%	50%	50%	32%	35%	20%	20%	35%
38%	50%	50%	33%	35%	20%	20%	35%
39%	50%	50%	34%	35%	20%	20%	35%
40%	50%	50%	35%	35%	20%	20%	35%
41%	50%	50%	38.75%	35%	20%	20%	35%
42%	50%	50%	42.50%	35%	20%	20%	35%
43%	50%	50%	46.25%	35%	20%	20%	35%
44%	50%	50%	50%	35%	20%	20%	35%
100%*****	80%	80%	80%	35%	20%	20%	35%

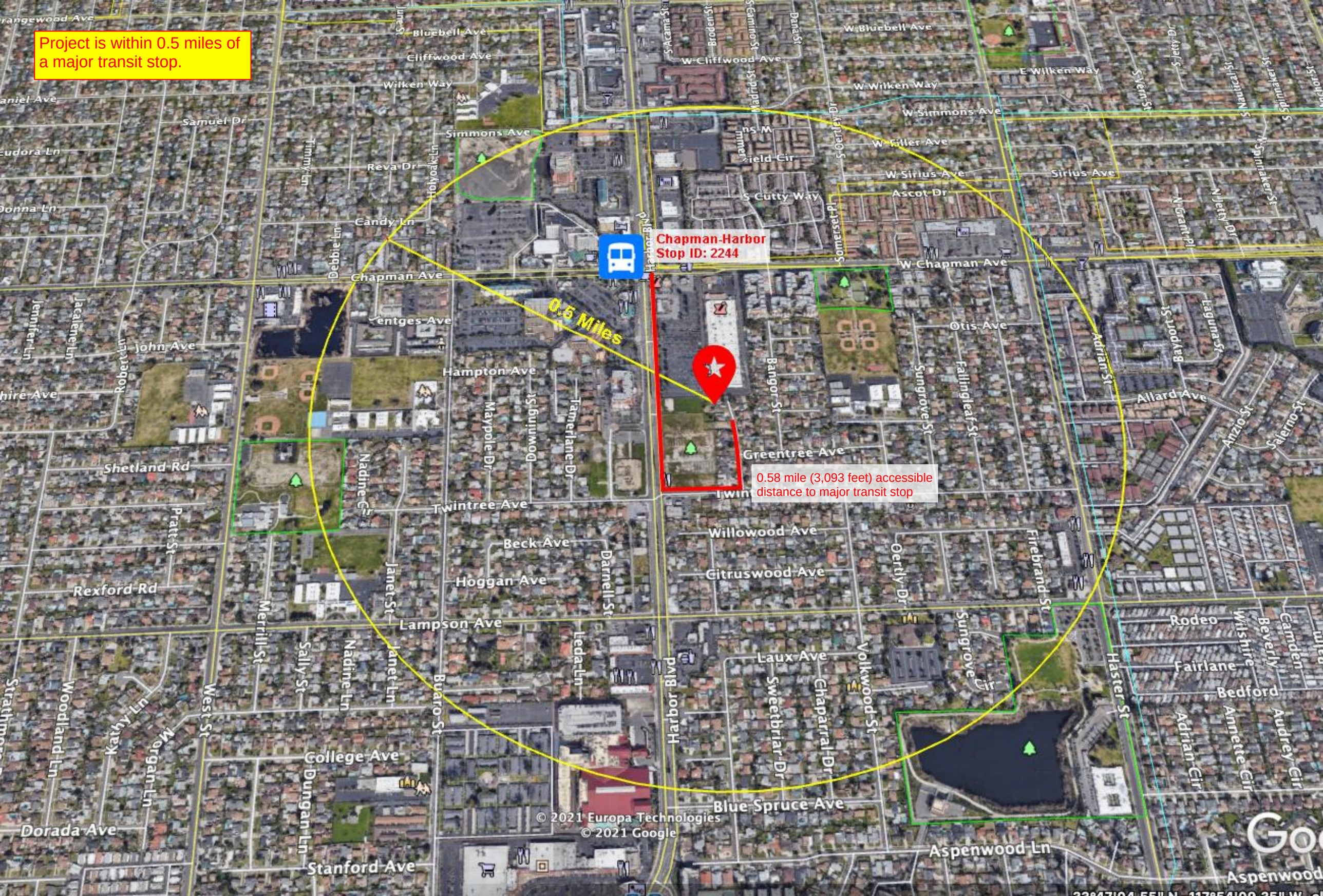
**All density bonus calculations resulting in fractions are rounded up to the next whole number*

***Affordable unit percentage is calculated excluding units added by a density bonus.*

****Moderate income density bonus applies to for sale units, not to rental units.*

*****No affordable units are required for senior units.*

******Applies when 100% of the total units (other than manager's units) are restricted to very low, lower and moderate income (maximum 20% moderate).*


Project is within 0.5 miles of a major transit stop.
Chapman-Harbor
Stop ID: 2244
0.5 Miles
0.58 mile (3,093 feet) accessible distance to major transit stop
Bluebell Ave
Cliffwood Ave
Wilken Way
Simmons Ave
Reva Dr
Candy Ln
Chapman Ave
Hampton Ave
Greentree Ave
Twintree Ave
Beck Ave
Hoggan Ave
Lampson Ave
College Ave
Stanford Ave
Dorada Ave
Rexford Rd
Shetland Rd
Willowood Ave
Citruswood Ave
Blue Spruce Ave
Aspenwood Ln
W Bluebell Ave
W Cliffwood Ave
W Wilken Way
W Simmons Ave
W Filler Ave
W Sirius Ave
Ascot Dr
S Cutty Way
W Chapman Ave
Otis Ave
Allard Ave
Laux Ave
Harbor Blvd
Haster St
Fairlane
Bedford
Rodeo
Aspenwood
Samuel Dr
Timmy Ln
Debbie Ln
Jennifer Ln
Jacalene Ln
Robert Ln
John Ave
Maypole Dr
Downing St
Tamerlane Dr
Nadine Ct
Pratt St
Merrill St
Janet St
Janet Ln
Sally St
Nadine Ln
Buaro St
West St
Leda Ln
Darnell St
Woodland Ln
Kathy Ln
Morgan Ln
Dungan Ln
Harbor Blvd
Sweetbriar Dr
Chaparral Dr
Volkwood St
Sungrove Cir
Firebrand St
Oertly Dr
Somerset Pl
Bangor St
Sungrove St
Fallingleaf St
Adrian St
Laguna St
Bayport St
Anzio St
Salerno St
N Grant Pl
N Jetty Dr
N Spinnaker St
S Sven St
E Wilken Way
Wilshire
Beverly
Camden
Annette Cir
Audrey Cir
Adrian Cir
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RK engineering group, inc.

traffic engineering & design
transportation planning
parking
acoustical engineering
air quality & ghg

September 1, 2022

Jerry Flores
AECOM
999 Town & Country Road
Orange, CA 92868

Subject: Choisser Apartment Trip Generation and Vehicles Miles Traveled Analysis, City of Garden Grove, CA

Dear Mr. Flores:

Introduction

RK ENGINEERING GROUP, INC. (RK) is pleased to provide this trip generation and Vehicle Miles Traveled (VMT) screening analysis for the proposed Choisser Apartments project. The project site is located at 12233, 12235, 12237, 12239 Choisser Road, Garden Grove, CA, 92840.

The City of Garden Grove (City) has adopted the *City of Garden Grove Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment, May 2020* (Guidelines) which establish uniform analysis methodology and thresholds of significance for determining LOS as well as VMT impacts under the California Environmental Quality Act (CEQA).

Pursuant to the City of Garden Grove Guidelines, for non-CEQA purposes, the proposed project is forecasted to generate less than 50 peak hour trips and would therefore not require a detailed level of service (LOS) analysis. Additionally, for CEQA purposes, the proposed project is located in a Transit Priority Area and thus may be presumed to have a less than significant impact to VMT without the need for a detailed VMT modeling analysis as well.

Project Description

The proposed project consists of constructing and operating an at-grade, six-story, multifamily housing development on a 28,832 square foot site. The ground level of the

4000 westerly place, ste. 280
newport beach, ca 92660
P (949) 474-0809
W rkengineer.com

structure will be used for parking with five-stories of residential above. The proposed project will consist of 53 units, which will be a mix of studios, one-bedroom units, two-bedroom units, and three-bedroom units. Six (6) of the 53 units would be affordable housing units, where five (5) units would be for very low income and one (1) would be for low-income.

The project site has a General Plan land use designation of International West Mixed Use (IW) and is zoned as Planned Unit Development (PUD) (PUD-128-12). Surrounding land use includes commercial uses to the north, hotel uses and vacant commercial lots to the west, and residential uses to the northeast, east, and south.

Exhibit A shows the location map of the proposed project. Exhibit B-1 shows the proposed site plan and Exhibit B-2 shows the project site plan with the ground floor parking layout.

The project is planned to open in 2025.

Trip Generation

This analysis is provided for non-CEQA purposes. Trip generation represents the amount of traffic that is attracted and produced by a development.

Trip generation is typically estimated based on the trip generation rates from the latest Institute of Transportation Engineers (ITE) Trip Generation Manual. The 11th Edition, 2021 ITE Trip Generation Manual has been utilized for this scoping agreement. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

Table 1 shows the ITE trip generation rates utilized for the trip generation analysis of the proposed project land use.

Table 1
ITE Trip Generation Rates[1]

Land Use	Units[2]	ITE Code	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-Rise) – Not Close to Rail Transit	DU	221	0.09	0.28	0.37	0.24	0.15	0.39	4.54

[1] Source: *2021 ITE Trip Generation Manual (11th Edition).*

[2] DU = Dwelling Units

Table 2 shows the trip generation for the proposed project.

Table 2
Project Trip Generation[1]

Land Use (ITE Code)	Quantity	Units	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-Rise) – Not Close to Rail Transit (221)	53	DU	5	15	20	13	8	21	241

[1] Source: *2021 ITE Trip Generation Manual (11th Edition).*

[2] DU = Dwelling Units

As shown in Table 2, based on the ITE trip generation rates, the proposed project is forecast to generate approximately 241 daily trips with 20 trips in the AM peak hour and 21 trips in the PM peak hour.

The trip generation estimates for the project are based on the average trip rates from over 30 multifamily housing studies published by ITE. It is also typical for multifamily housing to have a trip rate of less than one (1) trip per dwelling unit during the peak hours, as inhabitants may have alternative work schedules, work from home, or perform other activities outside the normal morning and afternoon rush hours. Based on the trip generation data, it is estimated that each dwelling unit will generate approximately 4.5 trips per day.

Per the City of Garden Grove Guidelines, a detailed LOS analysis shall be required for a proposed project when either the AM or PM peak hour trip generation from the proposed development is expected to exceed 50 vehicle trips. An excerpt from the City's guidelines indicating the trip screening criteria is provided in Attachment A. Since the proposed

Transit Priority Area (TPA) Screening

This analysis is provided for CEQA purposes. The City's Guidelines indicate that residential projects located within a transit priority area (TPA) may be presumed to have a less than significant vehicle miles traveled (VMT) impact, absent substantial evidence to the contrary. As discussed below, the project qualifies for being located in a Transit Priority Area, and there is no evidence to the contrary that it would have a less than significant impact.

A transit priority area is defined as a half mile area around an existing major transit stop or an existing stop along a high-quality transit corridor. A high-quality transit corridor refers to a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Public transit bus service in the City of Garden Grove is provided by the Orange County Transit Agency (OCTA). The proposed project is located east along Harbor Boulevard. Harbor Boulevard is served by OCTA Route 43 and 543. Maps and travel times from OCTA Bus Route 43 and 543 are provided in Attachment B. Buses from said bus services arrive at the bus stops along Harbor Boulevard within intervals of 15 minutes or less. Thus, Harbor Boulevard qualifies as a high-quality transit corridor.

Exhibit C provides a map of the transit priority areas in Garden Grove. As shown in Exhibit C, the proposed project is situated in a transit priority area.

Table 3 evaluates the appropriateness for utilization of the Transit Priority Area screening criteria.

Table 3
Step 1: Transit Priority Area Screen Check for Appropriateness

TPA Screening Criteria	Project Description	Satisfied (yes/no)
FAR greater than or equal to 0.75	Project FAR = 3.07	Yes
Includes less than or equal to City code required parking	Project is providing 58 spaces. City code requires 70 spaces.	Yes
Project is consistent with the applicable Sustainable Communities Strategy (SCS)	The project is consistent with the Regional Housing Needs Assessment (RHNA) and growth projections for the city.	Yes
Project does not replace affordable residential units with a smaller number of moderate- or high-income residential units	The project is not replacing any existing affordable housing units. (Project is building 6 new affordable housing units)	Yes

As shown in Table 3, the proposed project satisfies all of the criteria for utilizing the Transit Priority Area (TPA) Screening. Therefore, the proposed project satisfies the Transit Priority Area Screening criteria.

Hence, the project may be presumed to have a less than significant impact to VMT.

Low VMT Generating Area Screening

This analysis is provided for CEQA purposes. Per the City's guidelines, residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact on VMT.

The City of Garden Grove has developed a map illustrating the low VMT-generating zones within the City. As shown in Exhibit D, the project is located within a low VMT-generating zone. The project would not alter the existing built environment in such a way as to increase the rate or length of vehicle trips in the area. Therefore, the project may be presumed to result in a less than significant impact based on low VMT-generating zones.

Project Type Screening

This analysis is provided for CEQA purposes. The City's guidelines specify that certain project types are eligible to screen from a project-level VMT assessment because they can be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature. These types of projects include:

- Local Serving K-12 schools
- Local Parks
- Day care centers
- Local-serving retail uses less than 50,000 square feet including gas stations, banks, restaurants and shopping center
- Local serving hotels (e.g. non-destination hotels)
- Student housing projects on or adjacent to a college campus
- Local-serving assembly uses (places of worship, community organizations)
- Community institutions (public libraries, fire stations, local government)
- Affordable, supportive, or transitional housing
- Assisted living facilities
- Senior housing (as defined by HUD)
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
- Projects generating less than 110 daily vehicle trips. This generally corresponds to the following "typical" development potentials:
    - 11 single-family housing units
    - 16 multifamily, condominiums, or townhouse housing units
    - 10,000 square feet of office
    - 15,000 square feet of light industrial
    - 63,000 square feet of warehouse
    - 79,000 sq. ft. of high cube transload and short-term storage warehouse

The project does not meet the Project Type screening criteria.

Conclusions

RK Engineering Group, Inc. has completed this Level of Service (LOS) and Vehicle Miles Traveled (VMT) Screening Analysis for the proposed Choisser Apartment project.

Because the proposed project is forecasted to generate less than the 50 peak hour trips threshold per the City of Garden Grove Guidelines, a detailed LOS analysis will not be required.

The proposed project is located along a high-quality transit corridor and meets the Transit Priority Area Screening criteria. The project is also located in low VMT-generating zone. Therefore, it may be presumed to have a less than significant impact to VMT under CEQA and no additional VMT analysis will be required.

RK Engineering Group, Inc. appreciates this opportunity to assist AECOM with this project. If you have any questions regarding this study, please do not hesitate to contact us at (949) 474-0809.

Sincerely,

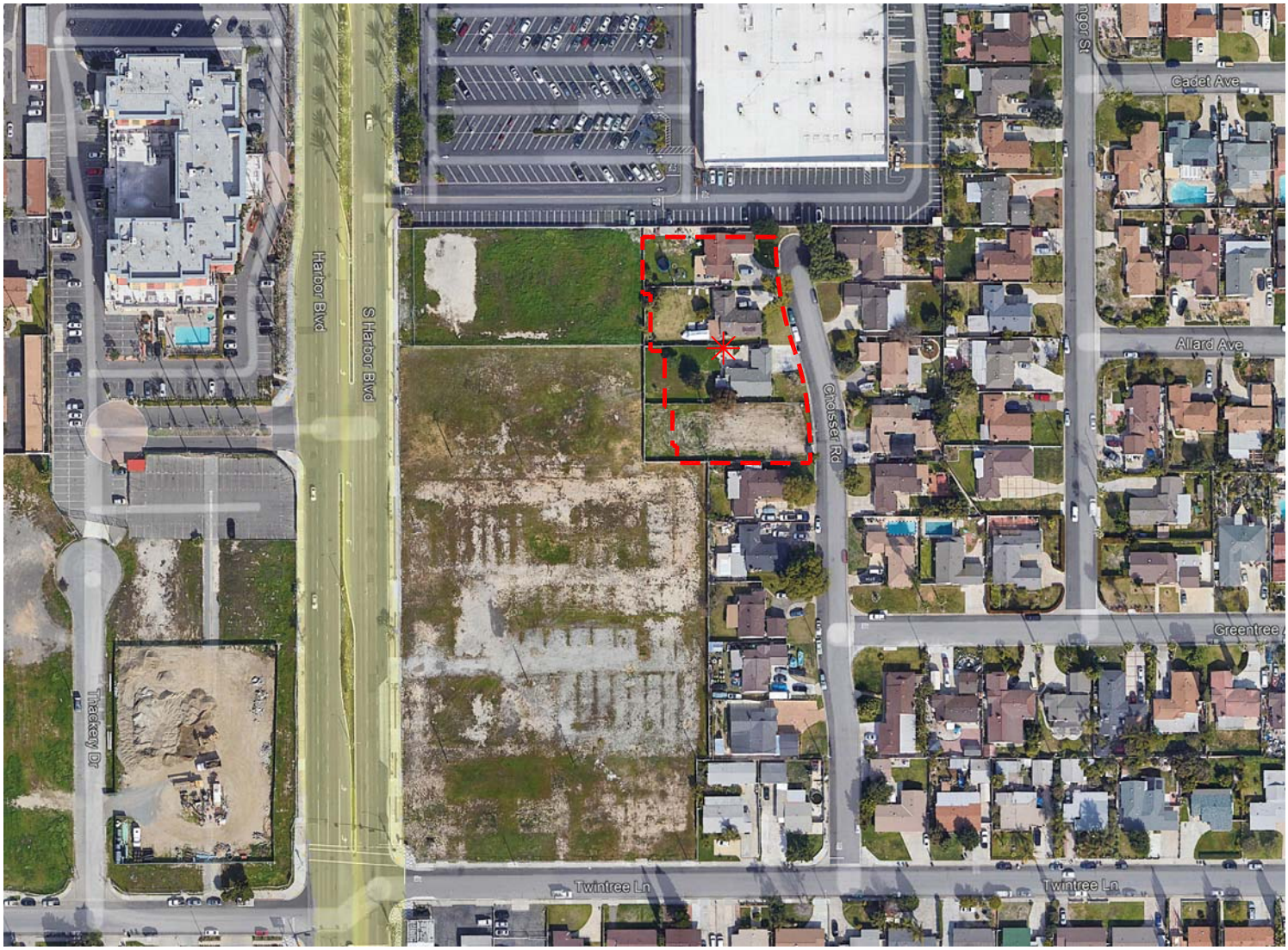
RK ENGINEERING GROUP, INC.

Bryan Estrada, AICP
Principal

Nhi Ly, EIT
Engineer I

Exhibit A

Location Map



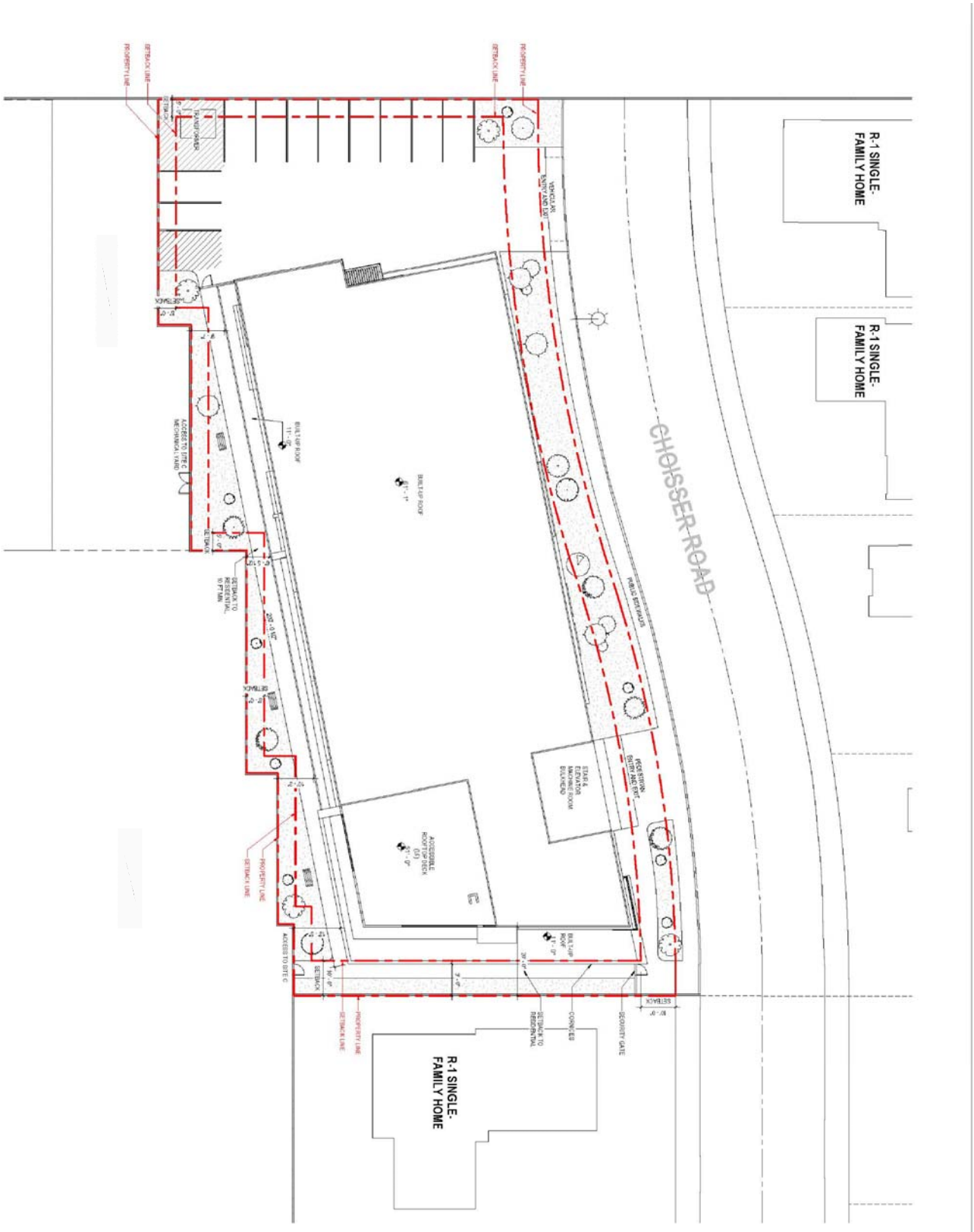
Legend:

- = Project Site Boundary
- = Project Site

N

Exhibit B-1

Site Plan



N

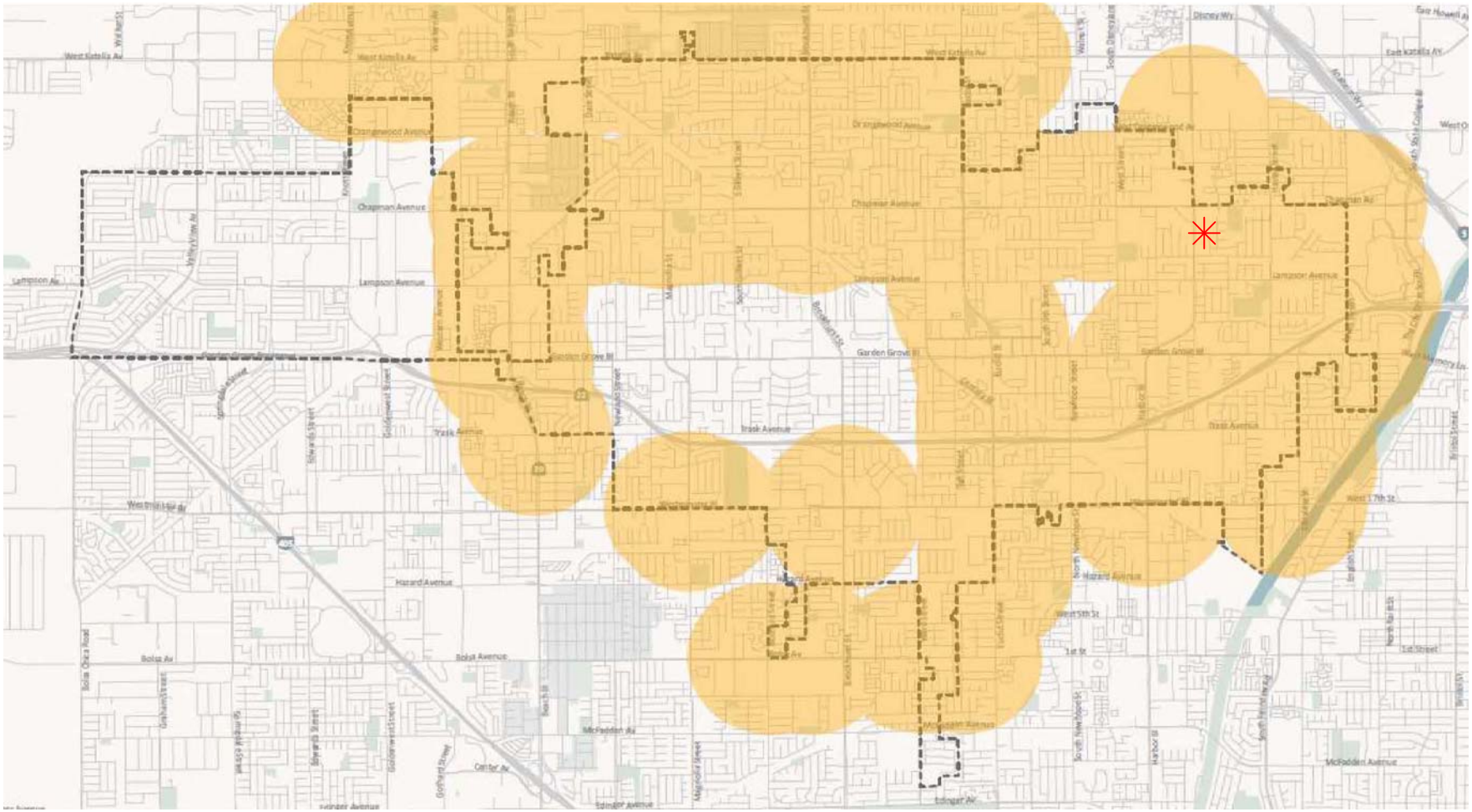
Exhibit B-2

Site Plan with Parking

N

Exhibit C

Map of Garden Grove Transit Priority Areas



Legend:

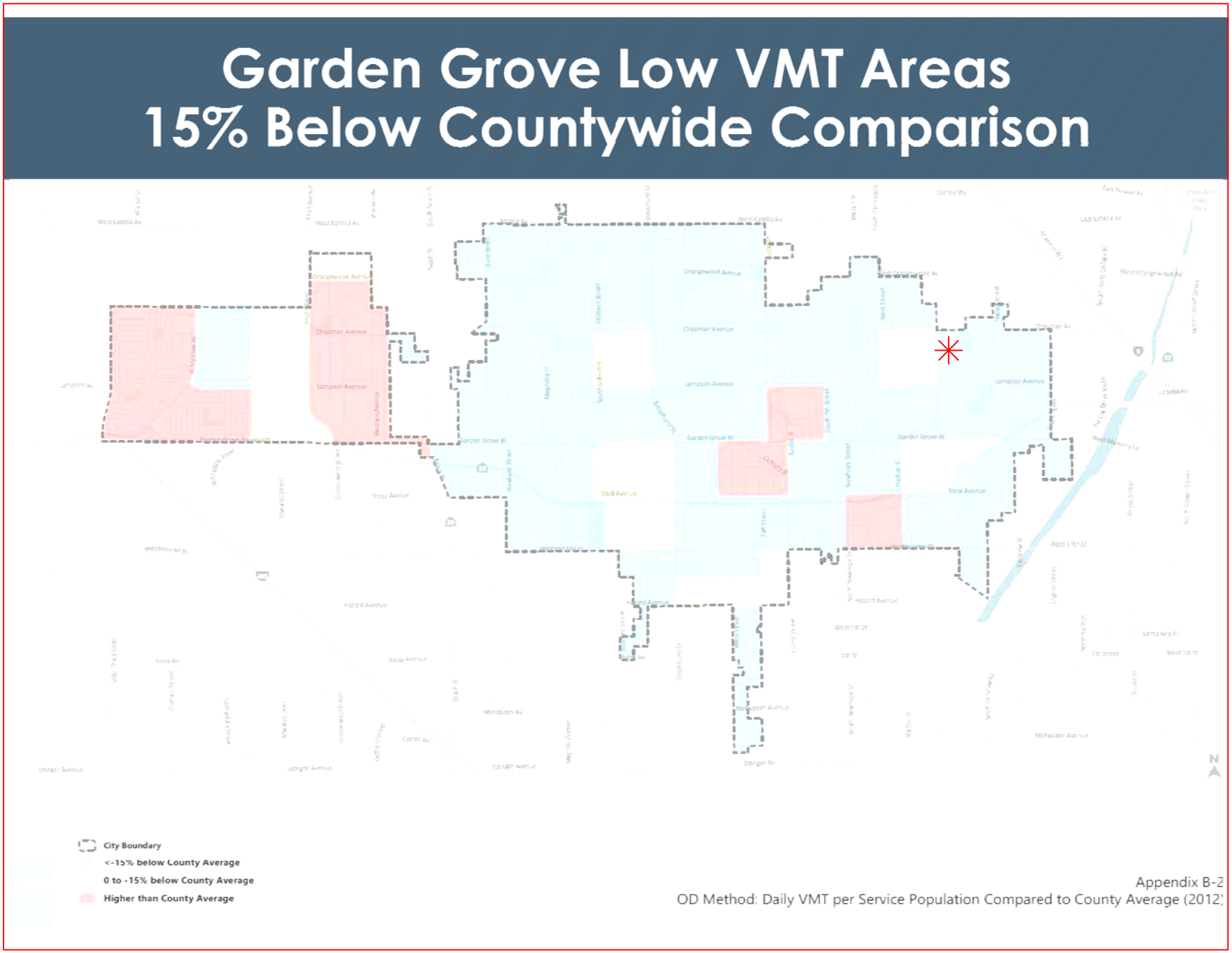
✳ = Project Site

▬ ▬ = City Boundary

▬ = High Quality Transit Area

N

Map of Garden Grove Low VMT Areas



Attachment A

Excerpt from:
City of Garden Grove Traffic Impact Analysis Guidelines

An applicant seeking project approval will submit the proposed project to the City with a planning and land used approval application. After a preliminary review of the project by City Staff, the applicant will be notified by the project planner as to whether or not a TIA is required.

The Traffic Impact Analysis (TIA) should consider changes in both Level of Service (LOS) and VMT .

A TIA which includes LOS analysis shall be required for a proposed project when either the AM or PM peak hour trip generation from the proposed development is expected to exceed 50 vehicle trips. *Traffic study may be required for smaller projects based on land use and location per City's discretion.*

Furthermore, a TIA which includes VMT assessment shall be required for a proposed project that does ***NOT*** satisfy the identified project screening criteria:

- Transit Priority Areas Screening
- Low VMT-generating Areas Screening
- Project Type Screening

See Section, "CEQA Assessment - VMT Analysis" for details on this screening criteria.

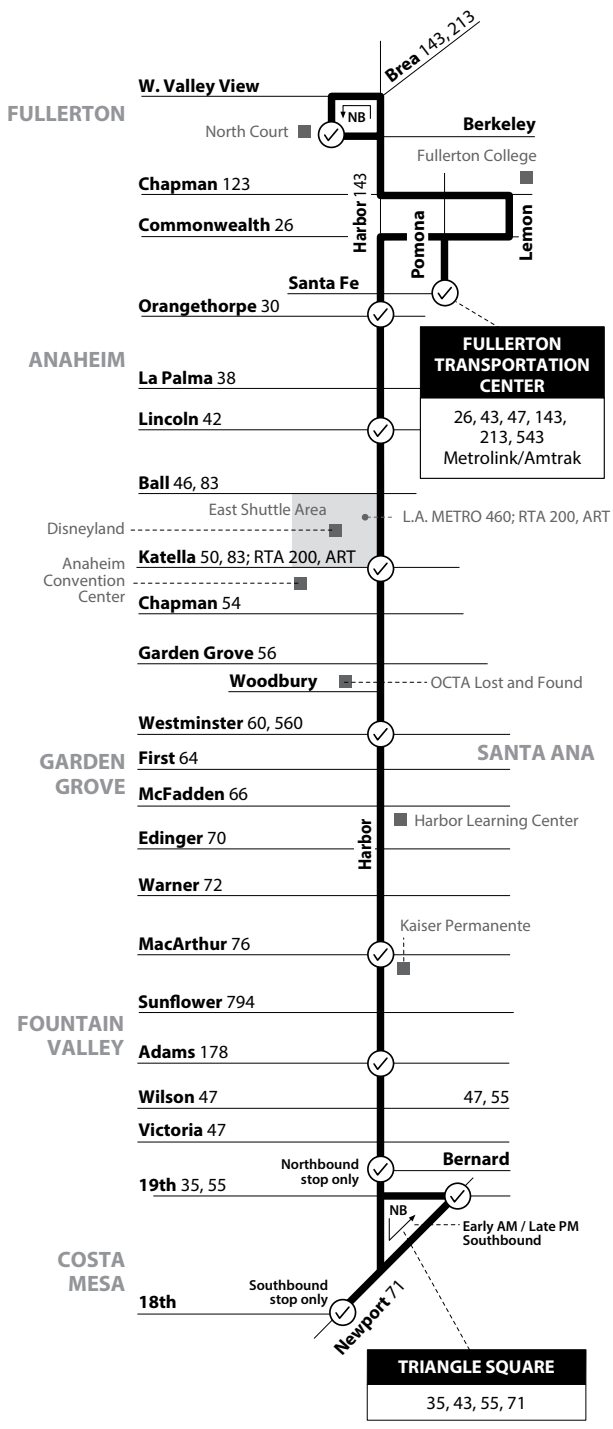
Projects may be screened from VMT analysis and require level-of-service analysis, or vice-versa. In cases where insufficient information is available to make a preliminary assessment of a proposal's effect on traffic, the City Traffic Engineer shall determine, at his or her discretion, whether a TIA will be required.

Attachment B

OCTA Bus Route 43 and 543
Maps and Travel Times

43 Fullerton to Costa Mesa

via Harbor Blvd



LEGEND *LEYENDA*

Scheduled Departure

Regular Routing

METRO = Los Angeles Metro | RTA = Riverside Transit Agency

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

N

MAP NOT TO SCALE

Route 043/111519

Monday-Friday
NORTHBOUND To: Fullerton

	19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkely & West Valley View
	4:02	4:03	4:12	4:17	4:29	4:42	4:50	4:57	5:00	5:07
	4:26	4:27	4:36	4:41	4:53	5:06	5:14	5:21	5:24	5:31
		4:51	5:00	5:05	5:17	5:30	5:38	5:45	5:48	5:55
		5:15	5:24	5:29	5:41	5:54	6:02	6:09	6:12	6:19
		5:36	5:46	5:51	6:05	6:21	6:29	6:37	6:41	6:50
		6:00	6:10	6:15	6:29	6:45	6:53	7:01	7:05	7:14
		6:21	6:31	6:37	6:53	7:10	7:20	7:29	7:33	7:42
		6:45	6:55	7:01	7:17	7:34	7:44	7:53	7:57	8:06
		7:09	7:19	7:25	7:41	7:58	8:08	8:17	8:21	8:30
		7:29	7:41	7:49	8:05	8:26	8:38	8:47	8:51	9:01
		7:53	8:05	8:13	8:29	8:50	9:02	9:11	9:15	9:25
		8:17	8:29	8:37	8:53	9:14	9:26	9:35	9:39	9:49
		8:41	8:53	9:01	9:17	9:38	9:50	9:59	10:03	10:13
		9:05	9:17	9:25	9:41	10:02	10:14	10:23	10:27	10:37
		9:29	9:41	9:49	10:05	10:26	10:38	10:47	10:51	11:01
		9:45	9:59	10:09	10:29	10:51	11:03	11:13	11:17	11:27
		10:09	10:23	10:33	10:53	11:15	11:27	11:37	11:41	11:51
		10:33	10:47	10:57	11:17	11:39	11:51	**12:01**	**12:05**	**12:15**
		10:57	11:11	11:21	11:41	**12:03**	**12:15**	**12:25**	**12:29**	**12:39**
		11:21	11:35	11:45	**12:05**	**12:27**	**12:39**	**12:49**	**12:53**	**1:03**
		11:45	11:59	**12:09**	**12:29**	**12:51**	**1:03**	**1:13**	**1:17**	**1:27**
		12:09	**12:23**	**12:33**	**12:53**	**1:15**	**1:27**	**1:37**	**1:41**	**1:51**
		12:33	**12:47**	**12:57**	**1:17**	**1:39**	**1:51**	**2:01**	**2:05**	**2:15**
		12:57	**1:11**	**1:21**	**1:41**	**2:03**	**2:15**	**2:25**	**2:29**	**2:39**
		1:21	**1:35**	**1:45**	**2:05**	**2:27**	**2:39**	**2:49**	**2:53**	**3:03**
		1:45	**1:59**	**2:09**	**2:29**	**2:51**	**3:03**	**3:13**	**3:17**	**3:27**
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		2:33	**2:47**	**2:57**	**3:17**	**3:39**	**3:51**	**4:01**	**4:05**	**4:15**
		2:57	**3:11**	**3:21**	**3:41**	**4:03**	**4:15**	**4:25**	**4:29**	**4:39**
		3:21	**3:35**	**3:45**	**4:05**	**4:27**	**4:39**	**4:49**	**4:53**	**5:03**
		3:49	**4:02**	**4:11**	**4:29**	**4:50**	**5:02**	**5:12**	**5:16**	**5:26**
		4:13	**4:26**	**4:35**	**4:53**	**5:14**	**5:26**	**5:36**	**5:40**	**5:50**
		4:37	**4:50**	**4:59**	**5:17**	**5:38**	**5:50**	**6:00**	**6:04**	**6:14**
		5:01	**5:14**	**5:23**	**5:41**	**6:02**	**6:14**	**6:24**	**6:28**	**6:38**
		5:25	**5:38**	**5:47**	**6:05**	**6:26**	**6:38**	**6:48**	**6:52**	**7:02**
		5:49	**6:02**	**6:11**	**6:29**	**6:50**	**7:02**	**7:12**	**7:16**	**7:26**
		6:15	**6:28**	**6:36**	**6:53**	**7:14**	**7:25**	**7:34**	**7:38**	**7:47**
		6:39	**6:52**	**7:00**	**7:17**	**7:38**	**7:49**	**7:58**	**8:02**	**8:11**
		7:03	**7:16**	**7:24**	**7:41**	**8:02**	**8:13**	**8:22**	**8:26**	**8:35**
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		8:39	**8:52**	**9:00**	**9:17**	**9:38**	**9:49**	**9:58**	**10:02**	**10:11**
		9:03	**9:16**	**9:24**	**9:41**	**10:02**	**10:13**	**10:22**	**10:26**	**10:35**
		9:27	**9:40**	**9:48**	**10:05**	**10:26**	**10:37**	**10:46**	**10:50**	**10:59**
		9:57	**10:09**	**10:16**	**10:30**	**10:48**	**10:59**	**11:07**	**11:11**	**11:19**
	10:26	**10:27**	**10:39**	**10:46**	**11:00**	**11:18**	**11:27**	**11:34**	**11:38**	**11:45**
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	11:26	**11:27**	**11:39**	**11:46**	12:00	12:18	12:27	12:34	12:38	12:45
	12:26	12:27	12:39	12:46	1:00	1:18	1:27	1:34	1:38	1:45

S = Operates on days Los Amigos High School is in session/
Opera los días que Los Amigos High School está en sesión.

Monday-Friday
SOUTHBOUND To: Costa Mesa

Berkely & West Valley View	Fullerton Transportation Center	Harbor & Orangethorpe	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & MacArthur	Harbor & Adams	Newport & 18th	19th & Newport
3:51	3:57	4:01	4:08	4:17	4:29	4:42	4:48	4:57	
4:15	4:21	4:25	4:32	4:41	4:53	5:06	5:12	5:21	
4:39	4:45	4:49	4:56	5:05	5:17	5:30	5:36	5:45	
5:03	5:09	5:13	5:20	5:29	5:41	5:54	6:00	6:09	
5:27	5:33	5:37	5:44	5:53	6:05	6:18	6:24	6:33	
5:51	5:57	6:01	6:08	6:17	6:29	6:42	6:48	6:57	
6:06	6:12	6:17	6:24	6:36	6:53	7:09	7:17	7:27	
6:30	6:36	6:41	6:48	7:00	7:17	7:33	7:41	7:51	
6:53	6:59	7:04	7:11	7:24	7:41	7:59	8:10	8:21	
7:17	7:23	7:28	7:35	7:48	8:05	8:23	8:34	8:45	
7:41	7:47	7:52	7:59	8:12	8:29	8:47	8:58	9:09	
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8:24	8:30	8:36	8:44	8:58	9:17	9:33	9:42	9:55	
8:46	8:52	8:58	9:06	9:20	9:41	9:59	10:09	10:22	
9:10	9:16	9:22	9:30	9:44	10:05	10:23	10:33	10:46	
9:34	9:40	9:46	9:54	10:08	10:29	10:47	10:57	11:10	
9:58	10:04	10:10	10:18	10:32	10:53	11:11	11:21	11:34	
10:22	10:28	10:34	10:42	10:56	11:17	11:35	11:45	11:58	
10:46	10:52	10:58	11:06	11:20	11:41	11:59	12:09	12:22	
11:03	11:11	11:18	11:27	11:42	12:05	12:25	12:35	12:49	
11:27	11:35	11:42	11:51	12:06	12:29	12:49	12:59	1:13	
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12:15	12:21	12:27	12:34	12:47	1:00	1:13	1:21	·····	1:29

Saturday
NORTHBOUND To: Fullerton

19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkely & West Valley View
4:30	4:31	4:40	4:45	4:57	5:10	5:18	5:25	5:28	5:35
	4:51	5:00	5:05	5:17	5:30	5:38	5:45	5:48	5:55
	5:11	5:20	5:25	5:37	5:50	5:58	6:05	6:08	6:15
	5:31	5:40	5:45	5:57	6:10	6:18	6:25	6:28	6:35
	5:50	6:00	6:05	6:19	6:35	6:43	6:51	6:55	7:04
	6:10	6:20	6:25	6:39	6:55	7:03	7:11	7:15	7:24
	6:29	6:39	6:44	6:58	7:14	7:22	7:30	7:34	7:43
	6:46	6:56	7:02	7:18	7:35	7:45	7:54	7:58	8:07
	7:12	7:22	7:28	7:44	8:01	8:11	8:20	8:24	8:33
	7:38	7:48	7:54	8:10	8:27	8:37	8:46	8:50	8:59
	8:00	8:12	8:20	8:36	8:57	9:09	9:18	9:22	9:32
	8:26	8:38	8:46	9:02	9:23	9:35	9:44	9:48	9:58
	8:52	9:04	9:12	9:28	9:49	10:01	10:10	10:14	10:24
	9:18	9:30	9:38	9:54	10:15	10:27	10:36	10:40	10:50
	9:44	9:56	10:04	10:20	10:41	10:53	11:02	11:06	11:16
	10:10	10:22	10:30	10:46	11:07	11:19	11:28	11:32	11:42
	10:27	10:41	10:51	11:11	11:33	11:45	11:55	11:59	**12:09**
	10:53	11:07	11:17	11:37	11:59	**12:11**	**12:21**	**12:25**	**12:35**
	11:19	11:33	11:43	**12:03**	**12:25**	**12:37**	**12:47**	**12:51**	**1:01**
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	12:37	**12:51**	**1:01**	**1:21**	**1:43**	**1:55**	**2:05**	**2:09**	**2:19**
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	2:24	**2:38**	**2:48**	**3:08**	**3:30**	**3:42**	**3:52**	**3:56**	**4:06**
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	4:36	**4:49**	**4:58**	**5:16**	**5:37**	**5:49**	**5:59**	**6:03**	**6:13**
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11:26	**11:27**	**11:39**	**11:46**	12:00	12:18	12:27	12:34	12:38	12:45
12:26	12:27	12:39	12:46	1:00	1:18	1:27	1:34	1:38	1:45

43 Fullerton to Costa Mesa

via Harbor Blvd

Saturday
SOUTHBOUND To: Costa Mesa

Berkely & West Valley View	Fullerton Transportation Center	Harbor & Orangethorpe	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & MacArthur	Harbor & Adams	Newport & 18th	19th & Newport
3:59	4:05	4:09	4:16	4:25	4:37	4:50	4:56	5:05	
4:19	4:25	4:29	4:36	4:45	4:57	5:10	5:16	5:25	
4:39	4:45	4:49	4:56	5:05	5:17	5:30	5:36	5:45	
4:59	5:05	5:09	5:16	5:25	5:37	5:50	5:56	6:05	
5:19	5:25	5:29	5:36	5:45	5:57	6:10	6:16	6:25	
5:39	5:45	5:49	5:56	6:05	6:17	6:30	6:36	6:45	
5:50	5:56	6:01	6:08	6:20	6:37	6:53	7:01	7:11	
6:10	6:16	6:21	6:28	6:40	6:57	7:13	7:21	7:31	
6:36	6:42	6:47	6:54	7:06	7:23	7:39	7:47	7:57	
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6:37	**6:44**	**6:50**	**6:58**	**7:12**	**7:31**	**7:46**	**7:55**	**8:07**	
7:01	**7:08**	**7:14**	**7:22**	**7:36**	**7:55**	**8:10**	**8:19**	**8:31**	
7:31	**7:38**	**7:44**	**7:52**	**8:06**	**8:25**	**8:40**	**8:49**	**9:01**	
8:03	**8:10**	**8:16**	**8:24**	**8:38**	**8:55**	**9:09**	**9:17**	**9:28**	
8:33	**8:40**	**8:46**	**8:54**	**9:08**	**9:25**	**9:39**	**9:47**	·····	**9:55**
9:03	**9:10**	**9:16**	**9:24**	**9:38**	**9:55**	**10:09**	**10:17**	·····	**10:25**
9:38	**9:45**	**9:51**	**9:59**	**10:13**	**10:30**	**10:44**	**10:52**	·····	**11:00**
10:08	**10:15**	**10:21**	**10:29**	**10:43**	**11:00**	**11:14**	**11:22**	·····	**11:30**
11:15	**11:21**	**11:27**	**11:34**	**11:47**	12:00	12:13	12:21	·····	12:29
12:15	12:21	12:27	12:34	12:47	1:00	1:13	1:21	·····	1:29

Sunday & Holiday
NORTHBOUND To: Fullerton

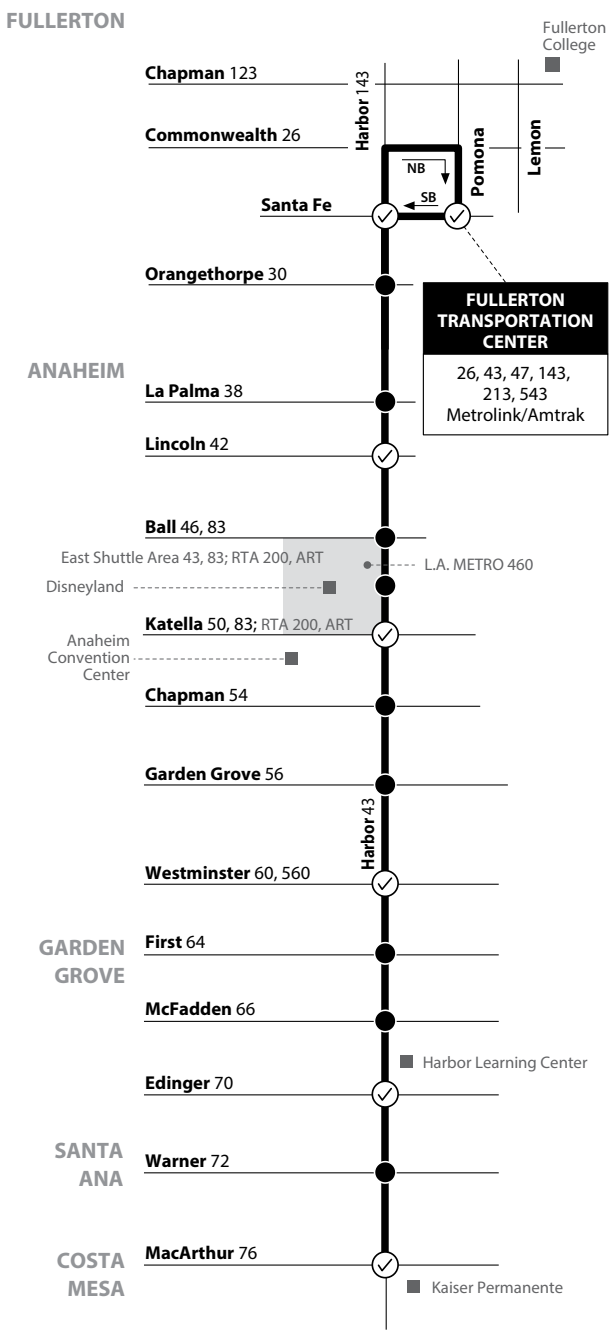
19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkely & West Valley View
	4:31	4:38	4:44	4:57	5:11	5:19	5:26	5:29	5:37
	5:00	5:07	5:13	5:26	5:40	5:48	5:55	5:58	6:06
	5:30	5:37	5:43	5:56	6:10	6:18	6:25	6:28	6:36
	6:00	6:07	6:13	6:26	6:40	6:48	6:55	6:58	7:06
	6:27	6:35	6:41	6:54	7:08	7:16	7:23	7:27	7:35
	6:39	6:49	6:56	7:12	7:31	7:42	7:51	7:56	8:04
	7:07	7:17	7:24	7:40	7:59	8:10	8:19	8:24	8:32
	7:33	7:43	7:50	8:06	8:25	8:36	8:45	8:50	8:58
	7:59	8:09	8:16	8:32	8:51	9:02	9:11	9:16	9:24
	8:25	8:35	8:42	8:58	9:17	9:28	9:37	9:42	9:50
	8:51	9:01	9:08	9:24	9:43	9:54	10:03	10:08	10:16
	9:17	9:27	9:34	9:50	10:09	10:20	10:29	10:34	10:42
	9:41	9:51	9:59	10:18	10:38	10:50	11:00	11:05	11:14
	10:07	10:17	10:25	10:44	11:04	11:16	11:26	11:31	11:40
	10:33	10:43	10:51	11:10	11:30	11:42	11:52	11:57	**12:06**
	10:59	11:09	11:17	11:36	11:56	**12:08**	**12:18**	**12:23**	**12:32**
	11:27	11:37	11:45	**12:04**	**12:24**	**12:36**	**12:46**	**12:51**	**1:00**
	11:51	**12:02**	**12:11**	**12:30**	**12:50**	**1:02**	**1:12**	**1:17**	**1:26**
	12:17	**12:28**	**12:37**	**12:56**	**1:16**	**1:28**	**1:38**	**1:43**	**1:52**
	12:43	**12:54**	**1:03**	**1:22**	**1:42**	**1:54**	**2:04**	**2:09**	**2:18**
	1:09	**1:20**	**1:29**	**1:48**	**2:08**	**2:20**	**2:30**	**2:35**	**2:44**
	1:35	**1:46**	**1:55**	**2:14**	**2:34**	**2:46**	**2:56**	**3:01**	**3:10**
	2:01	**2:12**	**2:21**	**2:40**	**3:00**	**3:12**	**3:22**	**3:27**	**3:36**
	2:27	**2:38**	**2:47**	**3:06**	**3:26**	**3:38**	**3:48**	**3:53**	**4:02**
	2:55	**3:05**	**3:13**	**3:32**	**3:53**	**4:05**	**4:14**	**4:18**	**4:27**
	3:21	**3:31**	**3:39**	**3:58**	**4:19**	**4:31**	**4:40**	**4:44**	**4:53**
	3:48	**3:58**	**4:06**	**4:24**	**4:44**	**4:56**	**5:05**	**5:09**	**5:17**
	4:10	**4:20**	**4:28**	**4:46**	**5:06**	**5:18**	**5:27**	**5:31**	**5:39**
	4:36	**4:46**	**4:54**	**5:12**	**5:32**	**5:44**	**5:53**	**5:57**	**6:05**
	5:06	**5:16**	**5:24**	**5:42**	**6:02**	**6:14**	**6:23**	**6:27**	**6:35**
	5:28	**5:38**	**5:46**	**6:04**	**6:24**	**6:36**	**6:45**	**6:49**	**6:57**
	6:03	**6:13**	**6:21**	**6:37**	**6:54**	**7:05**	**7:14**	**7:18**	**7:26**
	6:30	**6:40**	**6:48**	**7:04**	**7:21**	**7:32**	**7:41**	**7:45**	**7:53**
	7:00	**7:10**	**7:18**	**7:34**	**7:51**	**8:02**	**8:11**	**8:15**	**8:23**
	7:31	**7:41**	**7:49**	**8:05**	**8:22**	**8:33**	**8:42**	**8:46**	**8:54**
	8:00	**8:10**	**8:18**	**8:34**	**8:51**	**9:02**	**9:11**	**9:15**	**9:23**
	8:30	**8:40**	**8:48**	**9:04**	**9:21**	**9:32**	**9:41**	**9:45**	**9:53**
	9:00	**9:10**	**9:18**	**9:34**	**9:51**	**10:02**	**10:11**	**10:15**	**10:23**
	9:34	**9:44**	**9:51**	**10:04**	**10:21**	**10:31**	**10:40**	**10:44**	**10:52**
10:29	**10:30**	**10:40**	**10:47**	**11:00**	**11:17**	**11:27**	**11:36**	**11:40**	**11:48**
11:36	**11:37**	**11:45**	**11:50**	12:02	12:14	12:22	12:28	12:32	12:39
12:38	12:39	12:47	12:52	1:04	1:16	1:24	1:30	1:34	1:41

Sunday & Holiday
SOUTHBOUND To: Costa Mesa

Berkely & West Valley View	Fullerton Transportation Center	Harbor & Orangethorpe	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & MacArthur	Harbor & Adams	Newport & 18th	19th & Newport
4:11	4:16	4:20	4:26	4:35	4:49	5:02	5:08	5:17	
4:47	4:52	4:56	5:02	5:11	5:25	5:38	5:44	5:53	
5:11	5:16	5:20	5:26	5:35	5:49	6:02	6:08	6:17	
5:47	5:52	5:56	6:02	6:11	6:25	6:38	6:44	6:53	
6:04	6:09	6:14	6:22	6:34	6:52	7:07	7:14	7:24	
6:37	6:42	6:47	6:55	7:07	7:25	7:40	7:47	7:57	
7:03	7:08	7:13	7:21	7:33	7:51	8:06	8:13	8:23	
7:29	7:34	7:39	7:47	7:59	8:17	8:32	8:39	8:49	
7:45	7:52	7:57	8:05	8:19	8:38	8:55	9:04	9:16	
8:16	8:23	8:28	8:36	8:50	9:09	9:26	9:35	9:47	
8:42	8:49	8:54	9:02	9:16	9:35	9:52	10:01	10:13	
9:08	9:15	9:20	9:28	9:42	10:01	10:18	10:27	10:39	
9:34	9:41	9:46	9:54	10:08	10:27	10:44	10:53	11:05	
10:00	10:07	10:12	10:20	10:34	10:53	11:10	11:19	11:31	
10:26	10:33	10:38	10:46	11:00	11:19	11:36	11:45	11:57	
10:52	10:59	11:04	11:12	11:26	11:45	**12:02**	**12:11**	**12:23**	
11:18	11:25	11:30	11:38	11:52	**12:11**	**12:28**	**12:37**	**12:49**	
11:44	11:51	11:56	**12:04**	**12:18**	**12:37**	**12:54**	**1:03**	**1:15**	
12:09	**12:15**	**12:21**	**12:30**	**12:44**	**1:03**	**1:19**	**1:28**	**1:40**	
12:35	**12:41**	**12:47**	**12:56**	**1:10**	**1:29**	**1:45**	**1:54**	**2:06**	
1:01	**1:07**	**1:13**	**1:22**	**1:36**	**1:55**	**2:11**	**2:20**	**2:32**	
1:27	**1:33**	**1:39**	**1:48**	**2:02**	**2:21**	**2:37**	**2:46**	**2:58**	
1:53	**1:59**	**2:05**	**2:14**	**2:28**	**2:47**	**3:03**	**3:12**	**3:24**	
2:19	**2:25**	**2:31**	**2:40**	**2:54**	**3:13**	**3:29**	**3:38**	**3:50**	
2:45	**2:51**	**2:57**	**3:06**	**3:20**	**3:39**	**3:55**	**4:04**	**4:16**	
3:11	**3:17**	**3:23**	**3:32**	**3:46**	**4:05**	**4:21**	**4:30**	**4:42**	
3:37	**3:43**	**3:49**	**3:58**	**4:12**	**4:31**	**4:47**	**4:56**	**5:08**	
4:03	**4:09**	**4:15**	**4:24**	**4:38**	**4:57**	**5:13**	**5:22**	**5:34**	
4:26	**4:32**	**4:38**	**4:47**	**5:01**	**5:20**	**5:36**	**5:45**	**5:57**	
4:54	**5:00**	**5:06**	**5:15**	**5:29**	**5:48**	**6:04**	**6:13**	**6:25**	
5:21	**5:27**	**5:33**	**5:42**	**5:56**	**6:15**	**6:31**	**6:40**	**6:52**	
5:49	**5:56**	**6:01**	**6:09**	**6:22**	**6:41**	**6:57**	**7:06**	**7:18**	
6:15	**6:22**	**6:27**	**6:35**	**6:48**	**7:07**	**7:23**	**7:32**	**7:44**	
6:45	**6:52**	**6:57**	**7:05**	**7:18**	**7:37**	**7:53**	**8:02**	**8:14**	
7:15	**7:22**	**7:27**	**7:35**	**7:48**	**8:07**	**8:23**	**8:32**	**8:44**	
7:45	**7:52**	**7:57**	**8:05**	**8:18**	**8:37**	**8:53**	**9:02**	**9:14**	
8:12	**8:19**	**8:24**	**8:32**	**8:45**	**9:04**	**9:20**	**9:29**	·····	**9:37**
8:42	**8:49**	**8:54**	**9:02**	**9:15**	**9:34**	**9:50**	**9:59**	·····	**10:07**
9:13	**9:21**	**9:26**	**9:33**	**9:45**	**10:00**	**10:15**	**10:22**	·····	**10:30**
10:09	**10:17**	**10:22**	**10:29**	**10:41**	**10:56**	**11:11**	**11:18**	·····	**11:26**
11:20	**11:25**	**11:29**	**11:34**	**11:45**	12:00	12:13	12:20	·····	12:28
12:20	12:25	12:29	12:34	12:45	1:00	1:13	1:20	·····	1:28

Fullerton Transportation Center to Santa Ana via Harbor Blvd

543



Route 543 is a limited-stop route, making stops only at time check points ✓ and other designated stops ●.

LEGEND *LEYENDA*

Route 543/111519

✓ Scheduled Departure — Regular Routing

N

MAP NOT TO SCALE

METRO = Los Angeles Metro

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday-Friday
NORTHBOUND To:
Fullerton Transportation Center

Harbor & MacArthur	Harbor & Edinger	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Fullerton Transportation Center
5:17	5:21	5:29	5:42	5:52	6:03
5:41	5:45	5:53	6:06	6:16	6:27
6:05	6:09	6:17	6:30	6:40	6:51
6:29	6:33	6:41	6:54	7:04	7:15
6:53	6:57	7:05	7:18	7:28	7:39
7:17	7:21	7:29	7:42	7:52	8:03
7:41	7:45	7:53	8:06	8:16	8:28
8:04	8:09	8:17	8:31	8:41	8:55
8:28	8:33	8:41	8:55	9:05	9:19
8:52	8:57	9:05	9:19	9:29	9:43
9:16	9:21	9:29	9:43	9:53	10:07
9:40	9:45	9:53	10:07	10:17	10:31
10:04	10:09	10:17	10:31	10:41	10:55
10:28	10:33	10:41	10:55	11:05	11:19
10:52	10:57	11:05	11:19	11:29	11:43
11:16	11:21	11:29	11:43	11:53	**12:07**
11:39	11:44	11:53	**12:08**	**12:18**	**12:32**
12:03	**12:08**	**12:17**	**12:32**	**12:42**	**12:56**
12:27	**12:32**	**12:41**	**12:56**	**1:06**	**1:20**
12:51	**12:56**	**1:05**	**1:20**	**1:30**	**1:44**
1:15	**1:20**	**1:29**	**1:44**	**1:54**	**2:08**
1:39	**1:44**	**1:53**	**2:08**	**2:18**	**2:32**
2:03	**2:08**	**2:17**	**2:32**	**2:42**	**2:56**
2:27	**2:32**	**2:41**	**2:56**	**3:06**	**3:20**
2:51	**2:56**	**3:05**	**3:20**	**3:30**	**3:44**
3:15	**3:20**	**3:29**	**3:44**	**3:54**	**4:08**
3:39	**3:44**	**3:53**	**4:08**	**4:18**	**4:32**
4:03	**4:08**	**4:17**	**4:32**	**4:42**	**4:56**
4:27	**4:32**	**4:41**	**4:56**	**5:06**	**5:20**
4:51	**4:56**	**5:05**	**5:21**	**5:31**	**5:44**
5:15	**5:20**	**5:29**	**5:45**	**5:55**	**6:08**
5:39	**5:44**	**5:53**	**6:09**	**6:19**	**6:32**
6:03	**6:08**	**6:17**	**6:33**	**6:43**	**6:56**
6:27	**6:32**	**6:41**	**6:57**	**7:07**	**7:20**

543

Fullerton Transportation Center to Santa Ana

via Harbor Blvd

Monday-Friday
SOUTHBOUND To:
Santa Ana

Fullerton Transportation Center	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & Edinger	MacArthur & Harbor
5:20	5:31	5:45	5:58	6:06	6:11
5:44	5:55	6:09	6:22	6:30	6:35
6:08	6:19	6:33	6:46	6:54	6:59
6:32	6:43	6:57	7:10	7:18	7:23
6:56	7:07	7:21	7:34	7:42	7:47
7:20	7:31	7:45	7:58	8:06	8:11
7:44	7:55	8:09	8:22	8:30	8:35
8:08	8:19	8:33	8:46	8:54	8:59
8:32	8:43	8:57	9:10	9:18	9:23
8:56	9:07	9:21	9:34	9:42	9:47
9:20	9:31	9:45	9:58	10:06	10:11
9:44	9:55	10:09	10:22	10:30	10:35
10:08	10:19	10:33	10:46	10:54	10:59
10:32	10:43	10:57	11:10	11:18	11:23
10:55	11:10	11:21	11:34	11:42	11:47
11:19	11:34	11:45	11:58	**12:06**	**12:11**
11:43	11:58	**12:09**	**12:22**	**12:30**	**12:35**
12:07	**12:22**	**12:33**	**12:46**	**12:54**	**12:59**
12:31	**12:46**	**12:57**	**1:10**	**1:18**	**1:23**
12:54	**1:07**	**1:19**	**1:34**	**1:42**	**1:47**
1:18	**1:31**	**1:43**	**1:58**	**2:06**	**2:11**
1:42	**1:55**	**2:07**	**2:22**	**2:30**	**2:35**
2:06	**2:19**	**2:31**	**2:46**	**2:54**	**2:59**
2:30	**2:43**	**2:55**	**3:10**	**3:18**	**3:23**
2:54	**3:06**	**3:20**	**3:34**	**3:42**	**3:47**
3:18	**3:30**	**3:44**	**3:58**	**4:06**	**4:11**
3:42	**3:54**	**4:08**	**4:22**	**4:30**	**4:35**
4:06	**4:18**	**4:32**	**4:46**	**4:54**	**4:59**
4:33	**4:44**	**4:57**	**5:10**	**5:18**	**5:24**
4:57	**5:08**	**5:21**	**5:34**	**5:42**	**5:48**
5:21	**5:32**	**5:45**	**5:58**	**6:06**	**6:12**
5:45	**5:56**	**6:09**	**6:22**	**6:30**	**6:36**
6:09	**6:20**	**6:33**	**6:46**	**6:54**	**7:00**
6:33	**6:44**	**6:57**	**7:10**	**7:18**	**7:24**

Saturday, Sunday & Holiday
NORTHBOUND To:
Fullerton Transportation Center

Harbor & MacArthur	Harbor & Edinger	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Fullerton Transportation Center
6:52	6:56	7:04	7:17	7:27	7:38
7:18	7:22	7:30	7:43	7:53	8:05
7:44	7:48	7:56	8:09	8:19	8:31
8:09	8:14	8:22	8:36	8:46	9:00
8:35	8:40	8:48	9:02	9:12	9:26
9:01	9:06	9:14	9:28	9:38	9:52
9:26	9:31	9:39	9:53	10:03	10:17
9:52	9:57	10:05	10:19	10:29	10:43
10:18	10:23	10:31	10:45	10:55	11:09
10:44	10:49	10:57	11:11	11:21	11:35
11:10	11:15	11:23	11:37	11:47	**12:01**
11:34	11:39	11:48	**12:03**	**12:13**	**12:27**
12:02	**12:07**	**12:16**	**12:31**	**12:41**	**12:55**
12:28	**12:33**	**12:42**	**12:57**	**1:07**	**1:21**
12:54	**12:59**	**1:08**	**1:23**	**1:33**	**1:47**
1:20	**1:25**	**1:34**	**1:49**	**1:59**	**2:13**
1:46	**1:51**	**2:00**	**2:15**	**2:25**	**2:39**
2:12	**2:17**	**2:26**	**2:41**	**2:51**	**3:05**
2:38	**2:43**	**2:52**	**3:07**	**3:17**	**3:31**
3:04	**3:09**	**3:18**	**3:33**	**3:43**	**3:57**
3:30	**3:35**	**3:44**	**3:59**	**4:09**	**4:23**
3:56	**4:01**	**4:10**	**4:25**	**4:35**	**4:49**
4:22	**4:27**	**4:36**	**4:51**	**5:01**	**5:15**
4:48	**4:53**	**5:02**	**5:18**	**5:28**	**5:41**
5:14	**5:19**	**5:28**	**5:44**	**5:54**	**6:07**
5:40	**5:45**	**5:54**	**6:10**	**6:20**	**6:33**
6:06	**6:11**	**6:20**	**6:36**	**6:46**	**6:59**

Saturday, Sunday & Holiday
SOUTHBOUND To:
Santa Ana

Fullerton Transportation Center	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & Edinger	MacArthur & Harbor
7:00	7:11	7:25	7:38	7:46	7:51
7:26	7:37	7:51	8:04	8:12	8:17
7:52	8:03	8:17	8:30	8:38	8:43
8:18	8:29	8:43	8:56	9:04	9:09
8:44	8:55	9:09	9:22	9:30	9:35
9:10	9:21	9:35	9:48	9:56	10:01
9:36	9:47	10:01	10:14	10:22	10:27
10:02	10:13	10:27	10:40	10:48	10:53
10:27	10:38	10:52	11:05	11:13	11:18
10:53	11:08	11:19	11:32	11:40	11:45
11:19	11:34	11:45	11:58	**12:06**	**12:11**
11:45	**12:00**	**12:11**	**12:24**	**12:32**	**12:37**
12:11	**12:26**	**12:37**	**12:50**	**12:58**	**1:03**
12:37	**12:52**	**1:03**	**1:16**	**1:24**	**1:29**
1:02	**1:15**	**1:27**	**1:42**	**1:50**	**1:55**
1:28	**1:41**	**1:53**	**2:08**	**2:16**	**2:21**
1:54	**2:07**	**2:19**	**2:34**	**2:42**	**2:47**
2:20	**2:33**	**2:45**	**3:00**	**3:08**	**3:13**
2:46	**2:59**	**3:11**	**3:26**	**3:34**	**3:39**
3:12	**3:24**	**3:38**	**3:52**	**4:00**	**4:05**
3:38	**3:50**	**4:04**	**4:18**	**4:26**	**4:31**
4:04	**4:16**	**4:30**	**4:44**	**4:52**	**4:57**
4:33	**4:44**	**4:57**	**5:10**	**5:18**	**5:24**
4:59	**5:10**	**5:23**	**5:36**	**5:44**	**5:50**
5:25	**5:36**	**5:49**	**6:02**	**6:10**	**6:16**
5:51	**6:02**	**6:15**	**6:28**	**6:36**	**6:42**
6:17	**6:28**	**6:41**	**6:54**	**7:02**	**7:08**

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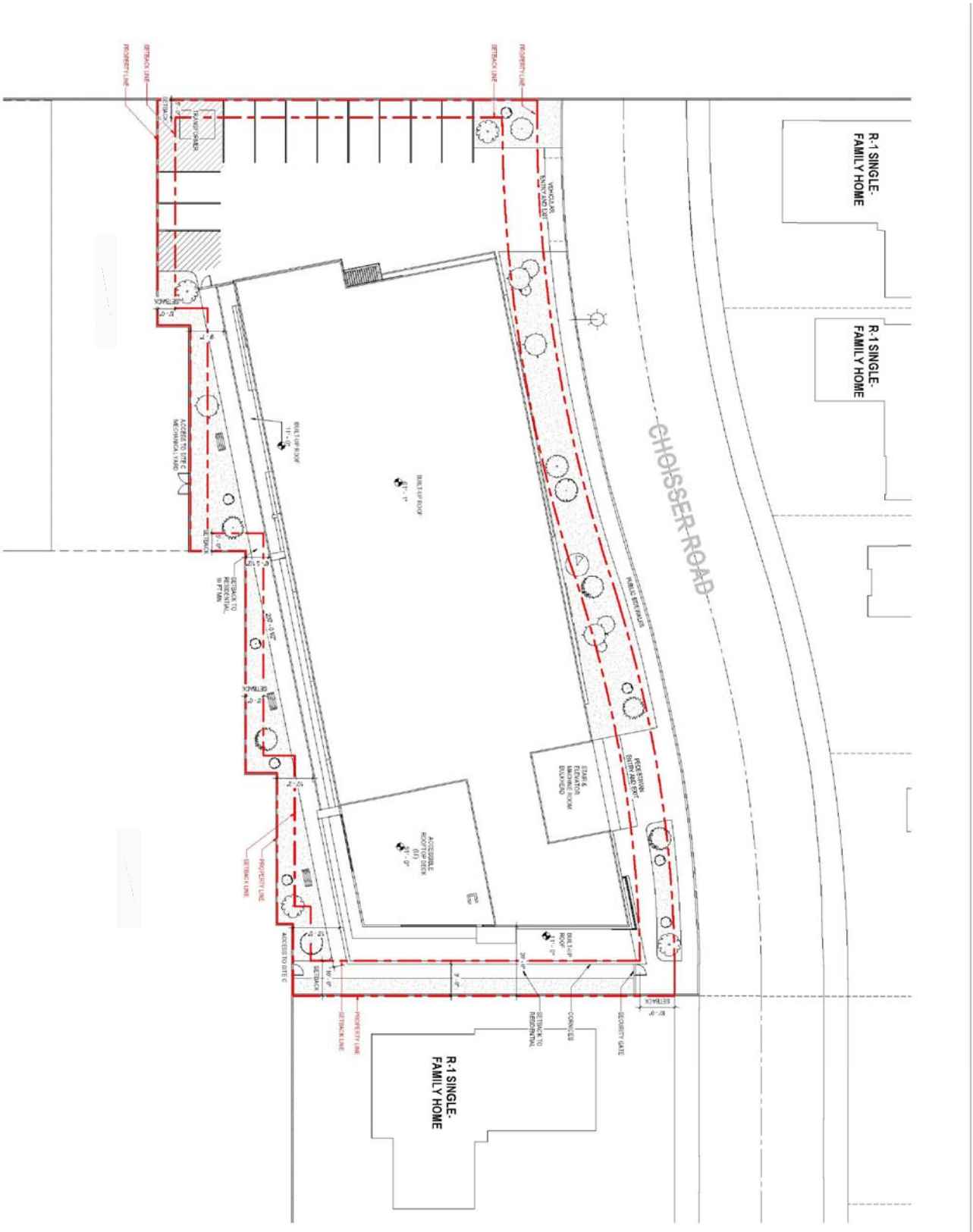
City of Garden Grove, California



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City of Garden Grove, California

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Appendices

1.0 Introduction

The purpose of this air quality and greenhouse gas (GHG) impact study is to determine whether the estimated criteria air pollutants and greenhouse gas emissions generated from the proposed construction and operation of the Choisser Apartments (hereinafter referred to as project) would cause a significant effect on the environment.

This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the California Air Resources Board (CARB), the South Coast Air Quality Management District (SCAQMD), and City of Garden Grove recommendations for the quantification and evaluation air quality and GHG emissions.

1.1 Site Location

The project site is located at 12233, 12235, 12237, and 12239 Choisser Road, in the City of Garden Grove, CA.

The project site is located within the South Coast Air Basin (SCAB), the SCAQMD Inland Orange County General Forecast Area, and the Central Orange County Air Monitoring Area - 17.

The project location map is provided in Exhibit A.

1.2 Project Description

The project consists of constructing and operating six-story multifamily residential building with 53 dwelling units on an approximately 0.66-acre vacant site. The project will include a ground floor surface parking lot and parking garage. The site plan used for this analysis is illustrated on Exhibit B.

Table 1 summarizes the proposed project land uses.

Table 1
Land Use Summary

Project Land Use	CalEEMod Land Use Category	Amount	Metric
Residential Apartments	Apartments (Mid Rise)	53	Dwelling Units

Construction of the project is estimated to begin in the year 2023. Construction of the project is expected to occur in one phase and consist of site preparation, grading, building construction, paving, and architectural coating. The project is expected to be open in the year 2025.

The project is expected to require the total export of approximately 2,000 cubic yards of earthwork material during the grading phase. The project site is currently vacant, and no demolition is required as part of the project.

1.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24-hours or longer, such as residences, hospitals, and schools (etc), as described in the Localized Significance Threshold Methodology (SCAQMD 2008a, page 3-2).

Several sensitive land uses are present surrounding the project site include the following:

- Existing residential property located immediately adjacent to the south of the project site (less than 25 meters/82 feet).

- Existing residential property located approximately 40 feet to the east of the site (less than 25 meters/82 feet).

1.4 Summary of Air Quality and GHG Impacts

Table 2 provides a summary of the CEQA air quality impact analysis results.

Table 2
CEQA Air Quality Impact Criteria

Air Quality Impact Criteria	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with, or obstruct implementation of, the applicable air quality plan?			X	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Table 3 provides a summary of the CEQA GHG impact criteria analysis results.

Table 3
CEQA GHG Impact Criteria

GHG Impact Criteria	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases?			X	

1.5 Recommended Project Design Features

The following project design features include standard rules and requirements, best practices, and recognized design guidelines for reducing air quality and greenhouse gas. Design features are assumed to be part of the project for purposes of the impact analysis in this study and will be incorporated into the conditions of approval for the project.

Construction Design Features:

DF-1 The project must follow the standard SCAQMD rules and requirements with regards to fugitive dust control, which include, but are not limited to the following:

1. All active construction areas shall be watered two (2) times daily.
2. Speed on unpaved roads shall be reduced to less than 15 mph.
3. Any visible dirt deposition on any public roadway shall be swept or washed at the site access points within 30 minutes.
4. Any on-site stockpiles of debris, dirt or other dusty material shall be covered or watered twice daily.
5. All operations on any unpaved surface shall be suspended if winds exceed 15 mph.
6. Access points shall be washed or swept daily.
7. Construction sites shall be sandbagged for erosion control.
8. Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
9. Cover all trucks hauling dirt, sand, soil, or other loose materials, and maintain at least 2 feet of freeboard space in accordance with the requirements of California Vehicle Code (CVC) section 23114.
10. Use gravel aprons and track out grates at all truck exits
11. Replace the ground cover of disturbed areas as quickly possible.

DF-2 All diesel construction equipment should have Tier 4 low emission "clean diesel" engines (OEM or retrofit) that include diesel oxidation catalysts and diesel particulate filters that meet the latest CARB best available control technology.

DF-3 Construction equipment should be maintained in proper tune.

DF-4 All construction vehicles should be prohibited from excessive idling. Excessive idling is defined as five (5) minutes or longer.

DF-5 Minimize the simultaneous operation of multiple construction equipment units, to the maximum extent feasible.

DF-6 The use of heavy construction equipment and earthmoving activity should be suspended during Air Alerts when the Air Quality Index reaches the "Unhealthy" level.

DF-7 Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

DF-8 Establish staging areas for the construction equipment that as far from adjacent residential homes, as feasible.

DF-9 Use haul trucks with on-road engines instead of off-road engines for on-site hauling.

Operational Design Features:

DF-10 The project must comply with the mandatory requirements of the California Building Standards Code, Title 24, Part 6 (Energy Code) and Part 11 (CALGreen), including, but not limited to:

- Install low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.
- Provide the necessary infrastructure to support electric vehicle charging.

DF-11 Participate in the local waste management recycling and composting programs.

2.0 Air Quality Setting

The Federal Clean Air Act (42 U.S.C. § 7602) defines air pollution as any agent or combination of such agents, including any physical, chemical, biological, or radioactive substance which is emitted into or otherwise enters the ambient air. Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution. Air pollution can cause disease, allergies and even death. It affects soil, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate. It can also cause damage to and deterioration of property, present hazards to transportation, and negatively impact the economy.

This section provides background information on criteria air pollutants, the applicable federal, state and local regulations concerning air pollution, and the existing physical setting of the project within the context of local air quality.

2.1 Description of Air Pollutants[1].

The following section describes the air pollutants of concern related to the project. Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health. The following descriptions of criteria air pollutants have been provided by the SCAQMD.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, and competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs in the body. The ambient air quality standard for carbon monoxide is intended to protect persons whose medical condition already compromises their circulatory system's ability to deliver oxygen. These medical conditions include certain heart ailments, chronic lung diseases, and anemia. Persons with these conditions have reduced exercise capacity even when exposed to relatively low levels of CO. Fetuses are at risk because their blood has an even greater affinity to bind with CO. Smokers are also at risk from ambient CO levels because smoking

[1] SCAQMD. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (May 6, 2005)

increases the background level of CO in their blood. The South Coast basin has recently achieved attainment status for carbon monoxide by both USEPA and CARB.

- **Nitrogen Dioxide (NO_2)** is a byproduct of fuel combustion. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in young children has also been observed at concentrations below 0.3 parts per million (ppm). NO_2 absorbs blue light which results in a brownish red cast to the atmosphere and reduced visibility. Although NO_2 concentrations have not exceeded national standards since 1991 and the state hourly standard since 1993, NO_x emissions remain of concern because of their contribution to the formation of O_3 and particulate matter.

- **Ozone (O_3)** is one of several substances called photochemical oxidants that are formed when volatile organic compounds (VOC) and NO_x react in the presence of ultraviolet sunlight. O_3 concentrations in the South Coast basin are typically among the highest in the nation, and the damaging effects of photochemical smog, which is a popular name for a number of oxidants in combination, are generally related to the concentrations of O_3. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the subgroups most susceptible to O_3 effects. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. The South Coast Air Basin is designated by the USEPA as an extreme non-attainment area for ozone. Although O_3 concentrations have declined substantially since the early 1990s, the South Coast basin continues to have peak O_3 levels that exceed both state and federal standards.

- **Fine Particulate Matter (PM_{10})** consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter that can lodge in the lungs, contributing to respiratory problems. PM_{10} arises from such sources as re-entrained road dust, diesel soot, combustion products, tire and brake abrasion, construction operations, and fires. It is also formed in the atmosphere from NO_x and SO_2 reactions with ammonia. PM_{10} scatters light and significantly reduces visibility. Inhalable particulates

pose a serious health hazard, alone or in combination with other pollutants. More than half of the smallest particles inhaled will be deposited in the lungs and can cause permanent lung damage. Inhalable particulates can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of an absorbed toxic substance. The South Coast basin has recently achieved federal attainment status for PM_{10}, but is non-attainment based on state requirements.

- **Ultra-Fine Particulate Matter ($PM_{2.5}$)** is defined as particulate matter with a diameter less than 2.5 microns and is a subset of PM_{10}. $PM_{2.5}$ consists mostly of products from the reaction of NO_x and SO_2 with ammonia, secondary organics, finer dust particles, and the combustion of fuels, including diesel soot. $PM_{2.5}$ can cause exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease, declines in pulmonary function growth in children, and increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in $PM_{2.5}$ levels have been related to hospital admissions for acute respiratory conditions, school absences, and increased medication use in children and adults with asthma. The South Coast basin is designated as non-attainment for $PM_{2.5}$ by both federal and state standards.

- **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. Individuals with asthma may experience constriction of airways with exposure to SO_2. Though SO_2 concentrations have been reduced to levels well below state and federal standards, further reductions in SO_2 emissions are needed because SO_2 is a precursor to sulfate and PM_{10}. The South Coast basin is considered a SO_2 attainment area by USEPA and CARB.

- **Lead (Pb)** is a toxic heavy metal that can be emitted into the air through some industrial processes, burning of leaded gasoline and past use of lead-based consumer products. Lead is a neurotoxin that accumulates in soft tissues and bones, damages the nervous system, and causes blood disorders. It is particularly problematic in children, in that permanent brain damage may result, even if blood levels are promptly normalized with treatment. Concentrations of lead once exceeded the state and federal air quality standards by a wide margin, but as a result of the removal of lead from motor vehicle gasoline, ambient air quality standards for lead have not been exceeded since 1982. Though special monitoring sites immediately downwind of lead sources recorded localized violations of the state standard in 1994, no violations have been recorded since. Consequently, the South Coast basin is designated as an attainment area for lead by both the USEPA and CARB. This report

does not analyze lead emissions from the project, as it is not expected to emit lead in any significant measurable quantity.

- **Volatile Organic Compounds (VOC),** although not actually a criteria air pollutant, VOCs are regulated by the SCAQMD because they cause chemical reactions which contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM_{10} and lower visibility levels. Sources of VOCs include combustion engines, and evaporative emissions associated with fuel, paints and solvents, asphalt paving, and the use of household consumer products such as aerosols. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOC. Some hydrocarbon components classified as VOC emissions are hazardous air pollutants. Benzene, for example, is a hydrocarbon component of VOC emissions that are known to be a human carcinogen. The term reactive organic gases (ROG) are often used interchangeably with VOC.

- **Toxic Air Contaminants (TACs)** are defined as air pollutants which may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health, and for which there is no concentration that does not present some risk. This contrasts with the criteria pollutants, in that there is no threshold level for TAC exposure below which adverse health impacts are not expected to occur. The majority of the estimated health risk from TACs can be attributed to a relatively few compounds, the most common being diesel particulate matter (DPM) from diesel engine exhaust. In addition to DPM, benzene and 1,3-butadiene are also significant contributors to overall ambient public health risk in California.

2.2 Federal and State Ambient Air Quality Standards

The Federal Clean Air Act, which was last amended in 1990, requires the EPA to set National Ambient Air Quality Standards (NAAQS) for criteria pollutants considered harmful to public health and the environment. The State of California has also established additional and more stringent California Ambient Air Quality Standards (CAAQS) in addition to the seven criteria pollutants designated by the federal government.

AAQS are designed to protect the health and welfare of the populace with a reasonable margin of safety. The standards are divided into two categories, primary standards, and secondary standards. Primary standards are implemented to provide protection for the "sensitive" populations such as those with asthma, or the children and elderly. Secondary standards are to provide protection against visible pollution as well as damage to the surrounding environment, including animals, crops, and buildings.

Table 4 shows the Federal and State Ambient Air Quality Standards.

Table 4
Federal and State Ambient Air Quality Standards (AAQS)[1]

Air Pollutant	Averaging Time [2]	Federal Standard (NAAQS)[2]	California Standard (CAAQS)[2]
Ozone	1 Hour	--	0.09 ppm
	8 Hour	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	1 Hour	35 ppm	20 ppm
	8 Hour	9 ppm	9 ppm
Nitrogen Dioxide (NO_2)	1 Hour	0.100 ppm	0.18 ppm
	Annual	0.053 ppm	0.030 ppm
Sulfur Dioxide (SO_2)	1 Hour	0.075 ppm	0.25 ppm
	3 Hour	0.5 ppm[3]	--
	24 Hour	--	0.04 ppm
Particulate Matter (PM_{10})	24 Hour	150 $\mu g/m^3$	50 $\mu g/m^3$
	Mean	--	20 $\mu g/m^3$
Particulate Matter (PM2.5)	24 Hour	35 $\mu g/m^3$	--
	Annual	12 $\mu g/m^3$	12 $\mu g/m^3$
Lead	30-day	--	1.5 $\mu g/m$
	Quarter	1.5 $\mu g/m$	--
	3-month average	0.15 $\mu g/m$	--
Visibility reducing particles	8 Hour	--	0.23/km extinction coefficient. (10-mile visibility standard)
Sulfates	24 Hour	--	25 $\mu g/m$
Vinyl chloride	24 Hour	--	0.01 ppm
Hydrogen sulfide	24 Hour	--	0.03 ppm

[1] Source: USEPA: https://www.epa.gov/criteria-air-pollutants/naaqs-table and
CARB: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards

[2] ppm = parts per million of air, by volume; µg/m3 = micrograms per cubic meter; Annual = Annual Arithmetic Mean; 30-day = 30-day average; Quarter = Calendar quarter.

[3] Secondary standards

Several pollutants listed in Table 4 are not addressed in this analysis. Lead is not included because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide (H_2S) because it would not generate hydrogen sulfide in any substantial quantity. The most common sources of H_2S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. It is also formed during bacterial decomposition of human and animal wastes and is present in emissions from sewage treatment facilities and landfills. Industrial sources include petrochemical plants, coke oven plants, and kraft paper mills. Sources for H_2S within a residential project may occur through on-site composting of organic matter, however, the quantities are typically insignificant and avoidable by following proper composting techniques. Thus, H_2S is not quantified within the State's emissions estimator model.

2.3 Attainment Status

The Clean Air Act requires states to prepare a State Implementation Plan (SIP) to ensure air quality meets the NAAQS. The California Air Resources Board (CARB) provides designations of attainment for air basins where AAQS are either met or exceeded. If the AAQS are met, the area is designated as being in "attainment", if the air pollutant concentrations exceed the AAQS, than the area is designated as being "nonattainment". If there is inadequate or inconclusive data to make a definitive attainment designation, the area is considered "unclassified."

National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

When a state submits a request to the EPA to re-designate a nonattainment area to attainment, the Clean Air Act (CAA) section 175A(a) requires that the state (or states, if the area is a multi-state area) submit a maintenance plan ensuring the area can maintain the air quality standard for which the area is to be re-designated for at least 10 years following the effective date of re-designation.

Table 5 lists the attainment status for the criteria pollutants in the South Coast Air Basin (SCAB).

Table 5
South Coast Air Basin Attainment Status[1]

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment (Extreme)[2]
Carbon monoxide	Attainment	Attainment (Maintenance)
Nitrogen dioxide	Attainment	Attainment (Maintenance)
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	Nonattainment (Partial)[3]

[1] Source: California Air Resources Board. http://www.arb.ca.gov/desig/adm/adm.htm
[2] 8-Hour Ozone.
[3] Partial Nonattainment designation – Los Angeles County portion of Basin only.

2.4 South Coast Air Quality Management District (SCAQMD)

The agency responsible for air pollution control for the South Coast Air Basin (SCAB) is the South Coast Air Quality Management District (SCAQMD). SCAQMD is responsible for controlling emissions primarily from stationary sources. SCAQMD maintains air quality monitoring stations throughout the SCAB. SCAQMD, in coordination with the Southern California Association of Governments, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the SCAB. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the federal and/or California ambient air quality standards.

The latest version is the 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air. While air quality has dramatically improved over the years, the SCAB still exceeds federal public health standards for both ozone and particulate matter (PM) and experiences some of the worst air pollution in the nation. The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time.

According to the 2016 AQMP, the most significant air quality challenge in the SCAB is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. Based on the inventory and modeling results, 522 tons per day (tpd) of total SCAB NOx 2012 emissions are projected to drop to 255 tpd and 214 tpd in the 8-hour ozone attainment years of 2023 and 2031 respectively, due to continued implementation of already adopted regulatory actions ("baseline emissions"). The analysis suggests that total SCAB emissions of NOx must be reduced to approximately 141 tpd in 2023 and 96 tpd in 2031 to attain the 8-hour ozone standards. This represents an additional 45 percent reduction in NOx in 2023, and an additional 55 percent NOx reduction beyond 2031 levels.[2]

2.4.1 SCAQMD Rules and Regulations

The SCAQMD establishes a program of rules and regulations to obtain attainment of the state and federal standards in conjunction with the AQMP. Several of the rules and regulations that may be applicable to this project include, but are not limited to, the following:

- **SCAQMD Rule 402** prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **SCAQMD Rule 403** governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

- **SCAQMD Rule 445** restricts wood burning devices from being installed into any new development and is intended to reduce the emissions of particulate matter for wood burning devices.

[2] SCAQMD. Final 2016 Air Quality Management Plan. http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

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

- **SCAQMD Rule 1143** governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

- **SCAQMD Rule 1186** limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

2.5 Local Climate and Meteorology

The project is in the South Coast Air Basin (SCAB). Climatological data from the nearest weather station to the project site is summarized in Table 6.

Table 6
Meteorological Summary[1]

Month	Temperature (˚F)			Mean Precipitation (inches)
	Max.	Min.	Mean	
January	55.8	68.1	43.1	2.73
February	56.9	68.9	44.9	3.05
March	58.7	70.7	46.7	2.21
April	61.6	73.1	50.0	1.05
May	64.6	75.2	54.0	0.25
June	68.0	78.6	57.4	0.06
July	72.2	83.5	60.9	0.02
August	73.2	84.7	61.6	0.06
September	71.6	83.9	59.3	0.22
October	66.9	79.4	54.5	0.49
November	60.8	74.2	47.5	1.28
December	56.2	68.8	43.6	2.28
Yearly Average	**63.9**	**75.8**	**52.0**	**13.70**

[1] Source: Western Regional Climate Center 2012. Averages derived from measurements recorded between 1906 and 2016, Santa Ana Fire Station.

2.6 Local Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Basin provided in the Final 2016 Air Quality Management Plan, prepared by SCAQMD, March 2017, indicate that collectively, mobile sources account for 60 percent of the VOC, 90 percent of the NOx emissions, 95 percent of the CO emissions and 34 percent of directly emitted PM2.5, with another 13 percent of PM2.5 from road dust.

The SCAQMD has divided the SCAB into fourteen general forecasting areas and thirty eight Source Receptor Areas (SRA) for monitoring and reporting local air quality. The SCAQMD provides daily reports of the current air quality conditions in each general forecast area and SRA. The monitoring areas provide a general representation of the local meteorological, terrain, and air quality conditions within the SCAB.

Table 7 summarizes the published air quality monitoring for the most recent 3-year period available. These pollutant levels were used to comprise a "background" for the project location and existing local air quality. For criteria pollutants not monitored near the site, data from the nearest monitoring station with a comparable setting were used.

Table 7
Local Air Quality

Air Pollutant Location	Averaging Time	Item	2018	2019	2020
Carbon Monoxide -- Central Orange County	1 Hour	Max 1-Hour (ppm)	2.3	2.4	2.3
		Exceeded State Standard (20 ppm)	No	No	No
		Exceeded National Standard (35 ppm)	No	No	No
	8 Hour	Max 8 Hour (ppm)	1.9	1.3	1.7
		Exceeded State Standard (9 ppm)	No	No	No
		Exceeded National Standard (9 ppm)	No	No	No
Ozone -- Central Orange County	1 Hour	Max 1-Hour (ppm)	0.112	0.096	0.142
		Days > State Standard (0.09 ppm)	1.0	1.0	6.0
	8 Hour	Max 8 Hour (ppm)	0.071	0.082	0.097
		Days > State Standard (0.07 ppm)	1	1	15
		Days >National Standard (0.070 ppm)	1	1	15
Nitrogen Dioxide -- Central Orange County	1 Hour	Max 1-Hour (ppm)	0.066	0.059	0.071
		Exceeded State Standard (0.18 ppm)	No	No	No
	Annual	Annual Average (ppm)	0.014	0.013	0.013
		Exceeded >State Standard (0.030 ppm)	No	No	No
		Exceeded >National Standard (0.053 ppm)	No	No	No
Sulfur Dioxide -- Central Orange County	1 Hour	Max 1 Hour (ppm)	--	--	--
		Exceed State Standard (0.25 ppm)	--	--	--
		Exceed National Standard (0.075 ppm)	--	--	--
Coarse Particles (PM10) -- Central Orange County	24 Hour	Max 24-Hour ($\mu g/m^3$)	129	127	120
		Days > State Standard (50 $\mu g/m^3$)	13	13	13
		Days >National Standard (150 $\mu g/m^3$)	0	0	0
	Annual	Annual Average ($\mu g/m^3$)	27.20	21.90	23.90
		Exceeded State Standard (20 $\mu g/m^3$)	Yes	Yes	Yes
Fine Particulates (PM2.5) -- Central Orange County	24 Hour	Max 24-Hour ($\mu g/m^3$)	54.10	36.10	41.40
		Days >National Standard (35 $\mu g/m^3$)	3	3	1
	Annual	Annual Average ($\mu g/m^3$)	11.02	9.32	11.27
		Exceeded State Standard (12 $\mu g/m^3$)	No	No	No
		Exceeded National Standard (15 $\mu g/m^3$)	No	No	No

Source: https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year
$\mu g/m^3$ = micrograms per cubic meter
ARB = California Air Resource Board
EPA= Environmental Protection Agency
ppm = part per million
(- -) = Data not provided

3.0 Global Climate Change Setting

Global climate change is the change in the average weather of the earth that is measured by such things as alterations in temperature, wind patterns, storms, and precipitation. Current data shows that the recent period of warming is occurring more rapidly than past geological events. The average global surface temperature has increased by approximately 1.4° Fahrenheit since the early 20th Century. 1.4° Fahrenheit may seem like a small change, but it's an unusual event in Earth's recent history, and as we are seeing, even small changes in temperature can cause enormous changes in the environment.

The planet's climate record, preserved in tree rings, ice cores, and coral reefs, shows that the global average temperature has been stable over long periods of time. For example, at the end of the last ice age, when the Northeast United States was covered by more than 3,000 feet of ice, average global temperatures were only 5° to 9° Fahrenheit cooler than today. The Intergovernmental Panel on Climate Change (IPCC), which includes more than 1,300 scientists from the United States and other countries, forecasts a temperature rise of 2.5° to 10° Fahrenheit over the next century. Therefore, significant changes to the environment are expected in the near future.

The consequences of global climate change include more frequent and severe weather, worsening air pollution by increasing ground level ozone, higher rates of plant and animal extinction, more acidic and oxygen depleted oceans, strain on food and water resources, and threats to densely populated coastal and low lying areas from sea level rise.

The impacts of climate change are already visible in the Southwest United States. In California, the consequences of climate change include;

- A rise in sea levels resulting in the displacement of coastal businesses and residencies
- A reduction in the quality and supply of water from the Sierra snowpack
- Increased risk of large wildfires
- Exacerbation of air quality problems
- Reductions in the quality and quantity of agricultural products
- An increased temperature and extreme weather events
- A decrease in the health and productivity of California's forests

3.1 Greenhouse Gases

GHGs comprise less than 0.1 percent of the total atmospheric composition, yet they play an essential role in influencing climate. Greenhouse gases include naturally occurring compounds such as carbon dioxide (CO_2), methane (CH_4), water vapor (H_2O), and nitrous oxide (N_2O), while others are synthetic. Man-made GHGs include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), as well as sulfur hexafluoride (SF_6).

Different GHGs have different effects on the Earth's warming. GHGs differ from each other in their ability to absorb energy (their "radiative efficiency") and how long they stay in the atmosphere, also known as the "lifetime".

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of CO_2. The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases and allows policymakers to compare emissions reduction opportunities across sectors and gases.

Table 8 lists the 100-year GWP of GHGs from the Intergovernmental Panel on Climate Change (IPCC) fifth (AR5) and sixth assessment report (AR6).

Table 8
Global Warming Potential of Greenhouse Gases[1, 2]

Gas Name	Formula	Lifetime (years)	GWP
Carbon Dioxide	CO_2		1
Methane	CH_4 (Fossil Origin)	12	29.8
	CH_4 (Non-Fossil Origin)		27.2
Nitrous Oxide	N_2O	114	273
Sulphur Hexafluoride	SF_6	3200	23,500
Nitrogen Trifluoride	NF_3	740	16,100
Chlorofluorocarbon (CFC-11)	CFC-11	52	8,321
Hexafluoroethane (PFC-116)	C_2F_6	10,000	11,100
Octafluoropropane (PFC-218)	C_3F_8	2,600	8,900
Octafluorocyclobutane (PFC-318)	C_4F_8	3,200	9,540
Tetrafluoromethane (PFC-14)	CF_4	50,000	5,301
Hydrofluorocarbon 125	HFC-125	29	3,170
Hydrofluorocarbon 134a	HFC-134a	14	1,526
Hydrofluorocarbon 143a	HFC-143a	52	4,800
Hydrofluorocarbon 152a	HFC-152a	1	138
Hydrofluorocarbon 227ea	HFC-227ea	34	3,350
Hydrofluorocarbon 23	HFC-23	270	12,400
Hydrofluorocarbon 236fa	HFC-236fa	240	8,060
Hydrofluorocarbon 245fa	HFC-245fa	8	858
Hydrofluorocarbon 32	HFC-32	5	771
Hydrofluorocarbon 365mfc	HFC-365mfc	9	804
Hydrofluorocarbon 43-10mee	HFC-43-10mee	16	1,650

[1] Source: IPCC Sixth Assessment Report (AR6), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf & https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf

[2] GWPs are used to convert GHG emission values to "carbon dioxide equivalent" (CO_2e) units

3.2 GHG Regulatory Setting – State of California

The State of California has been a leader in climate change legislation and has passed numerous bills to reduce greenhouse gas emissions across all sectors of the economy. Some of the key climate legislation in the State include the following:

- **Assembly Bill (AB) 32, California Global Warming Solutions Act of 2006.** AB 32 set the stage for the State's transition to a sustainable, low-carbon future. AB 32 was the first program in the country to take a comprehensive, long-term approach to addressing climate change.[3]

- **Senate Bill (SB) 375, Sustainable Communities & Climate Protection Act of 2008.** SB 375 requires the Air Resources Board to develop regional greenhouse gas emission reduction targets for passenger vehicles GHG reduction targets for 2020 and 2035 for each region covered by the State's 18 metropolitan planning organizations.[4]

- **Senate Bill (SB) 100, California Renewables Portfolio Standard Program.** SB 100 established a landmark policy requiring renewable energy and zero-carbon resources supply 100 percent of electric retail sales to end-use customers by 2045.[5]

3.3 GHG Emissions Inventory

Table 9 shows the latest GHG emission inventories at the national, state, regional and local levels.

Table 9
GHG Emissions Inventory[1]

United States (2018)[2]	State of California (2019)[3]	SCAG (2020)[4]
6,678 $MMTCO_2e$	418.2 $MMTCO_2e$	216.4 $MMTCO_2e$

[1] $MMTCO_2e$ = Million Metric Tons of Carbon Dioxide Equivalent
[2] https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[3] https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf
[4] http://www.scag.ca.gov/programs/Pages/GreenhouseGases.asp

[3] California Air Resources Board. AB 32 Global Warming Solutions Act of 2006. https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006
[4] California Air Resources Board. Sustainable Communities and Climate Protection Program. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-climate-protection-program/about
[5] California Energy Commission. SB 100 Joint Agency Report. https://www.energy.ca.gov/sb100

4.0 Modelling Parameters and Assumptions

The California Emissions Estimator Model Version 2020.4.0 (CalEEMod) was used to calculate criteria air pollutants and GHG emissions from the construction and operation of the project. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify criteria air pollutant and GHG emissions.

The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from off-site energy generation, solid waste disposal, vegetation planting and/or removal, and water use. The model also identifies mitigation measures to reduce criteria pollutant and GHG emissions. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts.

4.1 Construction Assumptions

Construction of the project is estimated to begin in the year 2023. Construction activities are expected to consist of site preparation, grading, building construction, paving, and architectural coating. Construction phases are adjusted based on the information provided by the applicant and are not expected to overlap. Project is expected to be in the year 2025.

The project site is currently vacant and no demolition is expected to be required.

The project is expected to export approximately 2,000 cubic yards of earthwork material as part for grading purposes.

The CalEEMod default construction equipment list is based on survey data and the size of the site. The parameters used to estimate construction emissions, such as the worker and vendor trips and trip lengths, utilize the CalEEMod defaults. The construction equipment list is shown in Table 10.

The project will be required to comply with several standard fugitive dust control measures, per SCAQMD Rule 403. The following key inputs are utilized in CalEEMod and are based upon data provided from SCAQMD[6]:

[6] SCAQMD. Fugitive Dust Mitigation Measures. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies/fugitive-dust

- Soil stabilizers - 30% PM_{10} and $PM_{2.5}$ reduction.
- Replace ground cover - 15% PM_{10} and $PM_{2.5}$ reduction.
- Water exposed areas 2x per day.
- Unpaved road moisture content – 25%.
- Unpaved road vehicle speed – 15 mph.

Table 10
Construction Equipment Assumptions[1]

Phase	Equipment	Number	Hours Per Day	Soil Disturbance Rate (Acres/ 8hr-Day)[2]	Off-Road Equipment Daily Disturbance Footprint (Acres)	Total Daily Disturbance Footprint (Acres)
Site Preparation	Graders	1	8	0.5	0.50	1.5
	Tractors/Loaders/Backhoes	1	8	1.0	1.00	
Grading	Graders	1	6	0.5	0.38	1.8
	Rubber Tired Dozers	1	6	0.5	0.50	
	Tractors/Loaders/Backhoes	2	7	0.5	0.88	
Building Construction	Cranes	1	4	0.0	0.00	1.0
	Forklifts	2	6	0.0	0.00	
	Tractors/Loaders/Backhoes	2	8	0.5	1.00	
Paving	Cement and Mortar Mixers	4	6	0.0	0.00	0.4
	Pavers	1	7	0.0	0.00	
	Rollers	1	7	0.0	0.00	
	Tractors/Loaders/Backhoes	1	7	0.5	0.44	
Architectural Coating	Air Compressors	1	6	0.0	0.00	0.0

[1] CalEEMod Defaults.

4.2 Localized Construction Analysis Modeling Parameters

CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. This report identifies the following parameters in the project design or applicable mitigation measures in order to compare CalEEMod reported emissions against the localized significance threshold lookup tables:

1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
2) The maximum number of acres disturbed on the peak day.
3) Any emission control devices added onto off-road equipment.
4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

4.3 Operational Assumptions

Operational emissions occur over the life of the project and are considered "long-term" sources of emissions. Operational emissions include both direct and indirect sources. This section briefly describes the operational sources of emissions analyzed for the project.

4.3.1 Mobile Source Emissions

Mobile source emissions are the largest source of long-term air pollutants from the operation of the project. Mobile sources are direct sources of project emissions that are primarily attributed to tailpipe exhaust and road dust (tire, brake, clutch, and road surface wear) from motor vehicles traveling to and from the site.

Estimates of mobile source emissions require information on four parameters: trip generation, trip length, vehicle/fleet mix, and emission factors (quantity of emission for each mile traveled or time spent idling by each vehicle).

The Emission Factors (EMFAC) 2017 model is used to estimate the mobile source emissions are embedded in the CalEEMod emissions model. No adjustments have been made to default emission factors. The trip generation rates for this project are based on the ITE Trip Generation Manual 11th Edition, 2021.

The project's total vehicle miles traveled estimated by CalEEMod is shown in the Table 11 for this project.

Table 11
Operational Vehicle Miles Traveled

Land Use	Annual Vehicle Miles Traveled (VMT)[1]
Multifamily Residential (Mid Rise)	803,089

[1] Unmitigated VMT.

The operational vehicle fleet mix has been adjusted to reflect vehicle types used for typical residential and commercial trips generated by the project. The Southern California Association of Governments (SCAG) regional travel demand model does not include heavy-duty trucks, buses or other large vehicles that would require passenger car equivalent (PCE) adjustments for residential home-based trips. The project does not consist of land uses that would typically require PCE adjustments to account for large trucks, such as warehousing.

To be conservative, the Air Quality/GHG analysis has assumed that 2% of the total residential home-based trips will include trucks with a gross vehicle weight rating (GVWR) of 19,501 pounds or greater. This includes LHD2, MHD, HHD, OBUS, UBUS, and SBUS vehicles. The 2% mix is also consistent with the default Highway Capacity Manual (HCM) assumptions. The adjusted vehicle mix is proportioned according to the default CalEEMod vehicle mix.

Table 12 summarizes vehicle mix used for this project.

Table 12
Operational Vehicle Mix[1]

YUY	Vehicle Mix (%)
Light Duty Automobile (LDA)	55.42%
Light Duty Truck (LDTI)	6.09%
Light Duty Truck (LDT2)	18.73%
Medium Duty Truck (MDV)	12.80%
Light Heavy Truck (LHD1)	2.45%
Light Heavy Truck (LHD2)	0.42%
Medium Heavy Truck (MHD)	0.92%
Heavy Heavy Truck (HHD)	0.31%
Other Bus (OBUS)	0.04%
Urban Bus (UBUS)	0.02%
Motorcycle (MCY)	2.50%
School Bus (SBUS)	0.04%
Motor Home (MH)	0.24%
Total	**100.0%**

[1] Adjusted fleet mix to include 2% total trucks over 10,000 lbs. GVWR. (LHD2, MHD, HHD, OBUS, UBUS, SBUS, MH)

4.3.2 Energy Source Emissions

Energy usage includes both direct and indirect sources of emissions. Direct sources of emissions include on-site natural gas usage (non-hearth) for heating, while indirect emissions include electricity generated by offsite power plants. Natural gas use is measured in units of a thousand British Thermal Units (kBTU) per size metric for each land use subtype and electricity use is measured in kilowatt hours (kWh) per size metric for each land use subtype.

CalEEMod divides building electricity and natural gas use into uses that are subject to Title 24 standards and those that are not. Lighting electricity usage is also calculated as a separate category in CalEEMod. For electricity, Title 24 uses include the major building envelope systems covered by Part 6 (California Energy Code) of Title 24, such as space heating, space cooling, water heating, and ventilation. Non-Title 24 uses include all other end uses, such as appliances, electronics, and other miscellaneous plug-in uses.

For natural gas, uses are likewise categorized as Title 24 or Non-Title 24. Title 24 uses include building heating and hot water end uses. Non-Title 24 natural gas uses include cooking and appliances (including pool/spa heaters).

The baseline values are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS).

Table 13 shows the total annual expected electricity and natural gas usage for the proposed project.

Table 13
Electricity and Natural Gas Usage

Land Use	Electricity Usage[1] (KWhr/yr)[2]	Natural Gas Usage[1] (KBTU/yr)[2]
Multifamily Residential (Mid Rise)	203,193	590,930

[1] CalEEMod unmitigated default estimates.

[2] KWhr/yr = Kilowatt Hours per Year
KBTU/yr = Thousand British Thermal Units per Year

4.3.3 Area Source Emissions

Area source emissions are direct sources of emissions that fall under four categories: hearths, consumer products, architectural coatings, and landscaping equipment. Per SCAQMD rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project.

Consumer products are various solvents used in non-industrial applications which emit ROGs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics, and toiletries.

4.3.4 Other Sources of Operational Emissions

Water. Greenhouse gas emissions are generated from the upstream energy required to supply and treat the water used on the project site. Indirect emissions from water usage are counted as part of the project's overall impact. The estimated water usage for the project is reported in Table 14.

Waste. CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The program uses annual waste disposal rates from the California Department of Resources Recycling and Recovery (CalRecycle) data for individual land uses. The program quantifies the GHG emissions associated with the decomposition of the waste which generates methane based on the total amount of degradable organic carbon.

The estimated waste generation by the project is reported in Table 14.

Table 14
Operational Water Usage and Waste Generation

Land Use	Water Usage (gallons/year)			Waste Generation (tons/year)[1]
	Indoor	Outdoor	Total	
Multifamily Residential (Mid Rise)	3,453,163.36	2,176,994.29	5,630,157.65	24.38

[1] CalEEMod unmitigated default estimates.

5.0 Significance Thresholds

5.1 Air Quality Significance Thresholds

The SCAQMD has established air quality emissions thresholds for criteria air pollutants for the purposes of determining whether a project may have a significant effect on the environment per Section 15002(g) of the Guidelines for implementing CEQA. By complying with the thresholds of significance, the project would be in compliance with the SCAQMD Air Quality Management Plan (AQMP) and the federal and state air quality standards. (The project does fit within the City's General Plan growth assumptions and is consistent with the AQMP.)

Table 15 lists the air quality significance thresholds for the six air pollutants analyzed in this report. Lead is not included as part of this analysis as the project is not expected to emit lead in any significant measurable quantity.

Table 15
SCAQMD Air Quality Significance Thresholds

Pollutant	Construction (lbs/day)	Operation (lbs/day)
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550

[1] Source : http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf

5.2 Air Quality Localized Significance Thresholds

Air quality emissions were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold (LST) Look-up Tables.

Table 16 lists the Localized Significance Thresholds (LST) used to determine whether a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard.

LSTs are developed based on the ambient concentrations of four applicable air pollutants for source receptor area (SRA) 17 – Central Orange County.

The nearest existing sensitive receptors are located along the northern, southern and western property line of the site, less than 25 meters from potential areas of on-site construction and operational activity. Although receptors are located closer than 25 meters to the site, SCAQMD LST methodology states that projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.

The daily disturbance area is estimated to be 1.8 acres, however, to be conservative LST thresholds of 1-acre site has been used.

Table 16
SCAQMD Localized Significance Thresholds[1] (LST)

Pollutant	Construction (lbs/day)	Operation (lbs/day)
NO_X	81.0	81.0
CO	485.0	485.0
PM_{10}	4.0	1.0
$PM_{2.5}$	1.0	1.0

[1] Source: SCAQMD Mass Rate Localized Significance Thresholds for 1-acre site in SRA-17 at 25 meters

5.3 GHG Significance Thresholds

5.3.1 SCAQMD recommended GHG Thresholds

SCAQMD has developed recommended GHG thresholds of significance to assist local agencies with determining the impact of a project for CEQA. SCAQMD's objective in providing the GHG guidelines is to establish a performance standard that will ultimately contribute to reducing GHG emissions below 1990 levels, and thus achieve the requirements of the California Global Warming Solutions Act (AB 32).

SCAQMD first issued the *Interim CEQA Greenhouse Gas (GHG) Significance Thresholds* guidance document in October 2008 and has since held several stakeholder working group meetings where staff has presented updated recommendations. The latest recommended GHG thresholds are based on the GHG CEQA Significance Threshold Stakeholder Working Group #15, September 2010.

The SCAQMD describes a five-tiered approach for determining GHG Significance Thresholds.

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

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

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment based on the following tiers.

- **Tier 3 -** Consists of screening values that are intended to capture 90 percent of the GHG emissions from projects. If a project's emissions are under the screening thresholds, then the project is less than significant. SCAQMD has presented two options that lead agencies could choose for screening values. Option #1 sets the thresholds for residential projects to 3,500 $MTCO_2e$/year, commercial projects to 1,400 $MTCO_2e$/year), and mixed use to 3,000 $MTCO_2e$/year. Option #2 sets a single numerical threshold for all non-industrial projects of 3,000 $MTCO_2e$/year. The current staff recommendation is to use option #2, but allows lead agencies to choose option #1 if they prefer. Regardless of which option a lead agency chooses to follow, it is recommended that the same option is consistently used for all projects.

Table 17 shows the screening levels described in option #2, which has been used previously in the City of Garden Grove.

Table 17
SCAQMD Tier 3 GHG Screening Values

Land Use	Screening Value
Industrial Projects	10,000 $MTCO_2e$/Yr
Residential/Commercial Projects	3,000 $MTCO_2e$/Yr

6.0 Air Quality Impact Analysis

Consistent with CEQA and the State CEQA Guidelines, a significant impact related to air quality would occur if the proposed project is determined to:

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 in 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.

6.1 Short Term Air Quality Impacts - Construction

6.1.1 Regional Daily Emissions - Construction

Daily air quality emissions include both on-site and off-site emissions associated with construction of the project. Regional daily emissions of criteria pollutants are compared to the SCAQMD thresholds of significance.

As shown in Table 18, daily emissions of criteria pollutants are expected to be below the allowable thresholds of significance.

CalEEMod unmitigated daily emissions outputs are provided in Appendix A.

Table 18
Daily Construction Emissions

Maximum Daily Emissions (lbs/day)[1]						
Activity	**VOC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation	0.55	6.20	4.08	0.01	0.30	0.23
Grading	0.98	11.75	6.31	0.02	2.77	1.46
Building Construction	0.76	6.71	8.27	0.02	0.79	0.42
Paving	0.64	5.26	7.55	0.01	0.45	0.28
Architectural Coating	27.89	1.23	2.04	0.00	0.15	0.09
Maximum[1]	**27.89**	**11.75**	**8.27**	**0.02**	**2.77**	**1.46**
SCAQMD Threshold	75	100	550	150	150	55
Exceeds Threshold (?)	**No**	**No**	**No**	**No**	**No**	**No**

[1] Maximum daily emission during summer or winter; includes both on-site and off-site project emissions.

The project must follow mandatory SCAQMD rules and requirements with regards to fugitive dust control, as described in Section 6.1.3. Compliance with the standard dust control measures is considered to be part of the conditions of approval for the project and is reflected in the emissions in Table 18.

Table 18 shows that the project's daily construction emissions will be below the applicable SCAQMD air quality standards and thresholds of significance. As a result, the project would not contribute substantially to an existing or projected air quality violation.

Furthermore, by complying with the SCAQMD standards, the project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The project's short-term construction impact on regional air resources is less than significant.

6.1.2 Localized Emissions - Construction

Table 19 illustrates the construction related localized emissions and compares the results to SCAQMD LST thresholds. As shown in Table 19, the emissions will be below the SCAQMD thresholds of significance for localized construction emissions. The project must follow all

standard SCAQMD rules and requirements with regards to fugitive dust control, as described in Section 6.1.3.

The project's short-term construction impact to localized air resources is less than significant.

Table 19
Localized Construction Emissions

Maximum Daily Emissions (lbs/day)[1]				
Activity	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
On-site Emissions	10.18	7.10	2.46	1.37
SCAQMD Construction Threshold[2]	81.0	485.0	4.0	3.0
Exceeds Threshold (?)	**No**	**No**	**No**	**No**

[1] Maximum daily emission during summer or winter; includes on-site project emissions only.
[2] Reference 2006-2008 SCAQMD Mass Rate Localized Significant Thresholds for construction and operation. SRA-17, Central Orange County, 1-acre site, receptor distance 25 meters.

6.1.3 Fugitive Dust - Construction

The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions associated with suspended particulate matter, also known as fugitive dust. Fugitive dust emissions are commonly associated with land clearing activities, cut-and-fill grading operations, and exposure of soils to the air and wind. SCAQMD Rule 403 requires that fugitive dust is controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rules 402 and 403 require implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site.

To ensure full compliance with the applicable dust control standards, the following project design features will be incorporated as conditions of approval:

DF-1 The project must follow the standard SCAQMD rules and requirements with regards to fugitive dust control, which include, but are not limited to the following:

1. All active construction areas shall be watered two (2) times daily.
2. Speed on unpaved roads shall be reduced to less than 15 mph.
3. Any visible dirt deposition on any public roadway shall be swept or washed at the site access points within 30 minutes.

4. Any on-site stockpiles of debris, dirt or other dusty material shall be covered or watered twice daily.
5. All operations on any unpaved surface shall be suspended if winds exceed 15 mph.
6. Access points shall be washed or swept daily.
7. Construction sites shall be sandbagged for erosion control.
8. Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
9. Cover all trucks hauling dirt, sand, soil, or other loose materials, and maintain at least 2 feet of freeboard space in accordance with the requirements of California Vehicle Code (CVC) section 23114.
10. Use gravel aprons and track out grates at all truck exits.
11. Replace the ground cover of disturbed areas as quickly possible.

6.1.4 Odors - Construction

Heavy-duty equipment in the project area during construction will emit odors; however, the construction activity would cease to occur after construction is completed. The project is required to comply with Rule 402 during construction, which states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. No other sources of objectionable odors have been identified for the proposed Project.

Therefore, the project impact from odor emissions is less than significant.

6.1.5 Asbestos - Construction

Asbestos is a carcinogen and is categorized as a hazardous air pollutant by the Environmental Protection Agency (EPA). Asbestos fibers imbedded within construction materials become a health hazard once they are disturbed and rendered airborne, such as through physical contact like building renovation and demolition activities. Asbestos is regulated through the National Emissions Standards for Hazardous Air Pollutants (NESHAP) and SCAQMD is the local enforcement authority for asbestos.

The project is not expected to require the demolition of existing building or structures. Therefore, the potential risk from exposure to asbestos during construction is small.

Asbestos also occurs naturally in serpentine and ultramafic rock. Based on the California Division of Mines and Geology General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, naturally occurring asbestos has not been shown to occur within in the vicinity of the project site. Therefore, the potential risk for naturally occurring asbestos (NOA) during project construction is small.

In the event asbestos is found on the site, the project will be required to comply with SCAQMD and NESHAP standards and protocols. SCAQMD Rule 1403 establishes the survey requirements, notification, and work practice requirements to prevent asbestos emissions during construction activities. By following the required asbestos abatement protocols, the project impact from asbestos would be less than significant.

6.1.6 Diesel Particulate Matter - Construction

The project will generate diesel particulate matter (DPM) during construction from off-road diesel equipment and trucks. The California Office of Environmental Health Hazard Assessment (OEHHA) adopted the Guidance Manual for Preparation of Health Risk Assessments (HRA Guidelines) to provide procedures for use in the Air Toxics Hot Spots Program or for the permitting of existing, new, or modified stationary sources.[7]

The HRA Guidelines provide risk factors based on exposure to toxic substances over a 30-year lifetime span. The proposed project's construction activity is not expected to be a long-term (i.e., 30 years) source of toxic air contaminant emissions and short-term risk factors have not been developed. Due the significantly reduced risk from short-term exposure, SCAQMD does not typically require the evaluation of long-term cancer risk or chronic health impacts for construction operations from a project such as the one being proposed.

Hence, the impacts from short-term exposure to DMP during project construction may be presumed to be less than significant without the need for a detailed HRA study.

To help further reduce the potential health risks associated with DPM exposure during construction, the following project design features would be imposed as conditions of approval. Project design features include a recommendation for Tier 4 engines on all off-

[7] OEHHA. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance for Preparation of Health Risk Assessments. February 2015.

road diesel equipment. Tier 4 engines, along with the latest national fuel standards, have been shown to yield PM reductions of over 95% from the typical Tier 2 and Tier 3 engines.[8] Thus ensuring the potential DPM exposure to adjacent sensitive receptors is reduced to the maximum extent feasible.

DF-2 All diesel construction equipment should have Tier 4 low emission "clean diesel" engines (OEM or retrofit) that include diesel oxidation catalysts and diesel particulate filters that meet the latest CARB best available control technology.

DF-3 Construction equipment should be maintained in proper tune.

DF-4 All construction vehicles should be prohibited from excessive idling. Excessive idling is defined as five (5) minutes or longer.

DF-5 Minimize the simultaneous operation of multiple construction equipment units, to the maximum extent feasible.

DF-6 The use of heavy construction equipment and earthmoving activity should be suspended during Air Alerts when the Air Quality Index reaches the "Unhealthy" level.

DF-7 Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

DF-8 Establish staging areas for the construction equipment that as far from adjacent residential homes, as feasible.

DF-9 Use haul trucks with on-road engines instead of off-road engines for on-site hauling.

[8] EPA. Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel; Final Rule. (40 CFR Parts 9, 69, et al.)

6.2 Long Term Air Quality Impacts - Operation

6.2.1 Daily Emissions - Operation

Long-term operational air pollutant impacts from the project are shown in Table 20. The project is not expected to exceed any of the allowable daily emissions thresholds for criteria pollutants at the regional level. CalEEMod daily emissions outputs are provided in Appendix A.

The project's daily operational emissions will be below the applicable SCAQMD air quality thresholds of significance and the project would not contribute substantially to an existing or projected air quality violation. Furthermore, by complying with the SCAQMD standards, the project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The project related long-term air quality impacts are less than significant.

Table 20
Daily Operational Emissions

Maximum Daily Emissions (lbs/day)[1,2]						
Activity	**VOC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Mobile Sources	0.64	0.60	6.44	0.02	1.75	0.47
Energy Sources	0.02	0.15	0.06	0.00	0.01	0.01
Area Sources	2.12	0.80	4.69	0.01	0.08	0.08
Total	**2.78**	**1.55**	**11.19**	**0.02**	**1.84**	**0.57**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold (?)	No	No	No	No	No	No

[1] Maximum daily emission during summer or winter; includes both on-site and off-site project emissions.
[2] Daily emissions reports are provided in Appendix A.

6.2.2 Localized Operational Emissions - Operation

Table 21 shows the localized operational emissions and compares the results to SCAQMD LST thresholds of significance. As shown in Table 21, the emissions will be below the SCAQMD thresholds of significance for localized operational emissions. **The project will result in less than significant localized operational emissions impacts.**

Table 21
Localized Operational Emissions

Maximum Daily Emissions (lbs/day)[1,4]				
LST Pollutants	NOx (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
On-site Emissions[2]	0.98	5.07	0.2	0.1
SCAQMD Operation Threshold[3]	81.0	485.0	1.0	1.0
Exceeds Threshold (?)	**No**	**No**	**No**	**No**

[1] Maximum daily emission in summer or winter.
[2] Mobile source emissions include on-site vehicle emissions only. It is estimated that approximately 5% of mobile emissions will occur on the project site.
[3] Reference: 2006-2008 SCAQMD Mass Rate Localized Significant Thresholds for construction and operation Table C-1 through C-6; SRA 17, Central Orange County disturbance area of 1-acre and receptor distance of 25 meters.

6.2.3 Odors - Operation

Land uses that commonly receive odor complaints include agricultural uses (farming and livestock), chemical plants, composting operations, dairies, fiberglass molding facilities, food processing plants, landfills, refineries, rail yards, and wastewater treatment plants. The proposed project does not contain land uses that would typically be associated with significant odor emissions.

The project will be required to comply with standard building code requirements related to exhaust ventilation, as well as comply with SCAQMD Rule 402. Rule 402 requires that a person may not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Project related odors are not expected to meet the criteria of being a nuisance. **The project's operation would result in less than significant odor impacts.**

6.2.4 Toxic Air Contaminants - Operations

The project consists of a residential land use and does not include major sources of toxic air contaminants (TAC) emissions that would result in significant exposure of sensitive receptors to substantial pollutant concentrations. Examples of land uses that are major sources of TACs include distribution centers with heavy truck traffic, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing stations. The project does not call for any of these uses. **The project impact is considered less than significant.**

7.0 Greenhouse Gas Impact Analysis

Consistent with CEQA Guidelines, a significant impact related to greenhouse gas would occur if the proposed project were determined to:

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 emissions of greenhouse gases.

7.1 Greenhouse Gas Emissions - Construction

Greenhouse gas emissions are estimated for on-site and off-site construction activity using CalEEMod. Table 22 shows the construction greenhouse gas emissions, including equipment and worker vehicle emissions for all phases of construction. Construction emissions are amortized over 30 years and added to the long-term operational emissions, pursuant to SCAQMD recommendations.

Table 22
Construction Greenhouse Gas Emissions

Activity	Emissions ($MTC0_2e$)[1]		
	On-site	Off-site	Total
Site Preparation	4.31	0.21	4.52
Grading	12.48	8.30	20.78
Building Construction	186.92	79.77	266.69
Paving	9.47	1.50	10.97
Architectural Coating	2.56	0.66	3.22
Total	215.74	90.44	306.18
Amortized over 30 years[2]	**7.19**	**3.01**	**10.21**

[1] $MTCO_2e$ = metric tons of carbon dioxide equivalents (includes carbon dioxide, methane, nitrous oxide, and/or hydrofluorocarbon).
[2] The emissions are amortized over 30 years and added to the operational emissions, pursuant to SCAQMD recommendations.

Because impacts from construction activities occur over a relatively short-term period of time, they contribute a relatively small portion of the overall lifetime project GHG emissions

and GHG emissions reduction measures for construction equipment are relatively limited. Therefore, SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime and added to the overall project operational emissions.[9] In doing so, construction GHG emissions are included in the overall contribution of the project, as further discussed in the following section.

7.2 Greenhouse Gas Emissions - Operation

Greenhouse gas emissions are estimated for on-site and off-site operational activity using CalEEMod. Greenhouse gas emissions from mobile sources, area sources and energy sources are shown in Table 23. CalEEMod annual GHG output calculations are provided in Appendix B.

Table 23
Operational Greenhouse Gas Emissions

Emission Source	GHG Emissions ($MTCO_2e$)[1]
Mobile Source	246.43
Energy Source	67.94
Area Source	11.80
Water	17.03
Waste	12.26
Construction (30 year average)	10.21
Total Annual Emissions	**365.67**
SCAQMD Tier 3 Screening Threshold[2]	3,000
Exceed Tier 3 Threshold?	No

[1] $MTCO_2e$ = metric tons of carbon dioxide equivalents.

[2] Per South Coast Air Quality Management District (SCAQMD) Draft Guidance Document - Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008

As shown in Table 23, the project GHG emissions are expected to be below the SCAQMD's Tier 3 approach, which limits GHG emissions to 3,000 $MTCO_2e$ for residential projects.

The project related long-term GHG impacts are less than significant.

[9] SCAQMD. Interim CEQA GHG Significance Thresholds. Page 3-10. 2008

7.3 Project Consistency with Greenhouse Gas Reduction Plans

The project will be required to comply with the mandatory requirements of the latest 2019 California Building Standards Code, including Title 24, Part 11, CALGreen and Title 24, Part 6, Energy Code. The purpose of the building standards is to reduce negative impacts on the environment through improved planning and design, energy efficiency, water efficiency and conservation and material and resource conservation. The California Building Standards were developed to help meet the requirements of the Global Warming Solutions Act (AB 32).

By complying with the California Building Standards Code requirements the project would not conflict with an applicable plan, policy, or regulation for the purpose of reducing the emissions of greenhouse gases and the impact is considered less than significant.

The following project design features will be implemented to ensure the project is consistent with applicable GHG reduction standards.

DF-11 The project will comply with the mandatory requirements of the California Building Standards Code, Title 24, Part 6 (Energy Code) and Part 11 (CALGreen), including, but not limited to:

- Install low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.
- Provide the necessary infrastructure to support electric vehicle charging.

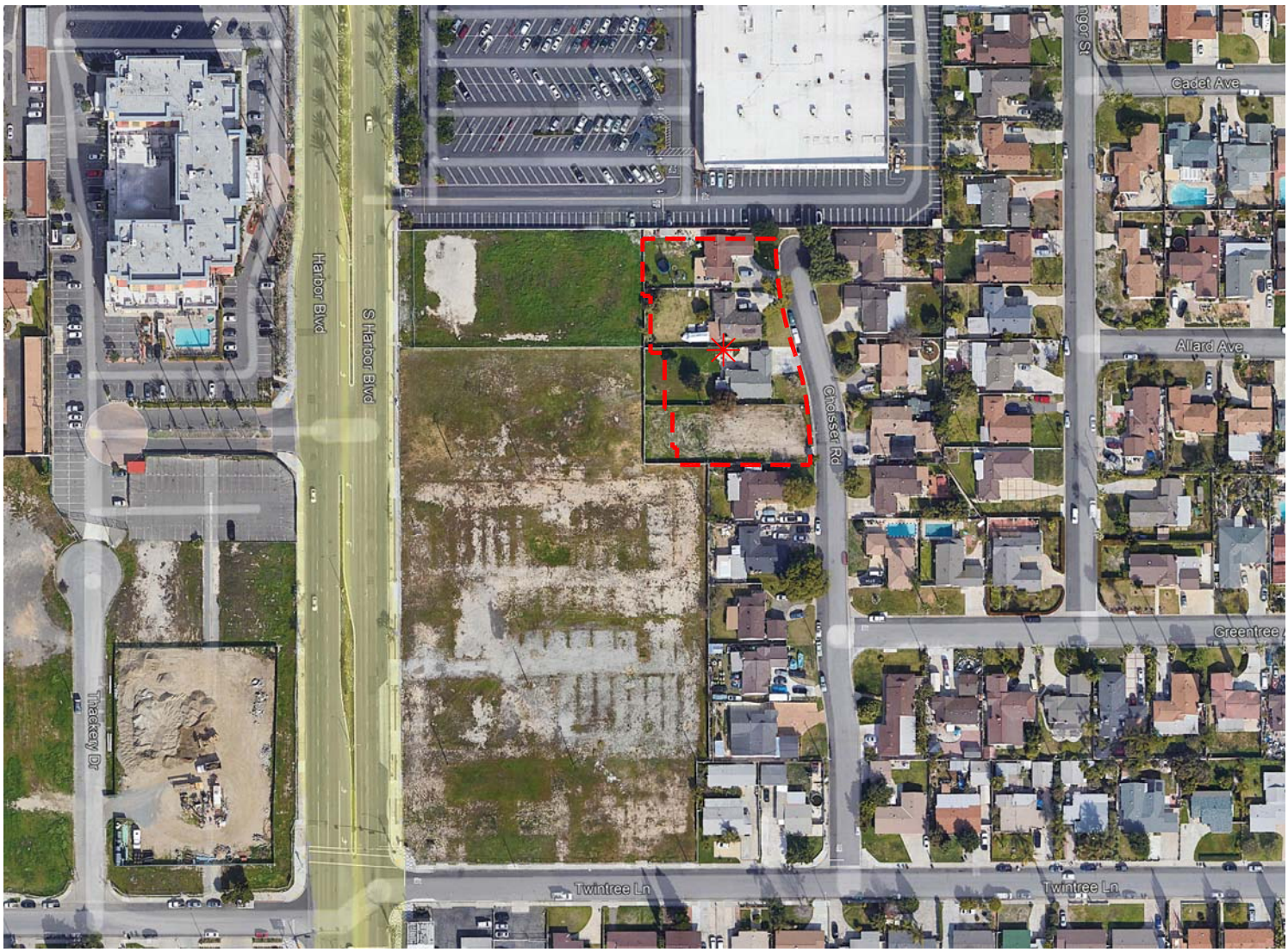
DF-12 Participate in the local waste management recycling and composting programs.

As a result, the project would not conflict with an applicable plan, policy, or regulation for the purpose of reducing the emissions of greenhouse gases and the impact is considered less than significant.

Exhibits

Exhibit A

Location Map



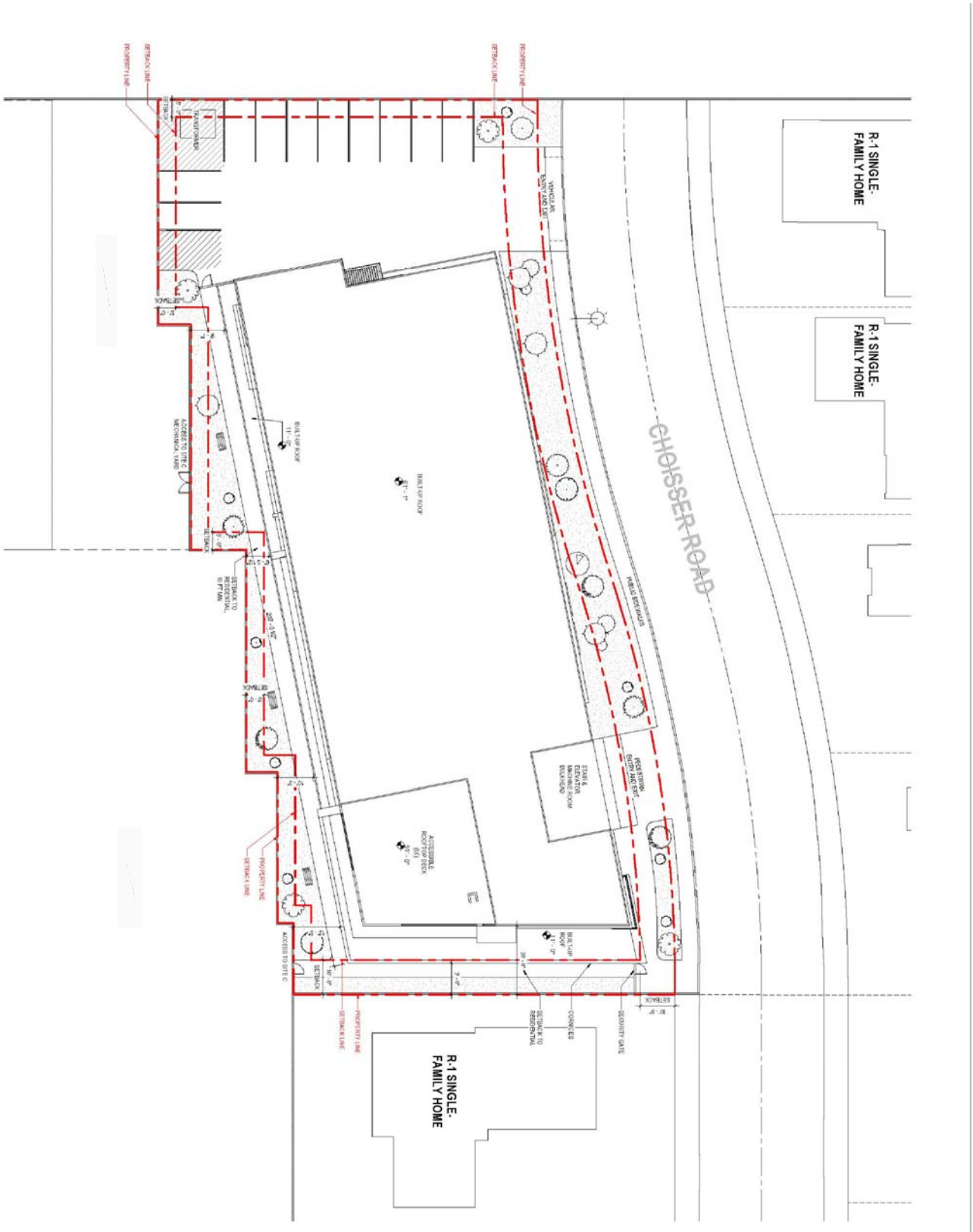
Legend:

- = Project Site Boundary
- = Project Site

N

Exhibit B

Site Plan



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Appendices

Appendix A

Daily Emissions Calculations Output
(CalEEMod)

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Choisser Apartment Air Quality and Greenhouse Gas

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	53.00	Dwelling Unit	0.66	88,492.00	152

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The project is proposing to build 53 multi family housing of approximately (88,492 square feet) on a 0.66 acre site.

Construction Phase - The project site is vacant and no demo is required. Construction phases are provided by the applicant.

Grading - The project is expected to export approximately 2,000 CY of earthwork material.

Vehicle Trips - Trip generation rates are based on ITE Generation Manual 11th Edition.

Woodstoves - SCAQMD Rule 445 restricts wood burning hearths/fireplaces from being installed in new development.

Construction Off-road Equipment Mitigation - Project will be required to comply with SCAQMD Rule 403 regarding fugitive dust control.

Fleet Mix - Operational fleet mix adjusted to equal 2% trucks with GVWR > 10,000 lbs.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	370.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	PhaseEndDate	8/4/2023	11/5/2024
tblConstructionPhase	PhaseEndDate	7/21/2023	9/10/2024
tblConstructionPhase	PhaseEndDate	3/3/2023	4/11/2023
tblConstructionPhase	PhaseEndDate	7/28/2023	10/8/2024
tblConstructionPhase	PhaseEndDate	3/1/2023	3/14/2023
tblConstructionPhase	PhaseStartDate	7/29/2023	10/9/2024
tblConstructionPhase	PhaseStartDate	3/4/2023	4/12/2023
tblConstructionPhase	PhaseStartDate	3/2/2023	3/15/2023
tblConstructionPhase	PhaseStartDate	7/22/2023	9/11/2024
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	2.65	0.00
tblFleetMix	HHD	4.9260e-003	3.0920e-003
tblFleetMix	LDA	0.55	0.55
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT2	0.19	0.19
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	6.6790e-003	4.1930e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.13
tblFleetMix	MH	3.8010e-003	2.3860e-003
tblFleetMix	MHD	0.01	9.2330e-003
tblFleetMix	OBUS	6.6200e-004	4.1600e-004
tblFleetMix	SBUS	7.0500e-004	4.4300e-004
tblFleetMix	UBUS	3.7800e-004	2.3700e-004

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	MaterialExported	0.00	2,000.00
tblLandUse	LandUseSquareFeet	53,000.00	88,492.00
tblLandUse	LotAcreage	1.39	0.66
tblVehicleTrips	ST_TR	4.91	4.57
tblVehicleTrips	SU_TR	4.09	3.77
tblVehicleTrips	WD_TR	5.44	4.54
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.9821	11.6829	8.3478	0.0219	5.6307	0.4301	6.0608	2.6537	0.3961	3.0498	0.0000	2,241.4344	2,241.4344	0.5237	0.1299	2,293.2342
2024	27.8877	6.2451	8.2386	0.0159	0.4631	0.2856	0.7487	0.1237	0.2628	0.3865	0.0000	1,579.6087	1,579.6087	0.3717	0.0241	1,596.0909
Maximum	**27.8877**	**11.6829**	**8.3478**	**0.0219**	**5.6307**	**0.4301**	**6.0608**	**2.6537**	**0.3961**	**3.0498**	**0.0000**	**2,241.4344**	**2,241.4344**	**0.5237**	**0.1299**	**2,293.2342**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.9821	11.6829	8.3478	0.0219	2.3436	0.4301	2.7737	1.0665	0.3961	1.4626	0.0000	2,241.4344	2,241.4344	0.5237	0.1299	2,293.2342
2024	27.8877	6.2451	8.2386	0.0159	0.4631	0.2856	0.7487	0.1237	0.2628	0.3865	0.0000	1,579.6087	1,579.6087	0.3717	0.0241	1,596.0909
Maximum	**27.8877**	**11.6829**	**8.3478**	**0.0219**	**2.3436**	**0.4301**	**2.7737**	**1.0665**	**0.3961**	**1.4626**	**0.0000**	**2,241.4344**	**2,241.4344**	**0.5237**	**0.1299**	**2,293.2342**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.94	0.00	48.27	57.15	0.00	46.19	0.00	0.00	0.00	0.00	0.00	0.00

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309
Energy	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Mobile	0.6415	0.5570	6.4379	0.0150	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,565.9983	1,565.9983	0.0862	0.0547	1,584.4463
Total	**2.7814**	**1.5038**	**11.1878**	**0.0210**	**1.7384**	**0.1064**	**1.8449**	**0.4625**	**0.1057**	**0.5683**	**0.0000**	**2,718.3405**	**2,718.3405**	**0.1157**	**0.0757**	**2,743.7780**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309
Energy	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Mobile	0.6415	0.5570	6.4379	0.0150	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,565.9983	1,565.9983	0.0862	0.0547	1,584.4463
Total	**2.7814**	**1.5038**	**11.1878**	**0.0210**	**1.7384**	**0.1064**	**1.8449**	**0.4625**	**0.1057**	**0.5683**	**0.0000**	**2,718.3405**	**2,718.3405**	**0.1157**	**0.0757**	**2,743.7780**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	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	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2023	3/14/2023	5	10	
2	Grading	Grading	3/15/2023	4/11/2023	5	20	
3	Building Construction	Building Construction	4/12/2023	9/10/2024	5	370	
4	Paving	Paving	9/11/2024	10/8/2024	5	20	
5	Architectural Coating	Architectural Coating	10/9/2024	11/5/2024	5	20	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 0

Residential Indoor: 179,196; Residential Outdoor: 59,732; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	38.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0530	0.0000	0.0530	5.7300e-003	0.0000	5.7300e-003			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084		942.4317	942.4317	0.3048		950.0517
Total	**0.5348**	**6.1887**	**3.9239**	**9.7300e-003**	**0.0530**	**0.2266**	**0.2796**	**5.7300e-003**	**0.2084**	**0.2142**		**942.4317**	**942.4317**	**0.3048**		**950.0517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0141	9.0100e-003	0.1531	4.7000e-004	0.0559	2.9000e-004	0.0562	0.0148	2.6000e-004	0.0151		48.2655	48.2655	1.0500e-003	1.0300e-003	48.5986
Total	**0.0141**	**9.0100e-003**	**0.1531**	**4.7000e-004**	**0.0559**	**2.9000e-004**	**0.0562**	**0.0148**	**2.6000e-004**	**0.0151**		**48.2655**	**48.2655**	**1.0500e-003**	**1.0300e-003**	**48.5986**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0203	0.0000	0.0203	2.1900e-003	0.0000	2.1900e-003			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084	0.0000	942.4317	942.4317	0.3048		950.0517
Total	**0.5348**	**6.1887**	**3.9239**	**9.7300e-003**	**0.0203**	**0.2266**	**0.2469**	**2.1900e-003**	**0.2084**	**0.2106**	**0.0000**	**942.4317**	**942.4317**	**0.3048**		**950.0517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0141	9.0100e-003	0.1531	4.7000e-004	0.0559	2.9000e-004	0.0562	0.0148	2.6000e-004	0.0151		48.2655	48.2655	1.0500e-003	1.0300e-003	48.5986
Total	**0.0141**	**9.0100e-003**	**0.1531**	**4.7000e-004**	**0.0559**	**2.9000e-004**	**0.0562**	**0.0148**	**2.6000e-004**	**0.0151**		**48.2655**	**48.2655**	**1.0500e-003**	**1.0300e-003**	**48.5986**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3233	0.0000	5.3233	2.5703	0.0000	2.5703			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865		1,364.7713	1,364.7713	0.4414		1,375.8062
Total	**0.9335**	**10.1789**	**5.5516**	**0.0141**	**5.3233**	**0.4201**	**5.7433**	**2.5703**	**0.3865**	**2.9568**		**1,364.7713**	**1,364.7713**	**0.4414**		**1,375.8062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0261	1.4897	0.5107	7.0100e-003	0.2180	9.5900e-003	0.2276	0.0597	9.1700e-003	0.0689		799.4382	799.4382	0.0807	0.1282	839.6703
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0225	0.0144	0.2450	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		77.2248	77.2248	1.6800e-003	1.6500e-003	77.7578
Total	**0.0486**	**1.5041**	**0.7556**	**7.7600e-003**	**0.3074**	**0.0101**	**0.3175**	**0.0834**	**9.5900e-003**	**0.0930**		**876.6631**	**876.6631**	**0.0823**	**0.1299**	**917.4280**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0361	0.0000	2.0361	0.9831	0.0000	0.9831			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865	0.0000	1,364.7713	1,364.7713	0.4414		1,375.8062
Total	**0.9335**	**10.1789**	**5.5516**	**0.0141**	**2.0361**	**0.4201**	**2.4562**	**0.9831**	**0.3865**	**1.3696**	**0.0000**	**1,364.7713**	**1,364.7713**	**0.4414**		**1,375.8062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0261	1.4897	0.5107	7.0100e-003	0.2180	9.5900e-003	0.2276	0.0597	9.1700e-003	0.0689		799.4382	799.4382	0.0807	0.1282	839.6703
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0225	0.0144	0.2450	7.5000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		77.2248	77.2248	1.6800e-003	1.6500e-003	77.7578
Total	**0.0486**	**1.5041**	**0.7556**	**7.7600e-003**	**0.3074**	**0.0101**	**0.3175**	**0.0834**	**9.5900e-003**	**0.0930**		**876.6631**	**876.6631**	**0.0823**	**0.1299**	**917.4280**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**		**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0600e-003	0.2103	0.0872	1.0800e-003	0.0384	1.0800e-003	0.0394	0.0110	1.0300e-003	0.0121		118.4696	118.4696	7.0400e-003	0.0170	123.7114
Worker	0.1071	0.0685	1.1636	3.5800e-003	0.4248	2.1700e-003	0.4269	0.1127	2.0000e-003	0.1146		366.8180	366.8180	7.9600e-003	7.8300e-003	369.3493
Total	**0.1131**	**0.2788**	**1.2508**	**4.6600e-003**	**0.4631**	**3.2500e-003**	**0.4664**	**0.1237**	**3.0300e-003**	**0.1267**		**485.2876**	**485.2876**	**0.0150**	**0.0248**	**493.0607**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**	**0.0000**	**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0600e-003	0.2103	0.0872	1.0800e-003	0.0384	1.0800e-003	0.0394	0.0110	1.0300e-003	0.0121		118.4696	118.4696	7.0400e-003	0.0170	123.7114
Worker	0.1071	0.0685	1.1636	3.5800e-003	0.4248	2.1700e-003	0.4269	0.1127	2.0000e-003	0.1146		366.8180	366.8180	7.9600e-003	7.8300e-003	369.3493
Total	**0.1131**	**0.2788**	**1.2508**	**4.6600e-003**	**0.4631**	**3.2500e-003**	**0.4664**	**0.1237**	**3.0300e-003**	**0.1267**		**485.2876**	**485.2876**	**0.0150**	**0.0248**	**493.0607**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5950	5.9739	7.0675	0.0114		0.2824	0.2824		0.2598	0.2598		1,104.9834	1,104.9834	0.3574		1,113.9177
Total	**0.5950**	**5.9739**	**7.0675**	**0.0114**		**0.2824**	**0.2824**		**0.2598**	**0.2598**		**1,104.9834**	**1,104.9834**	**0.3574**		**1,113.9177**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.9700e-003	0.2097	0.0865	1.0600e-003	0.0384	1.1300e-003	0.0395	0.0110	1.0800e-003	0.0121		116.6318	116.6318	7.1200e-003	0.0168	121.8180
Worker	0.1007	0.0616	1.0846	3.4700e-003	0.4248	2.0700e-003	0.4268	0.1127	1.9000e-003	0.1146		357.9935	357.9935	7.2200e-003	7.3200e-003	360.3552
Total	**0.1066**	**0.2712**	**1.1711**	**4.5300e-003**	**0.4631**	**3.2000e-003**	**0.4663**	**0.1237**	**2.9800e-003**	**0.1267**		**474.6253**	**474.6253**	**0.0143**	**0.0241**	**482.1732**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5950	5.9739	7.0675	0.0114		0.2824	0.2824		0.2598	0.2598	0.0000	1,104.9834	1,104.9834	0.3574		1,113.9177
Total	**0.5950**	**5.9739**	**7.0675**	**0.0114**		**0.2824**	**0.2824**		**0.2598**	**0.2598**	**0.0000**	**1,104.9834**	**1,104.9834**	**0.3574**		**1,113.9177**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.9700e-003	0.2097	0.0865	1.0600e-003	0.0384	1.1300e-003	0.0395	0.0110	1.0800e-003	0.0121		116.6318	116.6318	7.1200e-003	0.0168	121.8180
Worker	0.1007	0.0616	1.0846	3.4700e-003	0.4248	2.0700e-003	0.4268	0.1127	1.9000e-003	0.1146		357.9935	357.9935	7.2200e-003	7.3200e-003	360.3552
Total	**0.1066**	**0.2712**	**1.1711**	**4.5300e-003**	**0.4631**	**3.2000e-003**	**0.4663**	**0.1237**	**2.9800e-003**	**0.1267**		**474.6253**	**474.6253**	**0.0143**	**0.0241**	**482.1732**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5904	5.2297	7.0314	0.0113		0.2429	0.2429		0.2269	0.2269		1,036.2393	1,036.2393	0.3019		1,043.7858
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5904**	**5.2297**	**7.0314**	**0.0113**		**0.2429**	**0.2429**		**0.2269**	**0.2269**		**1,036.2393**	**1,036.2393**	**0.3019**		**1,043.7858**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0477	0.0292	0.5137	1.6400e-003	0.2012	9.8000e-004	0.2022	0.0534	9.0000e-004	0.0543		169.5759	169.5759	3.4200e-003	3.4700e-003	170.6946
Total	**0.0477**	**0.0292**	**0.5137**	**1.6400e-003**	**0.2012**	**9.8000e-004**	**0.2022**	**0.0534**	**9.0000e-004**	**0.0543**		**169.5759**	**169.5759**	**3.4200e-003**	**3.4700e-003**	**170.6946**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5904	5.2297	7.0314	0.0113		0.2429	0.2429		0.2269	0.2269	0.0000	1,036.2393	1,036.2393	0.3019		1,043.7858
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5904**	**5.2297**	**7.0314**	**0.0113**		**0.2429**	**0.2429**		**0.2269**	**0.2269**	**0.0000**	**1,036.2393**	**1,036.2393**	**0.3019**		**1,043.7858**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0477	0.0292	0.5137	1.6400e-003	0.2012	9.8000e-004	0.2022	0.0534	9.0000e-004	0.0543		169.5759	169.5759	3.4200e-003	3.4700e-003	170.6946
Total	**0.0477**	**0.0292**	**0.5137**	**1.6400e-003**	**0.2012**	**9.8000e-004**	**0.2022**	**0.0534**	**9.0000e-004**	**0.0543**		**169.5759**	**169.5759**	**3.4200e-003**	**3.4700e-003**	**170.6946**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.6858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**27.8665**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0212	0.0130	0.2283	7.3000e-004	0.0894	4.4000e-004	0.0899	0.0237	4.0000e-004	0.0241		75.3671	75.3671	1.5200e-003	1.5400e-003	75.8643
Total	**0.0212**	**0.0130**	**0.2283**	**7.3000e-004**	**0.0894**	**4.4000e-004**	**0.0899**	**0.0237**	**4.0000e-004**	**0.0241**		**75.3671**	**75.3671**	**1.5200e-003**	**1.5400e-003**	**75.8643**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.6858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**27.8665**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0212	0.0130	0.2283	7.3000e-004	0.0894	4.4000e-004	0.0899	0.0237	4.0000e-004	0.0241		75.3671	75.3671	1.5200e-003	1.5400e-003	75.8643
Total	**0.0212**	**0.0130**	**0.2283**	**7.3000e-004**	**0.0894**	**4.4000e-004**	**0.0899**	**0.0237**	**4.0000e-004**	**0.0241**		**75.3671**	**75.3671**	**1.5200e-003**	**1.5400e-003**	**75.8643**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6415	0.5570	6.4379	0.0150	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,565.9983	1,565.9983	0.0862	0.0547	1,584.4463
Unmitigated	0.6415	0.5570	6.4379	0.0150	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,565.9983	1,565.9983	0.0862	0.0547	1,584.4463

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	240.62	242.21	199.81	803,089	803,089
Total	240.62	242.21	199.81	803,089	803,089

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.554159	0.060918	0.187306	0.128036	0.024533	0.004193	0.009233	0.003092	0.000416	0.000237	0.025048	0.000443	0.002386

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
NaturalGas Unmitigated	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1618.99	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Total		**0.0175**	**0.1492**	**0.0635**	**9.5000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**		**190.4689**	**190.4689**	**3.6500e-003**	**3.4900e-003**	**191.6008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1.61899	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Total		**0.0175**	**0.1492**	**0.0635**	**9.5000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**		**190.4689**	**190.4689**	**3.6500e-003**	**3.4900e-003**	**191.6008**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309
Unmitigated	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0875	0.7473	0.3180	4.7700e-003		0.0604	0.0604		0.0604	0.0604	0.0000	954.0000	954.0000	0.0183	0.0175	959.6691
Landscaping	0.1312	0.0503	4.3684	2.3000e-004		0.0242	0.0242		0.0242	0.0242		7.8733	7.8733	7.5400e-003		8.0618
Total	**2.1225**	**0.7976**	**4.6864**	**5.0000e-003**		**0.0847**	**0.0847**		**0.0847**	**0.0847**	**0.0000**	**961.8733**	**961.8733**	**0.0258**	**0.0175**	**967.7309**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0875	0.7473	0.3180	4.7700e-003		0.0604	0.0604		0.0604	0.0604	0.0000	954.0000	954.0000	0.0183	0.0175	959.6691
Landscaping	0.1312	0.0503	4.3684	2.3000e-004		0.0242	0.0242		0.0242	0.0242		7.8733	7.8733	7.5400e-003		8.0618
Total	**2.1225**	**0.7976**	**4.6864**	**5.0000e-003**		**0.0847**	**0.0847**		**0.0847**	**0.0847**	**0.0000**	**961.8733**	**961.8733**	**0.0258**	**0.0175**	**967.7309**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Choisser Apartment Air Quality and Greenhouse Gas

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	53.00	Dwelling Unit	0.66	88,492.00	152

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The project is proposing to build 53 multi family housing of approximately (88,492 square feet) on a 0.66 acre site.

Construction Phase - The project site is vacant and no demo is required. Construction phases are provided by the applicant.

Grading - The project is expected to export approximately 2,000 CY of earthwork material.

Vehicle Trips - Trip generation rates are based on ITE Generation Manual 11th Edition.

Woodstoves - SCAQMD Rule 445 restricts wood burning hearths/fireplaces from being installed in new development.

Construction Off-road Equipment Mitigation - Project will be required to comply with SCAQMD Rule 403 regarding fugitive dust control.

Fleet Mix - Operational fleet mix adjusted to equal 2% trucks with GVWR > 10,000 lbs.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	370.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	PhaseEndDate	8/4/2023	11/5/2024
tblConstructionPhase	PhaseEndDate	7/21/2023	9/10/2024
tblConstructionPhase	PhaseEndDate	3/3/2023	4/11/2023
tblConstructionPhase	PhaseEndDate	7/28/2023	10/8/2024
tblConstructionPhase	PhaseEndDate	3/1/2023	3/14/2023
tblConstructionPhase	PhaseStartDate	7/29/2023	10/9/2024
tblConstructionPhase	PhaseStartDate	3/4/2023	4/12/2023
tblConstructionPhase	PhaseStartDate	3/2/2023	3/15/2023
tblConstructionPhase	PhaseStartDate	7/22/2023	9/11/2024
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	2.65	0.00
tblFleetMix	HHD	4.9260e-003	3.0920e-003
tblFleetMix	LDA	0.55	0.55
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT2	0.19	0.19
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	6.6790e-003	4.1930e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.13
tblFleetMix	MH	3.8010e-003	2.3860e-003
tblFleetMix	MHD	0.01	9.2330e-003
tblFleetMix	OBUS	6.6200e-004	4.1600e-004
tblFleetMix	SBUS	7.0500e-004	4.4300e-004
tblFleetMix	UBUS	3.7800e-004	2.3700e-004

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	MaterialExported	0.00	2,000.00
tblLandUse	LandUseSquareFeet	53,000.00	88,492.00
tblLandUse	LotAcreage	1.39	0.66
tblVehicleTrips	ST_TR	4.91	4.57
tblVehicleTrips	SU_TR	4.09	3.77
tblVehicleTrips	WD_TR	5.44	4.54
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.9827	11.7477	8.2710	0.0218	5.6307	0.4302	6.0608	2.6537	0.3961	3.0498	0.0000	2,238.4647	2,238.4647	0.5237	0.1301	2,290.3298
2024	27.8898	6.2605	8.1682	0.0158	0.4631	0.2856	0.7487	0.1237	0.2628	0.3865	0.0000	1,562.6949	1,562.6949	0.3719	0.0246	1,579.3313
Maximum	**27.8898**	**11.7477**	**8.2710**	**0.0218**	**5.6307**	**0.4302**	**6.0608**	**2.6537**	**0.3961**	**3.0498**	**0.0000**	**2,238.4647**	**2,238.4647**	**0.5237**	**0.1301**	**2,290.3298**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.9827	11.7477	8.2710	0.0218	2.3436	0.4302	2.7737	1.0665	0.3961	1.4627	0.0000	2,238.4647	2,238.4647	0.5237	0.1301	2,290.3298
2024	27.8898	6.2605	8.1682	0.0158	0.4631	0.2856	0.7487	0.1237	0.2628	0.3865	0.0000	1,562.6949	1,562.6949	0.3719	0.0246	1,579.3313
Maximum	**27.8898**	**11.7477**	**8.2710**	**0.0218**	**2.3436**	**0.4302**	**2.7737**	**1.0665**	**0.3961**	**1.4627**	**0.0000**	**2,238.4647**	**2,238.4647**	**0.5237**	**0.1301**	**2,290.3298**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.94	0.00	48.27	57.15	0.00	46.19	0.00	0.00	0.00	0.00	0.00	0.00

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309
Energy	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Mobile	0.6371	0.6008	6.3671	0.0144	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,503.9248	1,503.9248	0.0890	0.0572	1,523.1881
Total	**2.7771**	**1.5476**	**11.1170**	**0.0204**	**1.7384**	**0.1064**	**1.8449**	**0.4625**	**0.1057**	**0.5683**	**0.0000**	**2,656.2670**	**2,656.2670**	**0.1185**	**0.0782**	**2,682.5198**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309
Energy	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Mobile	0.6371	0.6008	6.3671	0.0144	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,503.9248	1,503.9248	0.0890	0.0572	1,523.1881
Total	**2.7771**	**1.5476**	**11.1170**	**0.0204**	**1.7384**	**0.1064**	**1.8449**	**0.4625**	**0.1057**	**0.5683**	**0.0000**	**2,656.2670**	**2,656.2670**	**0.1185**	**0.0782**	**2,682.5198**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	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	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2023	3/14/2023	5	10	
2	Grading	Grading	3/15/2023	4/11/2023	5	20	
3	Building Construction	Building Construction	4/12/2023	9/10/2024	5	370	
4	Paving	Paving	9/11/2024	10/8/2024	5	20	
5	Architectural Coating	Architectural Coating	10/9/2024	11/5/2024	5	20	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 0

Residential Indoor: 179,196; Residential Outdoor: 59,732; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	38.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0530	0.0000	0.0530	5.7300e-003	0.0000	5.7300e-003			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084		942.4317	942.4317	0.3048		950.0517
Total	**0.5348**	**6.1887**	**3.9239**	**9.7300e-003**	**0.0530**	**0.2266**	**0.2796**	**5.7300e-003**	**0.2084**	**0.2142**		**942.4317**	**942.4317**	**0.3048**		**950.0517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.9000e-003	0.1426	4.5000e-004	0.0559	2.9000e-004	0.0562	0.0148	2.6000e-004	0.0151		45.9578	45.9578	1.0700e-003	1.1000e-003	46.3111
Total	**0.0154**	**9.9000e-003**	**0.1426**	**4.5000e-004**	**0.0559**	**2.9000e-004**	**0.0562**	**0.0148**	**2.6000e-004**	**0.0151**		**45.9578**	**45.9578**	**1.0700e-003**	**1.1000e-003**	**46.3111**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0203	0.0000	0.0203	2.1900e-003	0.0000	2.1900e-003			0.0000			0.0000
Off-Road	0.5348	6.1887	3.9239	9.7300e-003		0.2266	0.2266		0.2084	0.2084	0.0000	942.4317	942.4317	0.3048		950.0517
Total	**0.5348**	**6.1887**	**3.9239**	**9.7300e-003**	**0.0203**	**0.2266**	**0.2469**	**2.1900e-003**	**0.2084**	**0.2106**	**0.0000**	**942.4317**	**942.4317**	**0.3048**		**950.0517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.9000e-003	0.1426	4.5000e-004	0.0559	2.9000e-004	0.0562	0.0148	2.6000e-004	0.0151		45.9578	45.9578	1.0700e-003	1.1000e-003	46.3111
Total	**0.0154**	**9.9000e-003**	**0.1426**	**4.5000e-004**	**0.0559**	**2.9000e-004**	**0.0562**	**0.0148**	**2.6000e-004**	**0.0151**		**45.9578**	**45.9578**	**1.0700e-003**	**1.1000e-003**	**46.3111**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3233	0.0000	5.3233	2.5703	0.0000	2.5703			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865		1,364.7713	1,364.7713	0.4414		1,375.8062
Total	**0.9335**	**10.1789**	**5.5516**	**0.0141**	**5.3233**	**0.4201**	**5.7433**	**2.5703**	**0.3865**	**2.9568**		**1,364.7713**	**1,364.7713**	**0.4414**		**1,375.8062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0245	1.5530	0.5163	7.0200e-003	0.2180	9.6200e-003	0.2276	0.0597	9.2000e-003	0.0689		800.1608	800.1608	0.0806	0.1284	840.4258
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0246	0.0158	0.2282	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		73.5325	73.5325	1.7200e-003	1.7500e-003	74.0978
Total	**0.0492**	**1.5689**	**0.7445**	**7.7400e-003**	**0.3074**	**0.0101**	**0.3175**	**0.0834**	**9.6200e-003**	**0.0930**		**873.6934**	**873.6934**	**0.0823**	**0.1301**	**914.5236**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0361	0.0000	2.0361	0.9831	0.0000	0.9831			0.0000			0.0000
Off-Road	0.9335	10.1789	5.5516	0.0141		0.4201	0.4201		0.3865	0.3865	0.0000	1,364.7713	1,364.7713	0.4414		1,375.8062
Total	**0.9335**	**10.1789**	**5.5516**	**0.0141**	**2.0361**	**0.4201**	**2.4562**	**0.9831**	**0.3865**	**1.3696**	**0.0000**	**1,364.7713**	**1,364.7713**	**0.4414**		**1,375.8062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0245	1.5530	0.5163	7.0200e-003	0.2180	9.6200e-003	0.2276	0.0597	9.2000e-003	0.0689		800.1608	800.1608	0.0806	0.1284	840.4258
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0246	0.0158	0.2282	7.2000e-004	0.0894	4.6000e-004	0.0899	0.0237	4.2000e-004	0.0241		73.5325	73.5325	1.7200e-003	1.7500e-003	74.0978
Total	**0.0492**	**1.5689**	**0.7445**	**7.7400e-003**	**0.3074**	**0.0101**	**0.3175**	**0.0834**	**9.6200e-003**	**0.0930**		**873.6934**	**873.6934**	**0.0823**	**0.1301**	**914.5236**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**		**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8500e-003	0.2197	0.0900	1.0800e-003	0.0384	1.0900e-003	0.0395	0.0110	1.0400e-003	0.0121		118.6439	118.6439	7.0300e-003	0.0170	123.8967
Worker	0.1170	0.0752	1.0839	3.4100e-003	0.4248	2.1700e-003	0.4269	0.1127	2.0000e-003	0.1146		349.2795	349.2795	8.1500e-003	8.3300e-003	351.9647
Total	**0.1229**	**0.2949**	**1.1739**	**4.4900e-003**	**0.4631**	**3.2600e-003**	**0.4664**	**0.1237**	**3.0400e-003**	**0.1267**		**467.9233**	**467.9233**	**0.0152**	**0.0254**	**475.8614**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**	**0.0000**	**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8500e-003	0.2197	0.0900	1.0800e-003	0.0384	1.0900e-003	0.0395	0.0110	1.0400e-003	0.0121		118.6439	118.6439	7.0300e-003	0.0170	123.8967
Worker	0.1170	0.0752	1.0839	3.4100e-003	0.4248	2.1700e-003	0.4269	0.1127	2.0000e-003	0.1146		349.2795	349.2795	8.1500e-003	8.3300e-003	351.9647
Total	**0.1229**	**0.2949**	**1.1739**	**4.4900e-003**	**0.4631**	**3.2600e-003**	**0.4664**	**0.1237**	**3.0400e-003**	**0.1267**		**467.9233**	**467.9233**	**0.0152**	**0.0254**	**475.8614**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5950	5.9739	7.0675	0.0114		0.2824	0.2824		0.2598	0.2598		1,104.9834	1,104.9834	0.3574		1,113.9177
Total	**0.5950**	**5.9739**	**7.0675**	**0.0114**		**0.2824**	**0.2824**		**0.2598**	**0.2598**		**1,104.9834**	**1,104.9834**	**0.3574**		**1,113.9177**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7600e-003	0.2190	0.0893	1.0600e-003	0.0384	1.1400e-003	0.0395	0.0110	1.0900e-003	0.0121		116.8076	116.8076	7.1000e-003	0.0168	122.0046
Worker	0.1104	0.0676	1.0114	3.3000e-003	0.4248	2.0700e-003	0.4268	0.1127	1.9000e-003	0.1146		340.9039	340.9039	7.4000e-003	7.7900e-003	343.4090
Total	**0.1161**	**0.2866**	**1.1007**	**4.3600e-003**	**0.4631**	**3.2100e-003**	**0.4663**	**0.1237**	**2.9900e-003**	**0.1267**		**457.7115**	**457.7115**	**0.0145**	**0.0246**	**465.4135**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5950	5.9739	7.0675	0.0114		0.2824	0.2824		0.2598	0.2598	0.0000	1,104.9834	1,104.9834	0.3574		1,113.9177
Total	**0.5950**	**5.9739**	**7.0675**	**0.0114**		**0.2824**	**0.2824**		**0.2598**	**0.2598**	**0.0000**	**1,104.9834**	**1,104.9834**	**0.3574**		**1,113.9177**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7600e-003	0.2190	0.0893	1.0600e-003	0.0384	1.1400e-003	0.0395	0.0110	1.0900e-003	0.0121		116.8076	116.8076	7.1000e-003	0.0168	122.0046
Worker	0.1104	0.0676	1.0114	3.3000e-003	0.4248	2.0700e-003	0.4268	0.1127	1.9000e-003	0.1146		340.9039	340.9039	7.4000e-003	7.7900e-003	343.4090
Total	**0.1161**	**0.2866**	**1.1007**	**4.3600e-003**	**0.4631**	**3.2100e-003**	**0.4663**	**0.1237**	**2.9900e-003**	**0.1267**		**457.7115**	**457.7115**	**0.0145**	**0.0246**	**465.4135**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5904	5.2297	7.0314	0.0113		0.2429	0.2429		0.2269	0.2269		1,036.2393	1,036.2393	0.3019		1,043.7858
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5904**	**5.2297**	**7.0314**	**0.0113**		**0.2429**	**0.2429**		**0.2269**	**0.2269**		**1,036.2393**	**1,036.2393**	**0.3019**		**1,043.7858**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0523	0.0320	0.4791	1.5700e-003	0.2012	9.8000e-004	0.2022	0.0534	9.0000e-004	0.0543		161.4808	161.4808	3.5100e-003	3.6900e-003	162.6674
Total	**0.0523**	**0.0320**	**0.4791**	**1.5700e-003**	**0.2012**	**9.8000e-004**	**0.2022**	**0.0534**	**9.0000e-004**	**0.0543**		**161.4808**	**161.4808**	**3.5100e-003**	**3.6900e-003**	**162.6674**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5904	5.2297	7.0314	0.0113		0.2429	0.2429		0.2269	0.2269	0.0000	1,036.2393	1,036.2393	0.3019		1,043.7858
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5904**	**5.2297**	**7.0314**	**0.0113**		**0.2429**	**0.2429**		**0.2269**	**0.2269**	**0.0000**	**1,036.2393**	**1,036.2393**	**0.3019**		**1,043.7858**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0523	0.0320	0.4791	1.5700e-003	0.2012	9.8000e-004	0.2022	0.0534	9.0000e-004	0.0543		161.4808	161.4808	3.5100e-003	3.6900e-003	162.6674
Total	**0.0523**	**0.0320**	**0.4791**	**1.5700e-003**	**0.2012**	**9.8000e-004**	**0.2022**	**0.0534**	**9.0000e-004**	**0.0543**		**161.4808**	**161.4808**	**3.5100e-003**	**3.6900e-003**	**162.6674**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.6858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**27.8665**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0232	0.0142	0.2129	7.0000e-004	0.0894	4.4000e-004	0.0899	0.0237	4.0000e-004	0.0241		71.7692	71.7692	1.5600e-003	1.6400e-003	72.2966
Total	**0.0232**	**0.0142**	**0.2129**	**7.0000e-004**	**0.0894**	**4.4000e-004**	**0.0899**	**0.0237**	**4.0000e-004**	**0.0241**		**71.7692**	**71.7692**	**1.5600e-003**	**1.6400e-003**	**72.2966**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.6858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**27.8665**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0232	0.0142	0.2129	7.0000e-004	0.0894	4.4000e-004	0.0899	0.0237	4.0000e-004	0.0241		71.7692	71.7692	1.5600e-003	1.6400e-003	72.2966
Total	**0.0232**	**0.0142**	**0.2129**	**7.0000e-004**	**0.0894**	**4.4000e-004**	**0.0899**	**0.0237**	**4.0000e-004**	**0.0241**		**71.7692**	**71.7692**	**1.5600e-003**	**1.6400e-003**	**72.2966**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6371	0.6008	6.3671	0.0144	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,503.9248	1,503.9248	0.0890	0.0572	1,523.1881
Unmitigated	0.6371	0.6008	6.3671	0.0144	1.7384	9.7200e-003	1.7481	0.4625	9.0200e-003	0.4716		1,503.9248	1,503.9248	0.0890	0.0572	1,523.1881

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	240.62	242.21	199.81	803,089	803,089
Total	240.62	242.21	199.81	803,089	803,089

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.554159	0.060918	0.187306	0.128036	0.024533	0.004193	0.009233	0.003092	0.000416	0.000237	0.025048	0.000443	0.002386

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
NaturalGas Unmitigated	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1618.99	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Total		**0.0175**	**0.1492**	**0.0635**	**9.5000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**		**190.4689**	**190.4689**	**3.6500e-003**	**3.4900e-003**	**191.6008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1.61899	0.0175	0.1492	0.0635	9.5000e-004		0.0121	0.0121		0.0121	0.0121		190.4689	190.4689	3.6500e-003	3.4900e-003	191.6008
Total		**0.0175**	**0.1492**	**0.0635**	**9.5000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**		**190.4689**	**190.4689**	**3.6500e-003**	**3.4900e-003**	**191.6008**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309
Unmitigated	2.1225	0.7976	4.6864	5.0000e-003		0.0847	0.0847		0.0847	0.0847	0.0000	961.8733	961.8733	0.0258	0.0175	967.7309

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0875	0.7473	0.3180	4.7700e-003		0.0604	0.0604		0.0604	0.0604	0.0000	954.0000	954.0000	0.0183	0.0175	959.6691
Landscaping	0.1312	0.0503	4.3684	2.3000e-004		0.0242	0.0242		0.0242	0.0242		7.8733	7.8733	7.5400e-003		8.0618
Total	**2.1225**	**0.7976**	**4.6864**	**5.0000e-003**		**0.0847**	**0.0847**		**0.0847**	**0.0847**	**0.0000**	**961.8733**	**961.8733**	**0.0258**	**0.0175**	**967.7309**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7521					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0875	0.7473	0.3180	4.7700e-003		0.0604	0.0604		0.0604	0.0604	0.0000	954.0000	954.0000	0.0183	0.0175	959.6691
Landscaping	0.1312	0.0503	4.3684	2.3000e-004		0.0242	0.0242		0.0242	0.0242		7.8733	7.8733	7.5400e-003		8.0618
Total	**2.1225**	**0.7976**	**4.6864**	**5.0000e-003**		**0.0847**	**0.0847**		**0.0847**	**0.0847**	**0.0000**	**961.8733**	**961.8733**	**0.0258**	**0.0175**	**967.7309**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Annual Emission Calculations Output
(CalEEMod)

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Choisser Apartment Air Quality and Greenhouse Gas

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	53.00	Dwelling Unit	0.66	88,492.00	152

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The project is proposing to build 53 multi family housing of approximately (88,492 square feet) on a 0.66 acre site.

Construction Phase - The project site is vacant and no demo is required. Construction phases are provided by the applicant.

Grading - The project is expected to export approximately 2,000 CY of earthwork material.

Vehicle Trips - Trip generation rates are based on ITE Generation Manual 11th Edition.

Woodstoves - SCAQMD Rule 445 restricts wood burning hearths/fireplaces from being installed in new development.

Construction Off-road Equipment Mitigation - Project will be required to comply with SCAQMD Rule 403 regarding fugitive dust control.

Fleet Mix - Operational fleet mix adjusted to equal 2% trucks with GVWR > 10,000 lbs.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	370.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	PhaseEndDate	8/4/2023	11/5/2024
tblConstructionPhase	PhaseEndDate	7/21/2023	9/10/2024
tblConstructionPhase	PhaseEndDate	3/3/2023	4/11/2023
tblConstructionPhase	PhaseEndDate	7/28/2023	10/8/2024
tblConstructionPhase	PhaseEndDate	3/1/2023	3/14/2023
tblConstructionPhase	PhaseStartDate	7/29/2023	10/9/2024
tblConstructionPhase	PhaseStartDate	3/4/2023	4/12/2023
tblConstructionPhase	PhaseStartDate	3/2/2023	3/15/2023
tblConstructionPhase	PhaseStartDate	7/22/2023	9/11/2024
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	2.65	0.00
tblFleetMix	HHD	4.9260e-003	3.0920e-003
tblFleetMix	LDA	0.55	0.55
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT2	0.19	0.19
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	6.6790e-003	4.1930e-003
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.13	0.13
tblFleetMix	MH	3.8010e-003	2.3860e-003
tblFleetMix	MHD	0.01	9.2330e-003
tblFleetMix	OBUS	6.6200e-004	4.1600e-004
tblFleetMix	SBUS	7.0500e-004	4.4300e-004
tblFleetMix	UBUS	3.7800e-004	2.3700e-004

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblGrading	MaterialExported	0.00	2,000.00
tblLandUse	LandUseSquareFeet	53,000.00	88,492.00
tblLandUse	LotAcreage	1.39	0.66
tblVehicleTrips	ST_TR	4.91	4.57
tblVehicleTrips	SU_TR	4.09	3.77
tblVehicleTrips	WD_TR	5.44	4.54
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0826	0.7799	0.8630	1.7700e-003	0.0996	0.0358	0.1354	0.0381	0.0330	0.0711	0.0000	159.2915	159.2915	0.0379	3.3600e-003	161.2393
2024	0.3491	0.6348	0.8407	1.6100e-003	0.0443	0.0290	0.0733	0.0118	0.0268	0.0386	0.0000	143.4772	143.4772	0.0336	2.0900e-003	144.9407
Maximum	**0.3491**	**0.7799**	**0.8630**	**1.7700e-003**	**0.0996**	**0.0358**	**0.1354**	**0.0381**	**0.0330**	**0.0711**	**0.0000**	**159.2915**	**159.2915**	**0.0379**	**3.3600e-003**	**161.2393**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0826	0.7799	0.8630	1.7700e-003	0.0665	0.0358	0.1024	0.0222	0.0330	0.0552	0.0000	159.2914	159.2914	0.0379	3.3600e-003	161.2392
2024	0.3491	0.6348	0.8407	1.6100e-003	0.0443	0.0290	0.0733	0.0118	0.0268	0.0386	0.0000	143.4770	143.4770	0.0336	2.0900e-003	144.9406
Maximum	**0.3491**	**0.7799**	**0.8630**	**1.7700e-003**	**0.0665**	**0.0358**	**0.1024**	**0.0222**	**0.0330**	**0.0552**	**0.0000**	**159.2914**	**159.2914**	**0.0379**	**3.3600e-003**	**161.2392**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**22.97**	**0.00**	**15.83**	**31.83**	**0.00**	**14.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2023**	**5-31-2023**	0.2937	0.2937
2	**6-1-2023**	**8-31-2023**	0.2445	0.2445
3	**9-1-2023**	**11-30-2023**	0.2425	0.2425
4	**12-1-2023**	**2-29-2024**	0.2321	0.2321
5	**3-1-2024**	**5-31-2024**	0.2285	0.2285
6	**6-1-2024**	**8-31-2024**	0.2283	0.2283
7	**9-1-2024**	**9-30-2024**	0.0669	0.0669
		Highest	0.2937	0.2937

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3649	0.0156	0.5500	9.0000e-005		3.7900e-003	3.7900e-003		3.7900e-003	3.7900e-003	0.0000	11.7110	11.7110	1.0600e-003	2.0000e-004	11.7967
Energy	3.1900e-003	0.0272	0.0116	1.7000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	67.5696	67.5696	3.6500e-003	9.5000e-004	67.9429
Mobile	0.1101	0.1077	1.1318	2.5700e-003	0.3015	1.7200e-003	0.3033	0.0803	1.5900e-003	0.0819	0.0000	243.3328	243.3328	0.0142	9.2200e-003	246.4342
Waste						0.0000	0.0000		0.0000	0.0000	4.9489	0.0000	4.9489	0.2925	0.0000	12.2607
Water						0.0000	0.0000		0.0000	0.0000	1.0955	12.2635	13.3590	0.1136	2.7800e-003	17.0270
Total	**0.4783**	**0.1505**	**1.6934**	**2.8300e-003**	**0.3015**	**7.7100e-003**	**0.3093**	**0.0803**	**7.5800e-003**	**0.0879**	**6.0445**	**334.8769**	**340.9214**	**0.4249**	**0.0132**	**355.4616**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3649	0.0156	0.5500	9.0000e-005		3.7900e-003	3.7900e-003		3.7900e-003	3.7900e-003	0.0000	11.7110	11.7110	1.0600e-003	2.0000e-004	11.7967
Energy	3.1900e-003	0.0272	0.0116	1.7000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	67.5696	67.5696	3.6500e-003	9.5000e-004	67.9429
Mobile	0.1101	0.1077	1.1318	2.5700e-003	0.3015	1.7200e-003	0.3033	0.0803	1.5900e-003	0.0819	0.0000	243.3328	243.3328	0.0142	9.2200e-003	246.4342
Waste						0.0000	0.0000		0.0000	0.0000	4.9489	0.0000	4.9489	0.2925	0.0000	12.2607
Water						0.0000	0.0000		0.0000	0.0000	1.0955	12.2635	13.3590	0.1136	2.7800e-003	17.0270
Total	**0.4783**	**0.1505**	**1.6934**	**2.8300e-003**	**0.3015**	**7.7100e-003**	**0.3093**	**0.0803**	**7.5800e-003**	**0.0879**	**6.0445**	**334.8769**	**340.9214**	**0.4249**	**0.0132**	**355.4616**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**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**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2023	3/14/2023	5	10	
2	Grading	Grading	3/15/2023	4/11/2023	5	20	
3	Building Construction	Building Construction	4/12/2023	9/10/2024	5	370	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Paving	Paving	9/11/2024	10/8/2024	5	20	
5	Architectural Coating	Architectural Coating	10/9/2024	11/5/2024	5	20	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 15

Acres of Paving: 0

Residential Indoor: 179,196; Residential Outdoor: 59,732; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	3	8.00	0.00	250.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	38.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0309	0.0196	5.0000e-005		1.1300e-003	1.1300e-003		1.0400e-003	1.0400e-003	0.0000	4.2748	4.2748	1.3800e-003	0.0000	4.3094
Total	**2.6700e-003**	**0.0309**	**0.0196**	**5.0000e-005**	**2.7000e-004**	**1.1300e-003**	**1.4000e-003**	**3.0000e-005**	**1.0400e-003**	**1.0700e-003**	**0.0000**	**4.2748**	**4.2748**	**1.3800e-003**	**0.0000**	**4.3094**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	7.3000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2113	0.2113	0.0000	1.0000e-005	0.2129
Total	**7.0000e-005**	**5.0000e-005**	**7.3000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2113**	**0.2113**	**0.0000**	**1.0000e-005**	**0.2129**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0309	0.0196	5.0000e-005		1.1300e-003	1.1300e-003		1.0400e-003	1.0400e-003	0.0000	4.2748	4.2748	1.3800e-003	0.0000	4.3094
Total	**2.6700e-003**	**0.0309**	**0.0196**	**5.0000e-005**	**1.0000e-004**	**1.1300e-003**	**1.2300e-003**	**1.0000e-005**	**1.0400e-003**	**1.0500e-003**	**0.0000**	**4.2748**	**4.2748**	**1.3800e-003**	**0.0000**	**4.3094**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	7.3000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2113	0.2113	0.0000	1.0000e-005	0.2129
Total	**7.0000e-005**	**5.0000e-005**	**7.3000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2113**	**0.2113**	**0.0000**	**1.0000e-005**	**0.2129**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0532	0.0000	0.0532	0.0257	0.0000	0.0257	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3400e-003	0.1018	0.0555	1.4000e-004		4.2000e-003	4.2000e-003		3.8600e-003	3.8600e-003	0.0000	12.3810	12.3810	4.0000e-003	0.0000	12.4811
Total	**9.3400e-003**	**0.1018**	**0.0555**	**1.4000e-004**	**0.0532**	**4.2000e-003**	**0.0574**	**0.0257**	**3.8600e-003**	**0.0296**	**0.0000**	**12.3810**	**12.3810**	**4.0000e-003**	**0.0000**	**12.4811**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	0.0157	5.1300e-003	7.0000e-005	2.1500e-003	1.0000e-004	2.2400e-003	5.9000e-004	9.0000e-005	6.8000e-004	0.0000	7.2551	7.2551	7.3000e-004	1.1600e-003	7.6203
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.6000e-004	2.3300e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6761	0.6761	2.0000e-005	2.0000e-005	0.6813
Total	**4.8000e-004**	**0.0158**	**7.4600e-003**	**8.0000e-005**	**3.0300e-003**	**1.0000e-004**	**3.1200e-003**	**8.2000e-004**	**9.0000e-005**	**9.2000e-004**	**0.0000**	**7.9312**	**7.9312**	**7.5000e-004**	**1.1800e-003**	**8.3016**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0204	0.0000	0.0204	9.8300e-003	0.0000	9.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3400e-003	0.1018	0.0555	1.4000e-004		4.2000e-003	4.2000e-003		3.8600e-003	3.8600e-003	0.0000	12.3810	12.3810	4.0000e-003	0.0000	12.4811
Total	**9.3400e-003**	**0.1018**	**0.0555**	**1.4000e-004**	**0.0204**	**4.2000e-003**	**0.0246**	**9.8300e-003**	**3.8600e-003**	**0.0137**	**0.0000**	**12.3810**	**12.3810**	**4.0000e-003**	**0.0000**	**12.4811**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	0.0157	5.1300e-003	7.0000e-005	2.1500e-003	1.0000e-004	2.2400e-003	5.9000e-004	9.0000e-005	6.8000e-004	0.0000	7.2551	7.2551	7.3000e-004	1.1600e-003	7.6203
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.6000e-004	2.3300e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6761	0.6761	2.0000e-005	2.0000e-005	0.6813
Total	**4.8000e-004**	**0.0158**	**7.4600e-003**	**8.0000e-005**	**3.0300e-003**	**1.0000e-004**	**3.1200e-003**	**8.2000e-004**	**9.0000e-005**	**9.2000e-004**	**0.0000**	**7.9312**	**7.9312**	**7.5000e-004**	**1.1800e-003**	**8.3016**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0594	0.6034	0.6671	1.0700e-003		0.0301	0.0301		0.0277	0.0277	0.0000	94.1959	94.1959	0.0305	0.0000	94.9576
Total	**0.0594**	**0.6034**	**0.6671**	**1.0700e-003**		**0.0301**	**0.0301**		**0.0277**	**0.0277**	**0.0000**	**94.1959**	**94.1959**	**0.0305**	**0.0000**	**94.9576**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0207	8.3200e-003	1.0000e-004	3.5500e-003	1.0000e-004	3.6600e-003	1.0200e-003	1.0000e-004	1.1200e-003	0.0000	10.1088	10.1088	6.0000e-004	1.4500e-003	10.5564
Worker	0.0101	7.2100e-003	0.1042	3.3000e-004	0.0392	2.0000e-004	0.0394	0.0104	1.9000e-004	0.0106	0.0000	30.1885	30.1885	6.9000e-004	7.2000e-004	30.4204
Total	**0.0107**	**0.0279**	**0.1125**	**4.3000e-004**	**0.0428**	**3.0000e-004**	**0.0431**	**0.0114**	**2.9000e-004**	**0.0117**	**0.0000**	**40.2973**	**40.2973**	**1.2900e-003**	**2.1700e-003**	**40.9768**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0594	0.6034	0.6671	1.0700e-003		0.0301	0.0301		0.0277	0.0277	0.0000	94.1958	94.1958	0.0305	0.0000	94.9574
Total	**0.0594**	**0.6034**	**0.6671**	**1.0700e-003**		**0.0301**	**0.0301**		**0.0277**	**0.0277**	**0.0000**	**94.1958**	**94.1958**	**0.0305**	**0.0000**	**94.9574**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0207	8.3200e-003	1.0000e-004	3.5500e-003	1.0000e-004	3.6600e-003	1.0200e-003	1.0000e-004	1.1200e-003	0.0000	10.1088	10.1088	6.0000e-004	1.4500e-003	10.5564
Worker	0.0101	7.2100e-003	0.1042	3.3000e-004	0.0392	2.0000e-004	0.0394	0.0104	1.9000e-004	0.0106	0.0000	30.1885	30.1885	6.9000e-004	7.2000e-004	30.4204
Total	**0.0107**	**0.0279**	**0.1125**	**4.3000e-004**	**0.0428**	**3.0000e-004**	**0.0431**	**0.0114**	**2.9000e-004**	**0.0117**	**0.0000**	**40.2973**	**40.2973**	**1.2900e-003**	**2.1700e-003**	**40.9768**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0542	0.5436	0.6431	1.0400e-003		0.0257	0.0257		0.0236	0.0236	0.0000	91.2206	91.2206	0.0295	0.0000	91.9582
Total	**0.0542**	**0.5436**	**0.6431**	**1.0400e-003**		**0.0257**	**0.0257**		**0.0236**	**0.0236**	**0.0000**	**91.2206**	**91.2206**	**0.0295**	**0.0000**	**91.9582**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3000e-004	0.0200	7.9900e-003	1.0000e-004	3.4400e-003	1.0000e-004	3.5400e-003	9.9000e-004	1.0000e-004	1.0900e-003	0.0000	9.6345	9.6345	5.9000e-004	1.3900e-003	10.0632
Worker	9.2000e-003	6.2700e-003	0.0941	3.0000e-004	0.0380	1.9000e-004	0.0382	0.0101	1.7000e-004	0.0103	0.0000	28.5236	28.5236	6.1000e-004	6.5000e-004	28.7330
Total	**9.7300e-003**	**0.0263**	**0.1021**	**4.0000e-004**	**0.0414**	**2.9000e-004**	**0.0417**	**0.0111**	**2.7000e-004**	**0.0113**	**0.0000**	**38.1581**	**38.1581**	**1.2000e-003**	**2.0400e-003**	**38.7962**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0542	0.5436	0.6431	1.0400e-003		0.0257	0.0257		0.0236	0.0236	0.0000	91.2205	91.2205	0.0295	0.0000	91.9581
Total	**0.0542**	**0.5436**	**0.6431**	**1.0400e-003**		**0.0257**	**0.0257**		**0.0236**	**0.0236**	**0.0000**	**91.2205**	**91.2205**	**0.0295**	**0.0000**	**91.9581**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3000e-004	0.0200	7.9900e-003	1.0000e-004	3.4400e-003	1.0000e-004	3.5400e-003	9.9000e-004	1.0000e-004	1.0900e-003	0.0000	9.6345	9.6345	5.9000e-004	1.3900e-003	10.0632
Worker	9.2000e-003	6.2700e-003	0.0941	3.0000e-004	0.0380	1.9000e-004	0.0382	0.0101	1.7000e-004	0.0103	0.0000	28.5236	28.5236	6.1000e-004	6.5000e-004	28.7330
Total	**9.7300e-003**	**0.0263**	**0.1021**	**4.0000e-004**	**0.0414**	**2.9000e-004**	**0.0417**	**0.0111**	**2.7000e-004**	**0.0113**	**0.0000**	**38.1581**	**38.1581**	**1.2000e-003**	**2.0400e-003**	**38.7962**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9000e-003	0.0523	0.0703	1.1000e-004		2.4300e-003	2.4300e-003		2.2700e-003	2.2700e-003	0.0000	9.4006	9.4006	2.7400e-003	0.0000	9.4691
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9000e-003**	**0.0523**	**0.0703**	**1.1000e-004**		**2.4300e-003**	**2.4300e-003**		**2.2700e-003**	**2.2700e-003**	**0.0000**	**9.4006**	**9.4006**	**2.7400e-003**	**0.0000**	**9.4691**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.3000e-004	4.9000e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.4847	1.4847	3.0000e-005	3.0000e-005	1.4957
Total	**4.8000e-004**	**3.3000e-004**	**4.9000e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.4847**	**1.4847**	**3.0000e-005**	**3.0000e-005**	**1.4957**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9000e-003	0.0523	0.0703	1.1000e-004		2.4300e-003	2.4300e-003		2.2700e-003	2.2700e-003	0.0000	9.4006	9.4006	2.7400e-003	0.0000	9.4691
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9000e-003**	**0.0523**	**0.0703**	**1.1000e-004**		**2.4300e-003**	**2.4300e-003**		**2.2700e-003**	**2.2700e-003**	**0.0000**	**9.4006**	**9.4006**	**2.7400e-003**	**0.0000**	**9.4691**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.3000e-004	4.9000e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.4847	1.4847	3.0000e-005	3.0000e-005	1.4957
Total	**4.8000e-004**	**3.3000e-004**	**4.9000e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.4847**	**1.4847**	**3.0000e-005**	**3.0000e-005**	**1.4957**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.2787**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	2.1800e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6599	0.6599	1.0000e-005	2.0000e-005	0.6647
Total	**2.1000e-004**	**1.5000e-004**	**2.1800e-003**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**2.3000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**0.6599**	**0.6599**	**1.0000e-005**	**2.0000e-005**	**0.6647**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.2787**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	2.1800e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6599	0.6599	1.0000e-005	2.0000e-005	0.6647
Total	**2.1000e-004**	**1.5000e-004**	**2.1800e-003**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**2.3000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**0.6599**	**0.6599**	**1.0000e-005**	**2.0000e-005**	**0.6647**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1101	0.1077	1.1318	2.5700e-003	0.3015	1.7200e-003	0.3033	0.0803	1.5900e-003	0.0819	0.0000	243.3328	243.3328	0.0142	9.2200e-003	246.4342
Unmitigated	0.1101	0.1077	1.1318	2.5700e-003	0.3015	1.7200e-003	0.3033	0.0803	1.5900e-003	0.0819	0.0000	243.3328	243.3328	0.0142	9.2200e-003	246.4342

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	240.62	242.21	199.81	803,089	803,089
Total	240.62	242.21	199.81	803,089	803,089

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.554159	0.060918	0.187306	0.128036	0.024533	0.004193	0.009233	0.003092	0.000416	0.000237	0.025048	0.000443	0.002386

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.0354	36.0354	3.0400e-003	3.7000e-004	36.2213
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	36.0354	36.0354	3.0400e-003	3.7000e-004	36.2213
NaturalGas Mitigated	3.1900e-003	0.0272	0.0116	1.7000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	31.5343	31.5343	6.0000e-004	5.8000e-004	31.7217
NaturalGas Unmitigated	3.1900e-003	0.0272	0.0116	1.7000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	31.5343	31.5343	6.0000e-004	5.8000e-004	31.7217

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	590930	3.1900e-003	0.0272	0.0116	1.7000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	31.5343	31.5343	6.0000e-004	5.8000e-004	31.7217
Total		**3.1900e-003**	**0.0272**	**0.0116**	**1.7000e-004**		**2.2000e-003**	**2.2000e-003**		**2.2000e-003**	**2.2000e-003**	**0.0000**	**31.5343**	**31.5343**	**6.0000e-004**	**5.8000e-004**	**31.7217**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	590930	3.1900e-003	0.0272	0.0116	1.7000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	31.5343	31.5343	6.0000e-004	5.8000e-004	31.7217
Total		**3.1900e-003**	**0.0272**	**0.0116**	**1.7000e-004**		**2.2000e-003**	**2.2000e-003**		**2.2000e-003**	**2.2000e-003**	**0.0000**	**31.5343**	**31.5343**	**6.0000e-004**	**5.8000e-004**	**31.7217**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	203193	36.0354	3.0400e-003	3.7000e-004	36.2213
Total		**36.0354**	**3.0400e-003**	**3.7000e-004**	**36.2213**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	203193	36.0354	3.0400e-003	3.7000e-004	36.2213
Total		**36.0354**	**3.0400e-003**	**3.7000e-004**	**36.2213**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3649	0.0156	0.5500	9.0000e-005		3.7900e-003	3.7900e-003		3.7900e-003	3.7900e-003	0.0000	11.7110	11.7110	1.0600e-003	2.0000e-004	11.7967
Unmitigated	0.3649	0.0156	0.5500	9.0000e-005		3.7900e-003	3.7900e-003		3.7900e-003	3.7900e-003	0.0000	11.7110	11.7110	1.0600e-003	2.0000e-004	11.7967

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0277					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3198					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0900e-003	9.3400e-003	3.9800e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	10.8182	10.8182	2.1000e-004	2.0000e-004	10.8825
Landscaping	0.0164	6.2900e-003	0.5461	3.0000e-005		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	0.8928	0.8928	8.5000e-004	0.0000	0.9142
Total	**0.3650**	**0.0156**	**0.5500**	**9.0000e-005**		**3.7900e-003**	**3.7900e-003**		**3.7900e-003**	**3.7900e-003**	**0.0000**	**11.7110**	**11.7110**	**1.0600e-003**	**2.0000e-004**	**11.7967**

Choisser Apartment Air Quality and Greenhouse Gas - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0277					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3198					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0900e-003	9.3400e-003	3.9800e-003	6.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	10.8182	10.8182	2.1000e-004	2.0000e-004	10.8825
Landscaping	0.0164	6.2900e-003	0.5461	3.0000e-005		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	0.8928	0.8928	8.5000e-004	0.0000	0.9142
Total	**0.3650**	**0.0156**	**0.5500**	**9.0000e-005**		**3.7900e-003**	**3.7900e-003**		**3.7900e-003**	**3.7900e-003**	**0.0000**	**11.7110**	**11.7110**	**1.0600e-003**	**2.0000e-004**	**11.7967**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	13.3590	0.1136	2.7800e-003	17.0270
Unmitigated	13.3590	0.1136	2.7800e-003	17.0270

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	3.45316 / 2.17699	13.3590	0.1136	2.7800e-003	17.0270
Total		**13.3590**	**0.1136**	**2.7800e-003**	**17.0270**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	3.45316 / 2.17699	13.3590	0.1136	2.7800e-003	17.0270
Total		**13.3590**	**0.1136**	**2.7800e-003**	**17.0270**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.9489	0.2925	0.0000	12.2607
Unmitigated	4.9489	0.2925	0.0000	12.2607

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	24.38	4.9489	0.2925	0.0000	12.2607
Total		**4.9489**	**0.2925**	**0.0000**	**12.2607**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	24.38	4.9489	0.2925	0.0000	12.2607
Total		**4.9489**	**0.2925**	**0.0000**	**12.2607**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

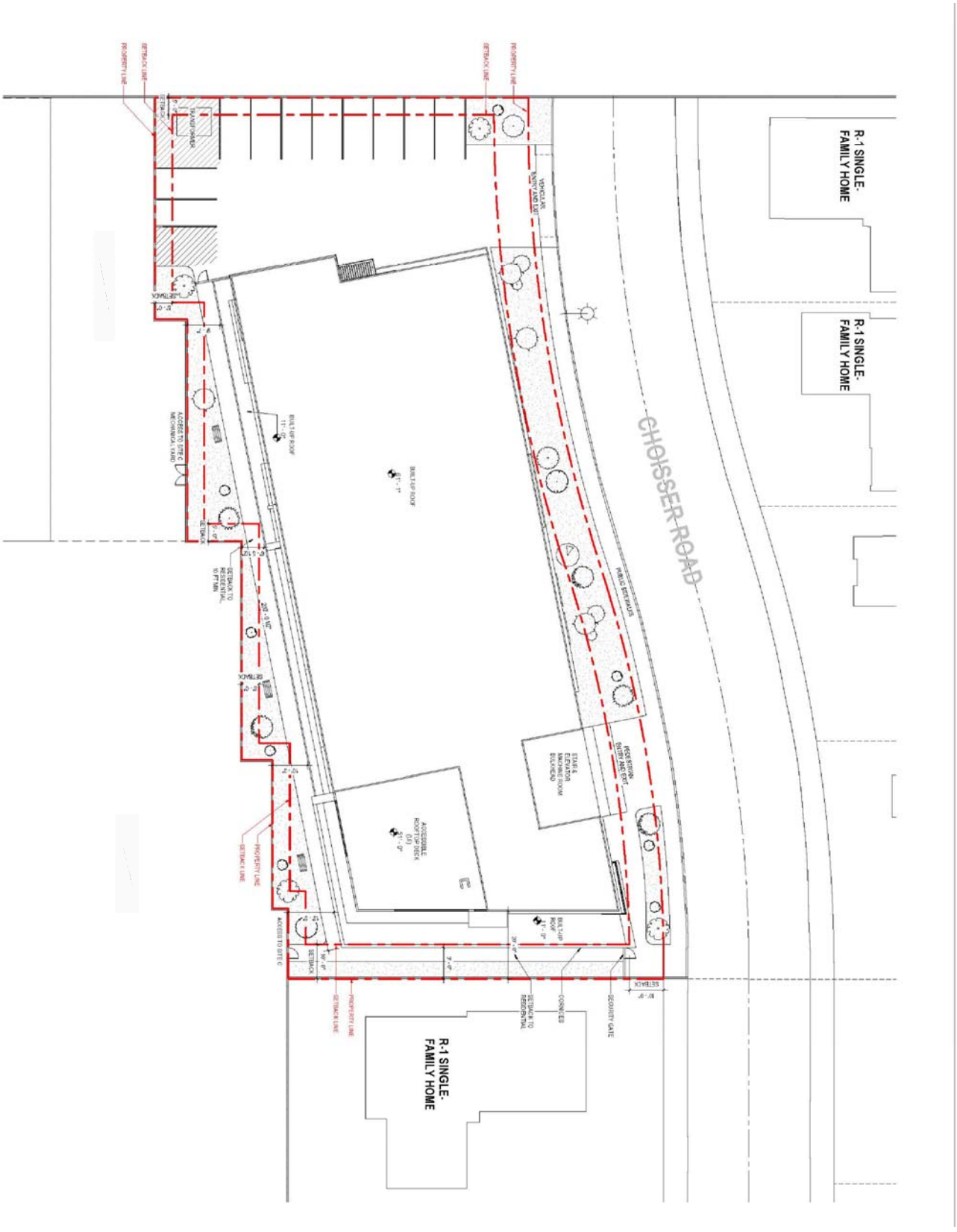
Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CHOISSER APARTMENTS
NOISE IMPACT STUDY
City of Garden Grove, California



CHOISSER APARTMENTS
NOISE IMPACT STUDY
City of Garden Grove, California

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September 1, 2022

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Appendices

1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

The purpose of this report is to evaluate the potential noise impacts from the proposed Choisser Apartment (project) and provide recommendations, if necessary, to minimize any project noise impacts. The assessment was conducted within the context of the California Environmental Quality Act (CEQA) and utilizes the noise standards set forth by the State of California and City of Garden Grove.

The following is provided in this report:

- A description of the study area and the proposed project
- Information regarding the fundamentals of noise
- Identification of the regulatory setting and applicable noise standards
- Analysis of the existing noise environment
- Analysis of the project's operational noise impact to adjacent receptors
- Analysis of the project's construction noise and vibration impact to adjacent sensitive receptors
- Summary of recommended mitigation measures and project design features to reduce noise level impacts.

1.2 Site Location

The proposed Choisser Apartment project site is located at 12233, 12235, 12237, and 12239 Choisser Road, in the City of Garden Grove. The project site is located approximately 117 feet above sea level and the topography is relatively flat.

The project site location map is provided in Exhibit A.

Several sensitive land uses are present surrounding the project site include the following:

- Existing residential properties located immediately adjacent to the south of the project site.

- Existing residential properties located approximately 40 feet to the east of the site, along the east side of Choisser Road.

1.3 Project Description

The project consists of the construction and operation of a six-story multifamily residential housing development with 53 dwelling units on an approximately 0.66-acre vacant site. The project will include a ground floor surface parking lot and parking garage. The site plan used for this analysis is illustrated on Exhibits B.

Table 1 summarizes the proposed project land uses.

Table 1
Land Use Summary

Project Land Use	Quantity	Metric
Multifamily Residential (Mid Rise)	53	Dwelling Units

This report analyzes short-term and long-term noise impacts associated with the project. The primary source of short-term noise impacts would be construction activity noise, including the export of approximately 2,000 cubic yards of earthwork material during grading. The primary sources of long-term noise impacts would be associated with day-to-day operations on the site and would include HVAC units and parking lot activities. The project is proposing to enclose the ground floor parking structure with a solid wall to the south and with louvered ventilated screens along the eastern side of the parking structure. There is an existing seven (7) foot high noise barrier wall along the northern property line and will remain in place. The project is proposing to build a new seven (7) foot high noise barrier wall along the southern property lines. An eight (8) foot high noise barrier wall will also be constructed along the western property line as part of the proposed adjacent hotel project.

1.4 Summary of Analysis Results

Table 2 provides a summary of the noise analysis results, per the CEQA impact criteria checklist.

Table 2
CEQA Noise Impact Criteria

Noise Impact Criteria	Potentially Significant	Potentially Significant Unless Mitigated	Less Than Significant Impact	No Impact
Would the project result in?				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
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?			X	

1.5 Project Design Features

The following project design features include standard rules and requirements, best practices, and recognized design guidelines for reducing noise levels. Design features are assumed to be part of the project for purposes of the impact analysis in this study and will be incorporated into the conditions of approval for the project.

Operational Design Features

DF-1 The project will comply with the California Title 24 building insulation requirements for exterior walls, roofs and common separating assemblies (e.g. floor/ceiling assemblies and demising walls), which shall be reviewed by the City prior to issuance of a building permit.

- Interior noise levels due to exterior sources must not exceed a community noise equivalent level (CNEL) or a day-night level (LDN) of 45 dBA, in any habitable room.

- Party wall and floor-ceiling assembly designs must provide a minimum STC of 50, based on lab tests. Field tested assemblies must provide a minimum noise isolation class (NIC) of 45.

- Penetrations or openings in sound rated assemblies must be treated to maintain required ratings.

DF-2 The exterior façade of the parking structure will include louvered or perforated wall paneling to help conceal parking structure activities and reduce noise levels. Ventilated coverings should enclose the entire portions of the parking structure openings facing the east.

DF-3 All HVAC equipment will be mounted on the roof and shielded behind parapet walls from the line of sight of adjacent residential uses.

DF-4 Deliveries, loading and unloading activities, and trash pick-up hours will be limited to daytime hours only (7 a.m. – 10 p.m.).

DF-5 The project should post signage at loading areas limiting engine idling time for all delivery vehicles and moving trucks to 5 minutes or less.

Construction Design Features

DF-6 Hours and days of construction and grading shall be as set forth in Chapter 8.47 of the City of Garden Grove Municipal Code, except as follows:

a. Monday through Saturday - not before 7:00 a.m. and not after 8:00 p.m. (of the same day).

b. Sunday and Federal Holidays - may work same hours, but subject to noise restrictions as established in Chapter 8.47 of the Municipal Code.

DF-7 During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices and equipment shall be maintained so that vehicles and their loads are secured from rattling and banging. Idling equipment should be turned off when not in use.

DF-8 Locate staging area, generators and stationary construction equipment as far from any adjacent sensitive receptors, as reasonably feasible.

2.0 Fundamentals of Noise

This section of the report provides basic information about noise and vibration and presents some of the terms used in the report.

2.1 Sound, Noise, and Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic or stationary noise, the medium of concern is air. *Noise* is defined as sound that is loud, unpleasant, unexpected, or unwanted.

2.2 Frequency and Hertz

A continuous sound is described by its *frequency* (pitch) and its *amplitude* (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting out at 20 Hz all the way to the high pitch of 20,000 Hz.

2.3 Sound Pressure Levels and Decibels

The *amplitude* of a sound determines its loudness. The loudness of sound increases or decreases, as the amplitude increases or decreases. Sound pressure amplitude is measured in units of micro-Newton per square inch meter (N/m2), also called micro-Pascal (μPa). One μPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels and abbreviated as dB.

2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two (2) sounds of equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3dB increase.

If two (2) sounds differ by approximately 10 dB the higher sound level is the predominant sound.

2.5 Human Response to Changes in Noise Levels[1]

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in the noise level of 3 dB. A change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway), would result in a barely perceptible change in sound level.

2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant, while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels. Following are the most commonly used noise descriptors along with brief definitions.

A-Weighted Sound Level

The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level

The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

[1] Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.

Community Noise Equivalent Level (CNEL)

The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB)

A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A)

A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ)

The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. The energy average noise level during the sample period.

Habitable Room

Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

L(n)

The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly, L50, L90, and L99, etc.

Noise

Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Percent Noise Levels

See L(n).

Sound Level (Noise Level)

The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter

An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL)

The dBA level which, if it lasted for one (1) second, would produce the same A-weighted sound energy as the actual event.

2.7 Sound Propagation

As sound propagates from a source it spreads geometrically. The sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use the hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground

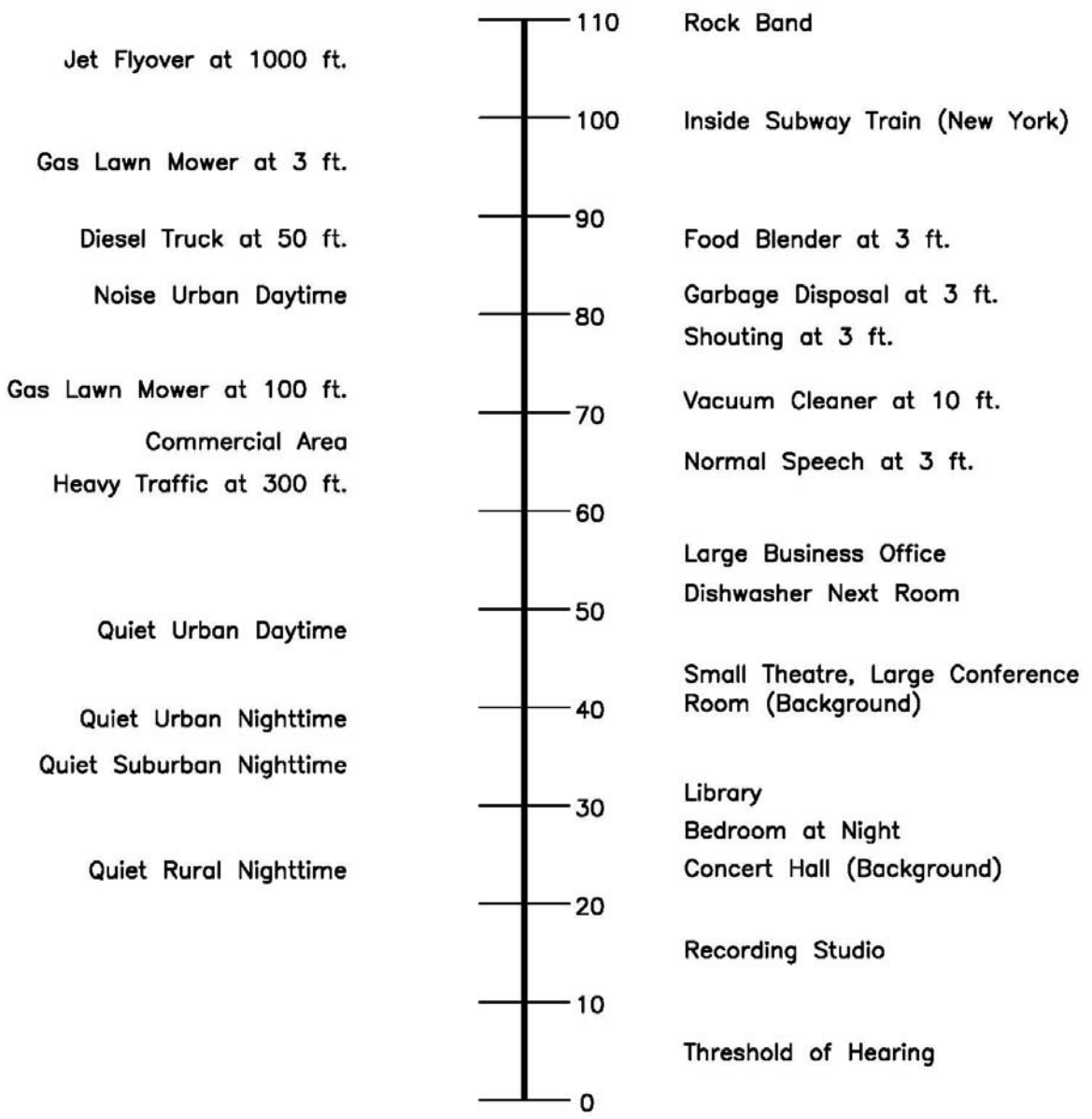
absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt or landscaping attenuate noise at an additional rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 6.0 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet and greater from a noise source. Wind, temperature, air humidity, and turbulence can further impact how far sound can travel.

Figure 1 shows typical sound levels from indoor and outdoor noise sources.

Figure 1[2]

TYPICAL SOUND LEVELS FROM
INDOOR AND OUTDOOR NOISE SOURCES



[2] Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.

2.8 Vibration Descriptors

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude.

PPV

Known as the peak particle velocity (PPV) which is the maximum instantaneous peak in vibration velocity, typically given in inches per second.

RMS

Known as the root mean squared (RMS) can be used to denote vibration amplitude.

VdB

A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

2.9 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration. To counter the effects of ground-borne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts.

2.10 Vibration Propagation

There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wavefront, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wavefront. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wavefront. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

2.11 Construction Related Vibration Level Prediction[3]

Operational activities are separated into two different categories. The vibration can be transient or continuous in nature. Each category can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the project area site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. The thresholds from Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, in the table below provide general guidelines as to the maximum vibration limits for when vibration becomes potentially annoying.

[3] Caltrans Transportation and Construction Vibration Guidance Manual, April 2020

Table 3
Vibration Annoyance Potential Criteria

Human Response	PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

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.

The Caltrans Transportation and Construction Vibration Guidance Manual, April 2020 provides general thresholds and guidelines as to the vibration damage potential from vibratory impacts. The table below provides general vibration damage potential thresholds:

Table 4
Vibration Damage Potential Threshold Criteria

Structure and Condition	PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings ruin ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Soil conditions have an impact on how vibration propagates through the ground. The Caltrans Transportation and Construction Vibration Guidance Manual, April 2020 provides suggested "n" values based on soil class. The table below outlines the manual's suggested values and description.

Table 5
Suggested "n" Values Based on Soil Classes

Soil Class	Description of Soil Material	Suggested Value of "n"
I	Weak or soft soils: loose soils, dry or partially saturated peat and muck, mud, loose beach sand, and dune sand.	1.4
II	Most sands, sandy clays, silty clays, gravel, silts, weathered rock.	1.3
III	Hard soils: densely compacted sand, dry consolidated clay, consolidated glacial till, some exposed rock.	1.1
IV	Hard, component rock: bedrock, freshly exposed hard rock.	1.0

3.0 Regulatory Setting

The proposed project is located in the City of Garden Grove. Existing noise regulations, as adopted by federal, state and local agencies, are described below.

3.1 Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three (3) purposes:

- Publicize noise emission standards for interstate commerce
- Assist state and local abatement efforts
- Promote noise education and research

The Federal Office of Noise Abatement and Control (ONAC) was originally tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows: The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies. The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system. The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The Federal government and the State advocate that local jurisdictions use their land use regulatory authority to arrange new development in such a way that "noise sensitive" uses are either prohibited from being constructed adjacent to a highway or, or alternatively that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the Federal government and the State have preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

3.2 State Regulations

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the "Land Use Compatibility for Community Noise Environments Matrix." The matrix allows the local jurisdiction to clearly delineate compatibility of sensitive uses with various incremental levels of noise.

The State of California has established noise insulation standards as outlined in Title 24 and of the Building Standards Code, which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold. The State mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

The latest sound transmission standards are established in the 2019 California Building Code, Title 24, Part 2, Section 1206. In brief, the Title 24 noise standards require the following design:

- Airborne Sound: Walls, partitions and floor-ceiling assemblies separating dwelling units and sleeping units from each other or from public or service areas shall have a sound transmission class of not less than 50, or not less than 45 if field tested, for airborne noise where tested in accordance with ASTM E90. Alternatively, the sound transmission class of walls, partitions and floor-ceiling assemblies shall be established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having sound transmission class ratings as determined by the test procedures set forth in ASTM E90. Penetrations or openings in construction assemblies for piping, electrical devices, recessed cabinets, bathtubs, soffits, or heating ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.

- Structure-Borne Sound. Floor-ceiling assemblies between dwelling units and sleeping units or between a dwelling unit or sleeping unit and a public or service area within the structure shall have an impact insulation rating of not less than 50, or not less than 45 if field tested, where tested in accordance with ASTM E492. Alternatively, the impact insulation class of floor-ceiling assemblies shall be

established by engineering analysis based on a comparison of floor-ceiling assemblies having impact insulation class ratings as determined by the test procedures in ASTM E492. Impact sound insulation is not required for floor-ceiling assemblies over nonhabitable rooms or spaces not designed to be occupied, such as garages, mechanical rooms or storage areas.

- Allowable Interior Noise Levels: Interior noise attributed to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

3.3 City of Garden Grove Noise Regulations

The project is required to comply with the noise standards and thresholds established in the City of Garden Grove General Plan and Municipal Code.

3.3.1 City of Garden Grove General Plan

The City of Garden Grove establishes planning criteria for determining a development's noise/land use compatibility based on the community noise equivalent level (CNEL).

Table 6 summarizes the City's Noise/Land Use Compatibility guidelines for land uses applicable to this project:

Table 6
Noise/Land Use Compatibility Guidelines

Land Use	Noise Limit (CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Multifamily Residential	50 - 65	60 – 70	70 – 75	70 – 85

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

3.3.2 City of Garden Grove Municipal Code Noise Standards

The City of Garden Grove Municipal Code Noise Ordinance requires that a project shall not create loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitiveness. Noise standards are defined in Chapter 8.47 Noise Control of the Municipal Code and are applicable to the project site and surrounding noise sensitive uses.

Table 7 shows the exterior noise standards from the City of Garden Grove Municipal Code Chapter 8.47 Noise Control Section 8.47.040 Ambient Base Noise Levels for the project site and surrounding land uses.

Table 7
City of Garden Grove Municipal Code Exterior Noise Standards

Use Categories	Exterior Noise Standard	Time Period
Residential Use	55 dB (A)	7:00 AM – 10:00 PM
	50 dB (A)	10:00 PM – 7:00 AM

It shall be unlawful for any person at any location 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:

1. The noise standard for a cumulative period of more than 30 minutes in any hour.

2. The noise standard plus 5 dB for a cumulative period of more than 15 minutes in any hour.

3. The noise standard plus 10 dB for a cumulative period of more than 5 minutes in any hour.

4. The noise standard plus 15 dB for a cumulative period of more than 1 minute in any hour.

5. The noise standard plus 20 dB for any period of time.

3.3.3 Construction Noise Regulation

Section 8.47.060(D) of the City's municipal code states that the following provisions for the construction and maintenance activities:

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

4.0 Study Method and Procedures

The following section describes the measurement procedures, measurement location, and noise modeling procedures and assumptions used in the noise analysis.

4.1 Measurement Procedures and Criteria

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement location and receptors:

- Location expected to receive the highest noise impacts, such as the first row of houses
- Location that is acoustically representative and equivalent of the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

RK conducted the sound level measurement in accordance with Caltrans technical noise specifications. All measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (ANSI S1.4: Specification for Sound Level Meter, 1983).

A Piccolo-II Type 2 integrating-averaging level meter was used to conduct long-term (24-hour) noise measurement at the project site.

The Leq, Lmin, Lmax, L2, L8, L25, and L50 statistical data were recorded over the measurement time period intervals and the information was utilized to define the noise characteristics for the project. The following gives a brief description of the Caltrans Technical Noise Supplement procedures for sound level measurements:

- Microphone for sound level meters was placed five (5) feet above the ground for long-term noise measurement
- Sound level meter was calibrated before and after each measurement
- Following the calibration of equipment, a windscreen was placed over the microphone
- Frequency weighting was set on "A" and slow response
- Temperature and sky conditions were observed and documented

Appendix B includes photos, field sheets, and measured noise data.

4.2 Stationary Noise Modeling

The stationary noise was projected using a computer program that replicates the FHWA Noise Prediction Model (FHWA-RD-77-108). The FHWA model arrives at the predicted noise level through a series of adjustments to the reference energy noise level. For stationary source, the following noise level was applied to the model. The model outputs the projected noise level based on the following key parameters:

- Referenced noise level – (e.g. how loud a source is at a specific distance)
- Vertical and horizontal distances (sensitive receptor distance from noise source)
- Noise barrier vertical and horizontal distances (noise barrier distance from sound source and receptor).
- Typical noise source spectra
- Topography

Table 8 indicates the referenced noise level used in this analysis.

Table 8
Stationary Referenced Noise Level

Source	Distance from Source (feet)	Noise Levels (dBA)
		Leq
HVAC Condenser Unit	3.0	77.0
Parking Lot Activity	6.0	63.8

To estimate the future noise levels during typical conditions, RK adjusted the reference noise levels from noise source to the nearest receptors. Adjusted noise levels are based on the distance of the receptor location relative to the noise source and local topography. The noise levels assume that the stationary sources are operating continuously when in reality not all noise sources will operate continuously throughout the day and night.

4.3 Construction Noise Modeling

The construction noise analysis utilizes the Federal Highway Administration (FHWA) Roadway Construction Noise Model, together with several key construction parameters. Key inputs include distance to the sensitive receiver, equipment usage, and baseline

parameters for the project site. This study evaluates the potential exterior noise impacts during each phase of construction. Noise levels were projected at an average distance of 300 feet for equipment operating over an 8-hour period from to the nearest sensitive receptor property line. While some construction noise activity may occur closer than 300 feet from the property line, noise levels are averaged over an 8-hour period for purposes of assessing impacts.

- Construction phasing and equipment usage assumptions are referenced from the Choisser Apartment AQ & GHG Impact Study, by RK Engineering, April 2022.

4.4 Construction Vibration Modeling

The construction vibration assessment is based on the methodology set-forth within the Caltrans Transportation and Construction Induced Vibration Guidance Manual. The vibration impacts from vibratory rollers and compactors, heavy truck loading and bulldozer activity is analyzed. All vibratory activity is analyzed as a continuous and/or frequent event and is required to comply with the applicable guidance thresholds criteria. It is expected that vibration levels will be highest during the paving phase. No impact pile driving is expected as part of this project.

Vibratory impacts were calculated from the site area property line to the closest sensitive receptors and structures using the reference vibration levels, soil conditions and the reference equation *PPV= PPV ref (25/D)^n (in/sec)* (from Caltrans Manual) where:

PPV = reference measurement at 25 feet from vibration source
D = distance from equipment to property line
n= vibration attenuation rate through ground (n=1.1 was utilized for this study)

5.0 Existing Noise Environment

The existing noise environment for the project site and surrounding area has been established based on noise measurement data collected by RK.

5.1 Long-Term (24-Hour) Noise Measurement Results

To determine the existing noise level environment, RK conducted one (1) 24-hour noise measurement at the project study area.

Noise levels were measured on March 31, 2022 using a Piccolo-II Type 2 integrating-averaging sound level meter. The information was utilized to establish the noise characteristics of the existing ambient environment.

The noise monitoring location was selected based on the proximity and location to adjacent sensitive receptors. Exhibit C graphically illustrates the location of the long-term measurement.

- Long-term noise monitoring was taken along the eastern property line approximately 10 feet from the southern property line.

Long term noise monitoring locations represent the existing noise levels near the adjacent noise sensitive land uses and the project site. Long-term noise measurement results are summarized in Table 9. Appendix B includes photographs, field sheets and measured noise data.

Table 9
24 Noise Measurement Results[1]

Time	Leq (dBA)	Time	Leq (dBA)
12:00 AM	42.8	12:00 PM	52.8
1:00 AM	41.9	1:00 PM	52.2
2:00 AM	41.5	2:00 PM	51.5
3:00 AM	43.0	3:00 PM	50.4
4:00 AM	45.8	4:00 PM	52.9
5:00 AM	47.3	5:00 PM	53.5
6:00 AM	50.6	6:00 PM	52.2
7:00 AM	54.8	7:00 PM	53.7
8:00 AM	52.0	8:00 PM	50.0
9:00 AM	51.1	9:00 PM	48.7
10:00 AM	50.4	10:00 PM	50.6
11:00 AM	54.0	11:00 PM	46.3
24-Hour CNEL			**55.1**

[1] Long-term noise monitoring was taken along the eastern property line approximately 10 feet from the southern property line on 03/31/2022.

6.0 Operational Noise Impacts

This assessment analyzes the anticipated noise levels generated by the project and impacts caused by changes to the ambient environment. The main sources of noise generated by the project would include on-site HVAC equipment and parking lot activity. Noise level impacts are compared to the City of Garden Grove noise standards.

The project must demonstrate that noise levels generated by the project site would not result in a 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.

6.1 Stationary Source Noise Impacts

The project is not expected to consist of significant sources of stationary noise. The main sources of potential stationary noise impacts from the project would mainly include on-site HVAC units and on-site vehicular circulation and parking lot noise.

The types of on-site noise from the project are typically considered compatible with other adjacent residential uses and would not typically be categorized as loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitiveness. Social activities and vehicular related noise are generally substantially less during the noise sensitive nighttime hours and will be regulated through the standard provisions in the City's Noise Ordinance.

Mechanical HVAC equipment has the potential to operate 24-hours a day, and with the nearest exiting noise sensitive receptors located immediately adjacent to the south of the project site and approximately 50 feet to the east of the project site, a preliminary evaluation of noise impacts has been provided. All mechanical equipment is proposed to be located on the roof of the building, approximately 63 feet above ground level and will be shielded behind parapet walls from the line of sight of adjacent residential uses.

Parking lot noise would occur within the ground floor parking structure and the surface lot and drive aisle located on the northern portion of the project site. Typical noise associated with parking lot activity includes vehicle engine idling and exhaust, doors slamming, tires screeching, people talking, and the occasional horn honking. The project is proposing to enclose the ground floor parking garage with a solid wall along the south façade and the garage will have with louvered ventilated screens along the eastern façade facing Choisser Road.

There is an existing seven (7) foot high noise barrier wall along the northern property line that will remain in place. The project is proposing to build a new seven (7) foot high noise barrier wall along the southern property lines. An eight (8) foot high noise barrier wall will also be constructed along the western property line as part of the proposed adjacent hotel project.

As shown in Table 10, operational noise levels generated by HVAC equipment are not expected to exceed the City's daytime standards of 55 dBA Leq and nighttime noise standards of 55 dBA Leq at the nearest receptor to the south. Stationary HVAC noise calculation worksheets are shown in Appendix C.

Table 10
Stationary Noise Impact Analysis – Residential to the South

Source	Exterior Noise Level (Leq) dBA[1]	
	Daytime 7:00 a.m. to 10:00 p.m.	**Nighttime 10:00 p.m. to 7:00 a.m.**
HVAC Unit	46.5	46.5
City of Garden Grove Noise Level Criteria[2]	55.0	50.0
Noise Level Exceeds Standard (?)	No	No

[1] Stationary HVAC noise calculation worksheets are shown in Appendix C.

As shown in Table 11, operational noise levels generated by HVAC equipment and on-site vehicular circulation are not expected to exceed the City's daytime standards of 55 dBA Leq and nighttime noise standards of 55 dBA Leq at the nearest receptor to the east. Stationary HVAC noise calculation worksheets are shown in Appendix C.

Table 11
Stationary Noise Impact Analysis – Residential to the East

Source	Exterior Noise Level (Leq) dBA[1]	
	Daytime 7:00 a.m. to 10:00 p.m.	**Nighttime 10:00 p.m. to 7:00 a.m.**
HVAC Unit	45.9	45.9
On-site Vehicular Circulation	43.8	43.8
Total Project Noise Levels	48.0	48.0
City of Garden Grove Noise Level Criteria[2]	55.0	50.0
Noise Level Exceeds Standard (?)	No	No

[1] Stationary HVAC noise calculation worksheets are shown in Appendix C.

6.2 Noise/Land Use Compatibility

This section analyzes the project's noise/land use compatibility for purposes of estimating future noise levels to private outdoor living areas and interior areas on the project site. This analysis is provided for non-CEQA purposes.

6.2.1 Future Exterior Noise Levels

The project's noise/land use compatibility setting is reviewed to determine future noise levels to exterior and interior areas on the project site. This section of the analysis is intended to satisfy the City of Garden Grove General Plan Noise Element Objectives and Policies which helps ensure hotel operations can meet the required Building Code Noise Insulation Standards.

Based on the City of Garden Grove General Plan Chapter 7 – Noise Element, Exhibit N-2B, Future Noise Contours – East, the project site is expected to experience future noise levels of approximately 60 dBA CNEL and falls within normally acceptable zone for residential land use.

Table 12 shows the future traffic noise levels impacting the project site.

Table 12
Project Noise and Land Use Compatibility[1]

Roadway	Exterior Noise Level (dBA CNEL)[2]	Noise and Land Use Compatibility
Harbor Boulevard	60.0	Normally Acceptable

[1] Source: City of Garden Grove General Plan - Noise Element, Future Noise Contours – East.
[2] Does not include noise reduction from property line wall.

The project will be required to demonstrate compliance with the interior noise standards in order to be considered compatible with the proposed land use. Interior noise levels due to exterior sources must not exceed a community noise equivalent level (CNEL) or a day-night level (LDN) of 45 dBA, in any habitable room.

6.2.2 Future Interior Noise Levels

A preliminary interior noise analysis has been performed for the first row of habitable dwellings facing adjacent roadway using a typical "windows open" and "windows closed" condition. A "windows open" condition assumes 12 dBA of noise attenuation from the exterior noise level. A "windows closed" condition" assumes 20 dBA of noise attenuation from the exterior noise level.

Table 13 indicates the future interior noise levels along the adjacent roadways.

Table 13
Future Interior Noise Levels (dBA CNEL)[1]

Roadway	Exterior Façade Study Location	Exterior Noise Level at Façade	Required Interior Noise Reduction	Interior Noise Level w/Standard Windows (STC ~ 25)		STC Rating
				"Windows Open" [1]	"Windows Closed" [2]	
Harbor Boulevard	All Units	60.0	15.0	48.0	40.0	25

[1] A minimum of 12 dBA noise reduction is assumed with the "windows open" condition.
[2] A minimum of 20 dBA noise reduction is assumed with the "windows closed" condition.

In order to meet the 45 dBA CNEL interior noise level requirements, all windows should have a minimum STC 25 rating or above.

6.3 Operational Design Features

The following project design features include standard rules and requirements, best practices and recognized design guidelines for reducing noise levels. Design features are assumed to be part of the project for purposes of the impact analysis in this study and will be incorporated into the conditions of approval for the project.

DF-1 The project will comply with the California Title 24 building insulation requirements for exterior walls, roofs and common separating assemblies (e.g. floor/ceiling assemblies and demising walls), which shall be reviewed by the City prior to issuance of a building permit.

- Interior noise levels due to exterior sources must not exceed a community noise equivalent level (CNEL) or a day-night level (LDN) of 45 dBA, in any habitable room.

- Party wall and floor-ceiling assembly designs must provide a minimum STC of 50, based on lab tests. Field tested assemblies must provide a minimum noise isolation class (NIC) of 45.

- Penetrations or openings in sound rated assemblies must be treated to maintain required ratings.

DF-2 The exterior façade of the parking structure will include louvered or perforated wall paneling to help conceal parking structure activities and reduce noise levels. Ventilated coverings should enclose the entire portions of the parking structure openings facing the east.

DF-3 All HVAC equipment will be mounted on the roof and shielded behind parapet walls from the line of sight of adjacent residential uses.

DF-4 Deliveries, loading and unloading activities, and trash pick-up hours will be limited to daytime hours only (7 a.m. – 10 p.m.).

DF-5 The project should post signage at loading areas limiting engine idling time for all delivery vehicles and moving trucks to 5 minutes or less.

It should be noted that the proposed adjacent Site C Hotel project plans to construct a future noise wall along the project's western boundary. The construction of the future noise barrier wall is not needed to serve the project and the project can be constructed and operational prior to the wall being installed. The project would not substantially increase ambient noise levels to the west of the site and would not adversely affect any surrounding sensitive noise receptor without the installation of the adjacent Site C wall. Furthermore, the wall is not required for the project to meet the City of Garden Grove/State of California interior noise standards. The project is located in a normally acceptable noise zone and standard building shell construction is expected to be adequate for the project to meet the applicable interior noise standards.

7.0 Construction Noise and Vibration Impacts

Temporary construction noise and vibration impacts have been assessed from the project site to the surrounding adjacent land uses. The degree of construction noise will vary depending on the type of construction activity taking place and the location of the activity relative to the surrounding properties.

Section 8.47.060 of the City's municipal code provides the following provisions for construction activities:

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

Although construction activity is exempt from the noise standards in the City's Municipal Code, the project's potential noise impacts are identified for informational purposes. For purposes of this analysis, the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (2006) criteria will be used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA Leq for an 8-hour period. In compliance with the City's Municipal Code, it is assumed construction would not occur during the noise-sensitive nighttime hours.

7.1 Typical Construction Noise Levels

Table 14 shows typical construction noise levels compiled by the Environmental Protection Agency (EPA) for common types of construction equipment. Typical construction noise levels are used to estimate potential project construction noise levels at the adjacent sensitive receptors.

Table 14
Typical Construction Noise Levels[1]

Type	Noise Levels (dBA) at 50 Feet
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86
Impact Equipment	
Pneumatic Wrenches	82 - 87
Jack Hammers, Rock Drills	80 - 99
Pile Drivers (Peak)	95-105
Other	
Vibrators	68 - 82
Saws	71 - 82

[1] Referenced Noise Levels from the Environmental Protection Agency (EPA)

7.2 Construction Noise Impact Analysis

This assessment analyzes potential noise impacts during all expected phases of construction, including site preparation, grading, building construction, paving, and architectural coating. This assessment is conservative because it assumes all equipment within each phase operates at the same time. Noise levels are calculated based on an average distance from the center of the site of equipment operating over an 8-hour period to the nearest adjacent property.

The project's estimated construction noise levels have been calculated using the Federal Highway Administration Roadway Construction Noise Model Version 1.1. Table 15 shows the proposed project's estimated construction noise levels. Construction noise calculation worksheets are provided in Appendix D.

Table 15
Project Construction Noise Levels – at 100 Feet

Phase	Equipment	Quantity	Equipment Noise Level at 100ft (dBA Leq)	Combined Noise Level (dBA Leq)
Site Preparation	Rubber Tired Dozers	1	71.7	76.0
	Tractors/Loaders/Backhoes	1	74.0	
Grading	Excavators	1	70.7	79.7
	Graders	1	75.0	
	Tractors/Loaders/Backhoes	2	74.0	
Building Construction	Cranes	1	66.6	72.0
	Forklifts	2	65.0	
	Welders	2	64.0	
Paving	Cement and Mortar Mixers	4	68.8	78.3
	Pavers	1	68.2	
	Rollers	1	67.0	
	Tractors/Loaders/Backhoes	1	74.0	
Architectural Coating	Air Compressors	1	77.3	77.3
Worst Case Construction Phase Noise Level - Leq (dBA)				79.7
FTA Construction Noise Criteria				80.0
Noise level exceeds FTA criteria?				No

As shown in Table 15, the project is expected to generate noise levels which range from 72.0 dBA to 79.7 dBA. Project construction noise levels are expected to be below the recommended 8-hour construction noise threshold provided by the FTA for adverse community reaction at the residential uses. Construction noise calculation worksheets are provided in Appendix D.

7.3 Construction Vibration

To determine the proposed project's potential vibratory impacts during construction, reference construction equipment vibration levels were utilized and then extrapolated to the façade of the nearest adjacent structures. The nearest sensitive receptors are the residential structures located approximately 25 feet to the south. All structures surrounding the project site are considered to be "new residential structures" in good repair, and no historical or fragile buildings are known to be located within the vicinity of the site.

Vibration impacts during construction of the project would be caused by construction equipment such as bulldozer activity and loading trucks during grading and excavation, and vibratory rollers during paving. The project is not expected to require any blasting or pile driving.

The construction vibration assessment utilizes the referenced vibration levels and methodology set-forth within the Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, September 2018. Table 16 shows the referenced vibration levels.

Table 16
Typical Construction Vibration Levels[1]

Equipment	Peak Particle Velocity (PPV) (inches/second) at 25 feet	Approximate Vibration Level (LV) at 25 feet
Piledriver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Piledriver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

[1] Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, September 2018.

Table 17 shows the project's construction-related vibration analysis at the nearest structures to the project construction area.

Table 17
Construction Vibration Impact Analysis

Construction Activity	Distance to Nearest Structure (ft)	Duration	Calculated Vibration Level - PPV (in/sec)	Annoyance Criteria Level
Large Bulldozer	25	Continuous/Frequent	0.089	Distinctly Perceptible
Vibratory Roller	25	Continuous/Frequent	0.210	Strongly Perceptible
Loaded Trucks	25	Continuous/Frequent	0.076	Distinctly Perceptible

As shown in Table 17, project related construction activity is not expected to cause any potential damage to the nearest residential structures.

Construction vibration calculation worksheets are shown in Appendix D.

7.4 Construction Design Features

DF-6 Hours and days of construction and grading shall be as set forth in Chapter 8.47 of the City of Garden Grove Municipal Code, except as follows:

a. Monday through Saturday - not before 7:00 a.m. and not after 8:00 p.m. (of the same day).

b. Sunday and Federal Holidays - may work same hours, but subject to noise restrictions as established in Chapter 8.47 of the Municipal Code.

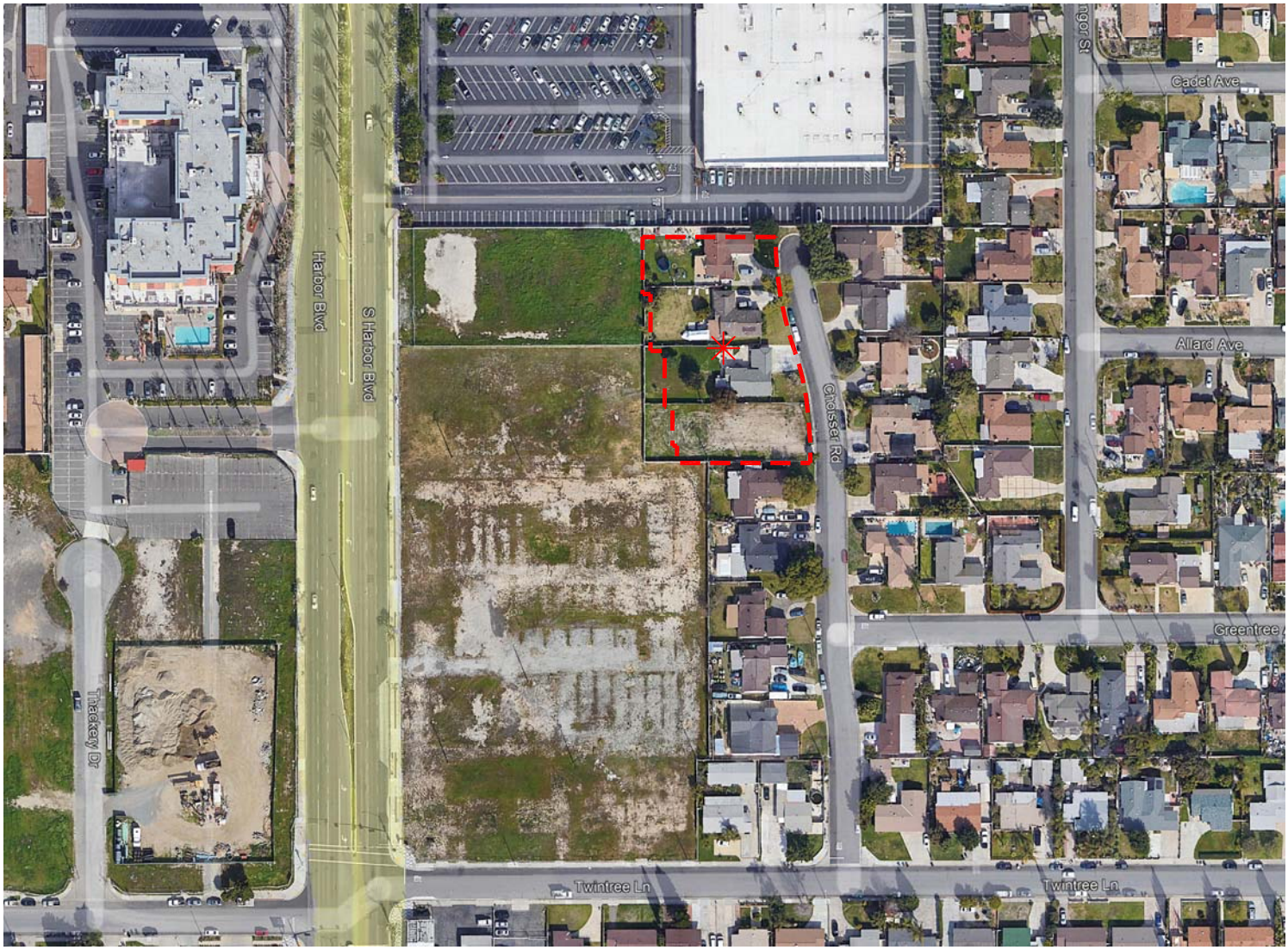
DF-7 During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices and equipment shall be maintained so that vehicles and their loads are secured from rattling and banging. Idling equipment should be turned off when not in use.

DF-8 Locate staging area, generators and stationary construction equipment as far from any adjacent sensitive receptors, as reasonably feasible.

Exhibits

Exhibit A

Location Map



Legend:

- = Project Site Boundary
- = Project Site

N

Exhibit B

Site Plan

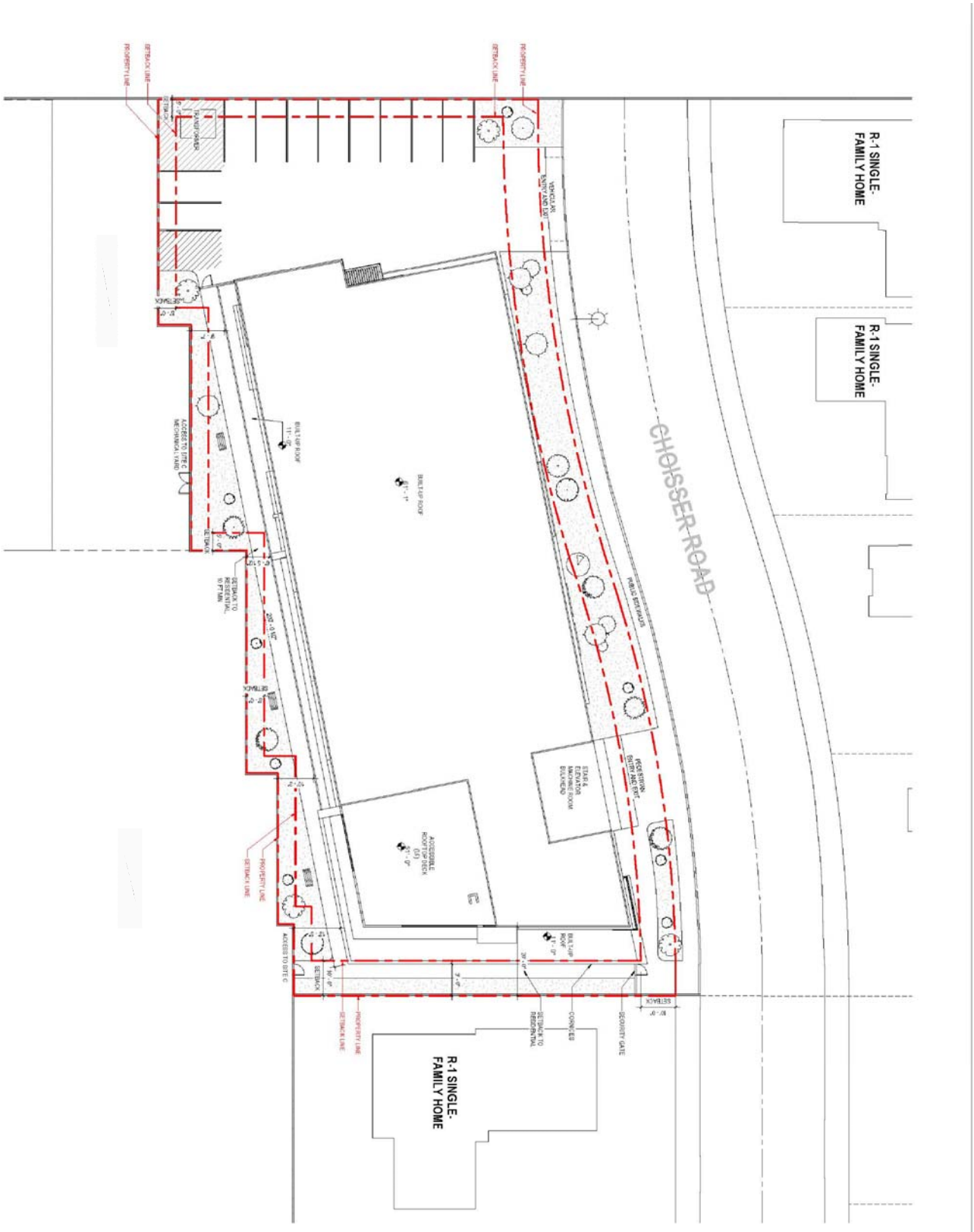
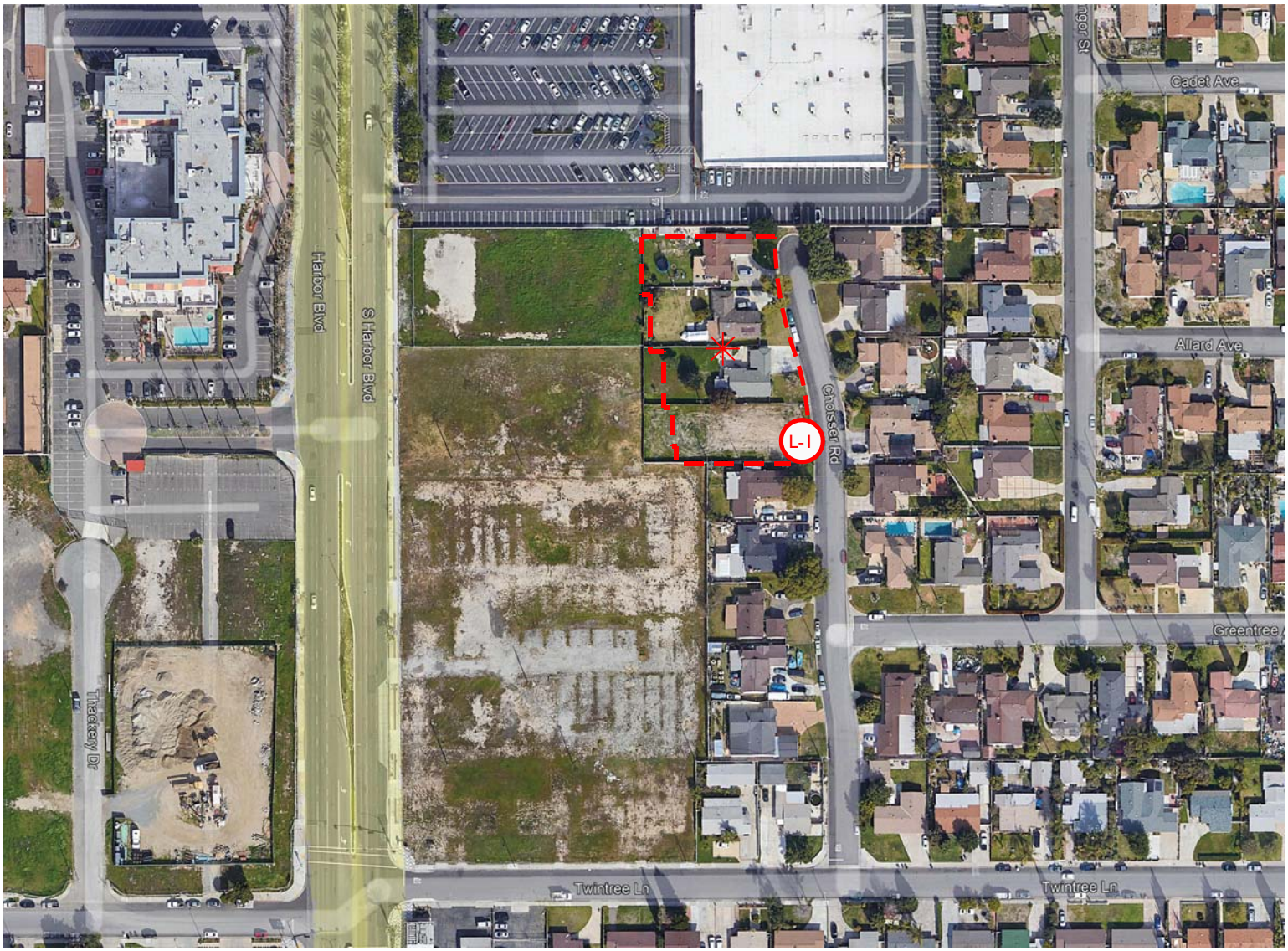


Exhibit C

Noise Monitoring Location



Legend:

- = Project Site Boundary
- = Project Site
- L-1 = Noise Monitoring Location

N

Appendices

Appendix A

City of Garden Grove
Noise Standards

CHAPTER 7

NOISE ELEMENT

7.1 INTRODUCTION

The Noise Element of the General Plan examines noise sources in the City to identify and appraise the potential for noise conflicts and problems, and to identify ways to reduce existing and potential noise impacts. Existing and future noise environments and the compatibility of land uses are considered in the Element, as well as sensitive receptors and generators of stationary noise. The Element identifies projected noise levels, and contains policies and programs to achieve and maintain noise levels compatible with various types of land uses, as well as prevent high noise levels in sensitive areas. It is important to note that the Element addresses noise that affects the community at large, rather than noise associated with site-specific conditions. The regulatory framework, background information, and existing and future conditions can be found in the General Plan EIR.

7.2 AUTHORITY FOR ELEMENT

Government Code Section 65302(f) requires that a General Plan include:

> *"... a noise element which shall identify and appraise noise problems in the community. The Noise Element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify...current and projected noise levels for all of the following sources: (1) highways and freeways; (2) primary arterials and major local streets; (3) passenger and freight on-line railroad operations and ground rapid transit systems; (4) commercial, general aviation, heliport, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation; (5) local industrial plants, including but not limited to, railroad classification yards; (6) other ground stationary noise sources identified by local agencies as contributing to the community noise environment."*

7.3 NOISE DEFINITIONS

Noise often is defined as annoying or unwanted sound. Health studies have shown that excessive noise can cause adverse psychological or physiological effects on human beings.

Defining noise problems and establishing a regulatory scheme to deal with noise that is both fair and effective requires an understanding of some of the basic characteristics of sound and how it affects people and their activities. While sound levels can be easily measured, the variability in subjective and physical responses to sound complicates the analysis of its impact on people. Sound is created when an object vibrates and radiates part of its energy as acoustic pressure waves through a medium such as air, water, or a solid. The ear, the hearing mechanism of humans and most animals, receives these sound pressure waves and converts them to neurological impulses which are transmitted to the brain for interpretation. The interpretation by the auditory system and the brain depends on the characteristics of the sound and on the characteristics of the person hearing it.

STANDARD UNIT OF MEASUREMENT

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by differentiating among frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound ten dBA higher than another is perceived to be twice as loud, and 20 dBA higher is perceived to be four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Various methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

NOISE SCALES AND DEFINITIONS

Sound pressure level is a measure of the sound pressure of a given noise source relative to a standard reference value. The reference pressure is typical of the quietest sound that a young person with good hearing is able to detect. Sound pressure levels are measured in decibels (dB). Decibels are logarithmic quantities, relating the sound pressure level of a noise source to the reference pressure level.

An important characteristic of sound is frequency. This is the rate of repetition of sound pressure oscillations (waves) as they reach our ears; frequency is expressed in hertz (Hz). When analyzing the total noise of any source, the frequency components are sometimes analyzed to determine the relative amounts of low-frequency, middle-frequency, and high-frequency noise. This breakdown is important for two reasons:

- Our ear is better equipped to hear mid- and high-range frequencies than lower frequencies. Thus, we find mid- and high-frequency noise to be more annoying. High-frequency noise is also more capable of producing hearing loss.

- Engineering solutions to a noise problem are different for different frequency ranges. Low-frequency noise is generally harder to control.

The normal frequency range of hearing for most people extends from a low frequency of about 20 Hz to a high frequency of about 10,000 to 15,000 Hz. People respond to sound most readily when the predominant frequency is in the range of normal conversation, typically around 1,000 to 2,000 Hz. Several filters have been developed that match the sensitivity of our ear and thus help us to judge the relative loudness of various sounds made up of many different frequencies. The so-called "A" filter is the best measure for most environmental noise sources. Sound pressure levels measured through this filter are referred to as A-weighted levels, and are measured in A-weighted decibels or (dBA).

The A-weighted filter significantly de-emphasizes those parts of the total noise that occur at lower frequencies (those below about 500 Hz) and also those at very high frequencies (above 10,000 Hz) the frequencies that we do not hear as well. The filter has very little effect, or is nearly "flat," in the middle range of frequencies (between 500 and 10,000 Hz), where our ears are most sensitive. Because this filter generally matches our ears' sensitivity, sounds having a higher A-weighted sound level are usually judged to be louder than those with lower A-weighted sound levels, a relationship that otherwise might not be true.

Community Noise Equivalent Level (CNEL)

Cumulative noise metrics were developed to assess community response to noise. They are useful because they attempt to take into account the loudness and duration of the noise, the total number of noise events, and the time of day these events occur in one single-number rating scale. They are designed to account for the known health effects of noise on people. The community noise equivalent level (CNEL) is a 24-hour, time-weighted energy-average noise level based on dBA that measures the overall noise during an entire day. Noise that occurs during certain sensitive time periods is penalized for occurring at these times (by adding decibels to its Leq measurement). On the CNEL scale, noise between 7:00 a.m. and 10:00 p.m. is penalized by approximately five dB, to account for the greater potential for noise to interfere during these hours, as well as the typically lower ambient (background) noise levels during these hours. Noise during the night (from 10:00 p.m. to 7:00 a.m.) is penalized by 10 dB to attempt to account for our higher sensitivity to noise in the nighttime and the expected further decrease in ambient noise levels that typically occur in the night.

Equivalent Noise Level (L_{EQ})

The equivalent sound level, abbreviated Leq, is a measure of the exposure resulting from the accumulation of A-weighted sound levels over a particular time period (e.g., 1 hour, 8 hour, a school day, nighttime, or a full 24-hour day). However, because the length of the period can be different depending on the time frame of interest, the applicable period should always be identified or clearly understood when discussing the metric. Such durations are often identified through a subscript, for example, "Leq (24)".

Conceptually, Leq may be thought of as a constant sound level over the period of interest that contains as much sound energy as the actual time-varying sound level with its normal peaks and valleys. It is important to realize, however, that the two signals (the constant one and the time-varying one) would sound very different from each other if compared in real life. Variations in the "average" sound level suggested by Leq is not an arithmetic value, but a logarithmic ("energy-averaged") sound level. Thus, loud events clearly dominate any noise environment described by the metric.

Day Night Average (Ldn)

Another commonly used noise metric is the day/night average noise level (Ldn). The Ldn is a measure of the 24-hour average noise level at a given location. It was adopted by the EPA for developing criteria to evaluate community noise exposure. Ldn is based on a measure of the average noise level over a given time period. The Ldn is calculated by averaging the Leq for each hour of the day at a given location after penalizing the sleeping hours (from 10:00 p.m. to 7:00 a.m.) by 10 dBA to take into account the increased sensitivity of people to noises that occur at night. The sound level exceeded over a specified time frame can be expressed as Ln (i.e., L90, L50, L10, etc.). L50 equals the level exceeded 50 percent of the time; L10, 10 percent of the time; etc.

Other Noise Matrices

As previously mentioned, people tend to respond to changes in sound pressure in a logarithmic manner. In general, a 1 dBA change in the sound pressure levels of a given sound is detectable only under laboratory conditions. A 3 dBA change in sound pressure level is considered a detectable difference in most situations. A 5 dBA change is readily noticeable and a 10 dBA change is considered a doubling (or halving) of the subjective loudness. It should be noted that a 3 dBA increase or decrease in the average traffic noise level is realized by a doubling or halving of the traffic volume; or by about a 7 mile per hour (mph) increase or decrease in speed.

For each doubling of distance from a point noise source, the sound level will decrease by 6 dBA. In other words, if a person is 100 feet from a machine, and moves to 200 feet from that source, sound levels will drop approximately 6 dBA. For each doubling of distance from a line source, like a roadway, noise levels are reduced by 3 to 5 decibels, depending on the ground cover between the source and the receiver.

Noise barriers can provide approximately a 5 dBA CNEL noise reduction (additional reduction may be provided with a barrier of appropriate height, material, location and length). A row of buildings provides up to 5 dBA CNEL noise reduction with a 1.5 dBA CNEL reduction for each additional row up to a maximum reduction of approximately 10 dBA. The exact degree of noise attenuation depends on the nature and orientation of the structure and intervening barriers.

7.4 KEY THEMES AND VISION FOR GENERAL PLAN

It is the general objective of the City to regulate and control unnecessary, excessive, and annoying sounds emanating from uses and activities within the City, and to prohibit such sounds that are detrimental to the public health, welfare, and safety of its residents. With the objective, the City is focused on maintaining or improving the quality of life for both existing and future residents. The Land Use Element proposes a variety of mixed use development types along major arterials in the City. The Noise Element will ensure that the residential and non-residential uses within the mixed use development meet established noise standards.

AMBIENT NOISE

Ambient noise is described as the all-encompassing background noise associated with a given environment, usually being a composite of sounds from many sources near and far.

Garden Grove's noise environment is dominated by vehicular traffic noise along State Route 22 (SR-22) as well as major and primary arterials. The major arterials that serve the City are Valley View Street, Brookhurst Street, Harbor Boulevard, Bolsa Avenue, Westminster Avenue, Fairview

Road, and Knott Avenue. The primary arterials that serve the City are Magnolia Street, Euclid Street, Haster Street, Chapman Avenue, Garden Grove Boulevard, and Westminster Boulevard,. In addition, Katella Avenue, Harbor Boulevard, Bolsa Avenue, and Valley View Streets are designated as Smart Streets.

NOISE SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. The sensitive receptors located within the City are listed in Appendix D, Air Quality Data, of the General Plan EIR.[1]

NOISE AND LAND USE COMPATIBLITY MATRIX

The State of California Office of Planning and Research (OPR) Noise Element Guidelines include recommended interior and exterior level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The OPR Guidelines describe the compatibility of various land uses with a range of environmental noise levels in terms of dBA CNEL (Community Noise Equivalent Level).

A noise environment of 50 dBA CNEL to 60 dBA CNEL is considered to be "normally acceptable" for residential uses. The State indicates that locating residential units, parks, and institutions (such as churches, schools, libraries, and hospitals) in areas where exterior ambient noise levels exceed 65 dBA CNEL is undesirable. The OPR recommendations also note that, under certain conditions, more restrictive standards than the maximum levels cited may be appropriate. As an example, the standards for quiet suburban and rural communities may be reduced by 5 to 10 dB to reflect their lower existing outdoor noise levels in comparison with urban environments.

In addition, *Title 25, Section 1092 of the California Code of Regulations,* sets forth requirements for the insulation of multiple-family residential dwelling units from excessive and potentially harmful noise. Whenever multiple-family residential dwelling units are proposed in areas with excessive noise exposure, the developer must incorporate construction features into the building's design that reduce interior noise levels to 45 dBA CNEL.

Table 7-1, Noise and Land Use Compatibility Matrix, illustrates the State guidelines established by the State Department of Health Services for acceptable noise levels for each county and city. These standards and criteria are incorporated into the land use planning process to reduce future noise and land use incompatibilities. This table is the primary tool that allows the City to ensure integrated planning for compatibility between land uses and outdoor noise.

CITY OF GARDEN GROVE NOISE STANDARDS

The City of Garden Grove maintains a comprehensive Noise Ordinance within its Municipal Code that establishes citywide interior and exterior noise level standards. The City has adopted a number of policies that are directed at controlling or mitigating environmental noise effects. The City's Noise Ordinance (Municipal Code Section 8.47, Noise Control,) establishes daytime and nighttime noise standards; refer to *Table 7-2, Garden Grove Noise Ordinance Standards*. The ordinance is designed to control unnecessary, excessive and annoying sounds generated

[1] Similar uses are sensitive to both air quality and noise impacts. Therefore, the sensitive receptor list for both issue areas is the same.

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

Table 7-1
Noise and Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	70 – 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 – 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA
NA: Not Applicable				
Source: Office of Planning and Research, California, *General Plan Guidelines*, October 2003.				
Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice. Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Clearly Unacceptable – New construction or development should generally not be undertaken.				

Table 7-2
Garden Grove Noise Ordinance Standards

Land Use Designation		Ambient Base Noise Level	Time Of Day
Sensitive Uses	Residential Use	55 dBA	7:00 AM – 10:00 PM
		50 dBA	10:00 PM – 7:00 AM
Conditionally Sensitive Uses	Institutional Use	65 dBA	Any Time
	Office-Professional Use	65 dBA	Any Time
	Hotels and Motels	65 dBA	Any Time
Non-Sensitive Uses	Commercial Uses	70 dBA	Any Time
	Commercial/Industrial Uses within 150 feet of Residential Uses	65 dBA	7:00 AM – 10:00 PM
		50 dBA	10:00 PM – 7:00 AM
	Industrial Uses	70 dBA	Any Time
Source: City of Garden Grove, *Municipal Code, Section 8.47, Noise Control*, 2005.			

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

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

MINIMIZE COMMUNITY EXPOSURE TO NOISE

The primary goal with regard to community noise is to minimize the exposure of new residential development, schools, hospitals and similar noise-sensitive uses to excessive or unhealthy noise levels to the greatest extent possible. Toward this end, this Element establishes the noise/land use compatibility guidelines set forth in *Table 7-1* for outdoor noise. The compatibility guidelines recognize and respond to the many different noise environments in Garden Grove.

The City supports new residential development within already urbanized areas where ambient noise levels may be higher than those experienced in neighborhoods located on the urban periphery. This is in an effort to promote "smart growth," mixed use development, making more efficient use of land and resources.

Interior noise levels for new residential development, regardless of location within the City will be required to comply with standards set forth in Title 24 of the State Health and Safety Code. New construction may need to incorporate special insulation, windows, and sealants in order to ensure that interior noise levels meet Title 24 standards.

The City will utilize the noise/land use compatibility guidelines outlined in *Table 7-1* and *Table 7-2* in making land use decisions. These compatibility guidelines show a range of noise standards for various land use categories. Depending on the ambient environment of a particular community, these basic guidelines may be tailored to reflect existing noise and land use characteristics. The matrix defines noise in terms of Community Noise Equivalent Level (CNEL) and expressed in dB that measure sound intensity. Noise levels occurring during nighttime hours are weighted more heavily than during the daytime.

7.5 GOALS, POLICIES, AND IMPLEMENTATION PROGRAMS

This Element is organized into goals, policies, and implementation programs. A description of each is provided in Chapter 1, Introduction. It is important to note that the implementation programs are specific actions to carry out all of the preceding goals and policies.

Goal N-1	**Noise considerations must be incorporated into land use planning decisions.**
Policy N-1.1	Require all new residential construction in areas with an exterior noise level greater than 55 dBA to include sound attenuation measures.
Policy N-1.2	Incorporate a noise assessment study into the environmental review process, when needed for a specific project for the purposes of identifying potential noise impacts and noise abatement procedures.

Policy N-1.3	Require noise reduction techniques in site planning, architectural design, and construction, where noise reduction is necessary consistent with the standards in Tables 7-1 and 7-2, Title 24 of the California Code of Regulations, and Section 8.47 of the Municipal Code.
Policy N-1.4	Ensure acceptable noise levels are maintained near schools, hospitals, convalescent homes, churches, and other noise sensitive areas.
Policy N-1.5	Require the design of mixed use structures to incorporate techniques to prevent the transfer of noise and vibration from the commercial to residential use.
Policy N-1.6	Encourage commercial uses in mixed use developments that are not noise intensive.
Policy N-1.7	Avoid locating noise-sensitive land use in existing and noise-impacted areas.
N-IMP-1A	Maintain a technical resource for builders, developers, and operators of construction equipment that discusses a variety of sound attenuation measures (e.g., temporary noise attenuation fences, preferential location of equipment, use of current technology and types of noise suppression equipment), the amount of noise reduction each produces, and how to combine them to meet City requirements.
N-IMP-1B	Require that new commercial, industrial, any redevelopment project, or any proposed development near existing residential land use demonstrate compliance with the City's Noise Ordinance prior to approval of the project.
N-IMP-1C	Implement noise mitigation by placing conditions of approval on development projects, and require a clear description of mitigation on subdivision maps, site plans, and building plans for inspection purposes.
N-IMP-1D	Require construction activity to comply with the limits established in the City's Noise Ordinance.
N-IMP-1E	Require buffers or appropriate mitigation of potential noise sources on noise sensitive areas.
N-IMP-1F	Require that vehicle access to commercial properties that are located adjacent to residential parcels or other noise sensitive uses be located at the maximum practical distance from these uses.
N-IMP-1G	Encourage truck deliveries to commercial or industrial properties abutting residential or noise sensitive uses after 7:00 AM and before 10:00 PM.
N-IMP-1H	Orient residential units away from major noise sources, particularly in mixed use projects.
N-IMP-1I	Encourage the location of balconies and operable windows of residential units in mixed use projects away from arterials and other major noise sources.

N-IMP-1J	Review the noise performance standards in the Zoning Code to determine if additional or modified standards are necessary to address mixed use development, particularly along major arterial roadways, or address and mitigate noise-generating land uses.
N-IMP-1K	Enforce the Noise Ordinance to ensure that stationary noise and noise emanating from construction activities, private development, and/or special events are minimized.
N-IMP-1L	Continue to enforce noise abatement and control measures.

Goal N-2	**Maximized efficiency in noise abatement efforts through clear and effective policies and ordinances.**

Policy N-2.1	Incorporate noise considerations into land use planning decisions by establishing acceptable limits of noise for various land uses throughout the community.
Policy N-2.2	Fully integrate noise considerations into land use planning decisions to prevent new noise/land use conflicts.
Policy N-2.3	Incorporate noise reduction features for items such as but not limited to parking and loading areas, ingress/egress point, and refuse collection areas, during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses.
Policy N-2.4	Permit only those new development or redevelopment projects that have incorporated appropriate mitigation measures, so that standards contained in the Noise Element or adopted ordinance are met.
Policy N-2.5	Ensure the effective enforcement of City, State, and Federal noise levels by all appropriate City Divisions.
N-IMP-2A	Require a noise impact evaluation for projects, if determined necessary through the environmental review process. Should noise abatement be necessary, the City shall require the implementation of mitigation measures based on a technical study prepared by a qualified acoustical professional.
N-IMP-2B	Consider establishing a periodic noise monitoring program to identify progress in achieving noise abatement and to perform necessary updating of the Noise Element and community noise standards.
N-IMP-2C	Amend, and combine if deemed appropriate, ordinances and policies relating to noise control. The amended ordinance(s) shall more clearly address mitigation of noise conflicts between adjacent uses, construction noise, noise associated with maintenance equipment (e.g., leaf blowers, street sweepers, etc), hours of operation of construction or maintenance equipment, noise standards, abatement, enforcement, procedures, and other like issues.

N-IMP-2D	Use code enforcement to enforce the appropriate noise standards in the City's noise ordinance(s).
N-IMP-2E	Use the Police unit to enforce the appropriate noise standards in the State's motor vehicle code.
N-IMP-2F	Require that new equipment purchased by the City of Garden Grove comply with noise performance standards.
N-IMP-2G	Disseminate information to the public regarding City noise regulations and programs, the health effects of high noise levels, means of mitigating such levels, as well as abatement and enforcement procedures.
N-IMP-2H	Coordinate with California Occupational Safety and Health Administration (Cal-OSHA) to provide information on occupational noise requirements within the City.
N-IMP-2I	Examine the potential to establish a Violators Fee for persons requiring a second call/visit for violating the noise ordinance(s).

Goal N-3	**Minimized noise impacts from freeways, ensuring that City and State interior and exterior noise standards are not exceeded.**

Policy N-3.1	Encourage Caltrans to meet the State standard of 65 dBA CNEL for exterior noise levels for the Garden Grove Freeway (SR-22) and the San Diego Freeway (I-405).
Policy N-3.2	Encourage Caltrans to keep the interior residential noise levels below the State standard of 45 dBA CNEL, where appropriate and feasible.
N-IMP-3A	Continue to work with Caltrans to ensure that similar soundwalls or other appropriate mitigations to those installed along the Garden Grove Freeway (SR-22) be provided where the San Diego Freeway (I-405) abuts residential areas or areas with sensitive receptors within the City.
N-IMP-3B	Encourage Caltrans to develop a range of sound attenuation alternatives to mitigate noise impacts from the San Diego Freeway (I-405).

Goal N-4	**Minimize noise impacts for residential uses and noise sensitive receptors along the City's arterial streets, ensuring that City and State interior and exterior noise levels are not exceeded.**

Policy N-4.1	Examine the feasibility of implementing sound attenuation measures along the City's arterial streets. Prioritize the areas in need of sound attenuation based on degree of sensitivity, excess of maximum allowable standards, length of time the noise impact has existed, and the number or residential uses or sensitive receptors impacted.
Policy N-4.2	Minimize potential transportation noise through proper design of street circulation, coordination of routing, and other traffic control measures (e.g., shifting travel lanes away from impacted units, adding bike ways, etc.)

Policy N-4.3	Discourage through traffic on residential local streets to reduce noise.
N-IMP-4A	Install sound attenuation measures, including but not limited to, retrofitting existing residential units or sensitive receptors with double-glazed windows and sound insulation; construction of sound walls and landscaping, use of low walls and landscaped berms, enclose courtyards, rubberized asphalt, or relocation of driveways.
N-IMP-4B	Develop a streamlined process to expedite approval of noise reducing techniques identified in the noise ordinance(s).
N-IMP-4C	Ensure the inclusion of noise mitigation measures in the design of new roadway projects in the City of Garden Grove.
N-IMP-4D	Provide for continued evaluation of truck movements and routes in the City to provide effective separation from residential or other noise sensitive land uses.
N-IMP-4E	Conduct periodic noise monitoring and abatement to identify sound levels on residential local streets that may be affected by increased traffic volumes and speed limits.

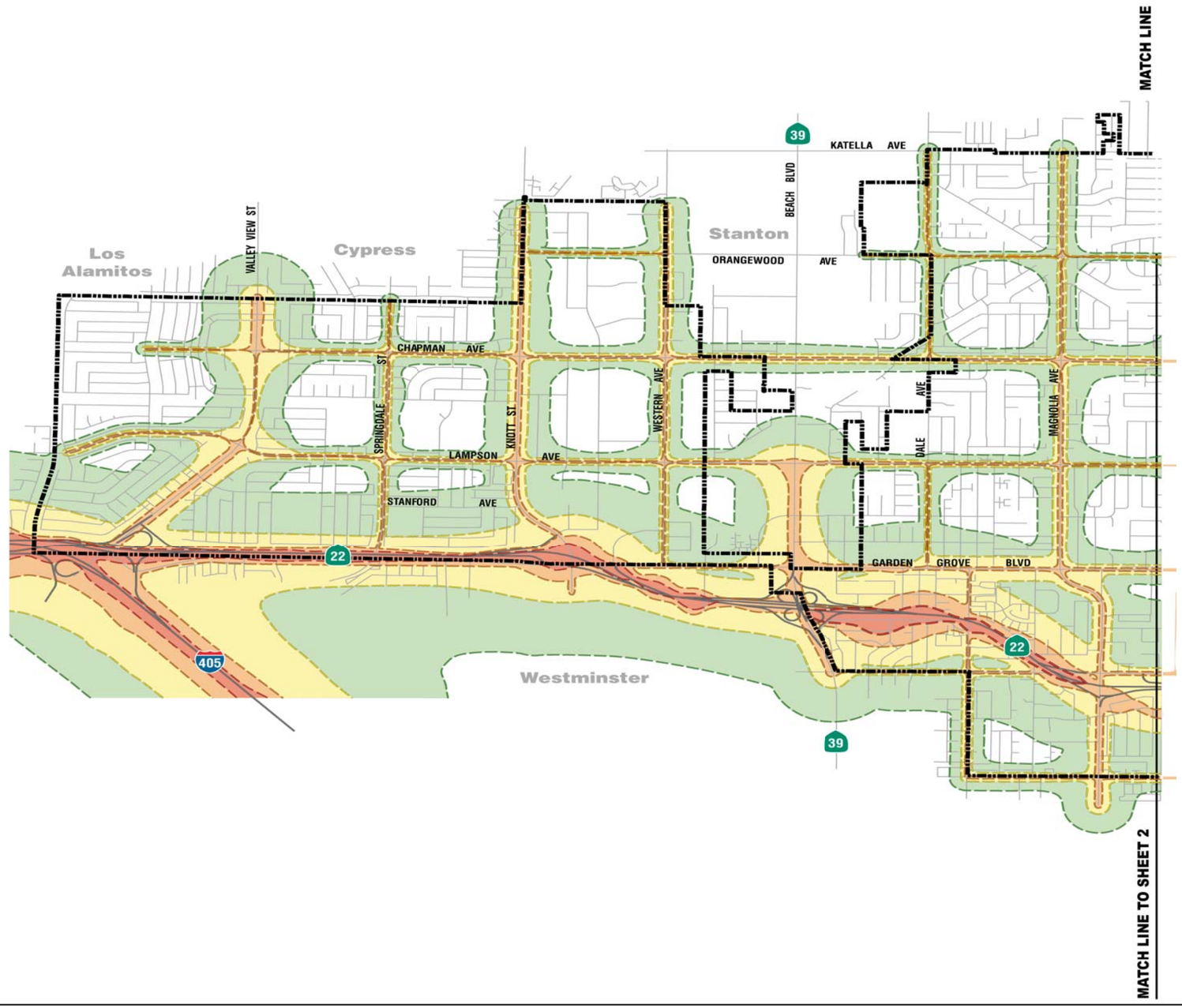
Goal N-5	**Minimize noise impacts on residential areas from rail and/or transit operations.**

Policy N-5.1	Continue to encourage the Southern Pacific Transportation Company to schedule trains during the daylight hours, when possible.
Policy N-5.2	Require noise attenuation measures for residential construction in areas affected by the 65 dBA CNEL railroad noise contour. Sound attenuation measures shall reduce interior noise to a maximum of 45 dBA CNEL. These measures shall be applicable to all residential construction in a railroad noise impact area, both for new structures and for renovations, remodels, and building additions.
Policy N-5.3	Work with the Orange County Transit Authority (OCTA) in the development of the OCTA right-of-way or other rail/transit lines to ensure that noise attenuation measures are addressed in the selection of the rail or vehicle technology for use along the right-of-way or rail/transit line, and in the siting, design, and construction of stations.
N-IMP-5A	Require the Orange County Transit Authority (OCTA) to comprehensively analyze and mitigate the noise impacts associated with transit development of the OCTA right-of-way or other rail/transit lines.

Goal N-6	**Maintain or work to reduce noise levels associated with the Joint Forces Training Base (JFTB) Los Alamitos.**

Policy N-6.1	Coordinate with the Airport Land Use Commission to monitor any expansion plans and/or increased activities at the Joint Forces Training Base (JFTB) Los Alamitos.

N-IMP-6A	Support development at the Joint Forces Training Base (JFTB) Los Alamitos that adheres to the Airport Environs Land Use Plan (AELUP) and the City of Garden Grove and State noise requirements or ordinances.



General Plan 2030

LEGEND

- Major Streets
- Freeway
- City Boundary
- Existing 75 CNEL
- Existing 70 CNEL
- Existing 65 CNEL
- Existing 60 CNEL

0 2250'
APPROXIMATE

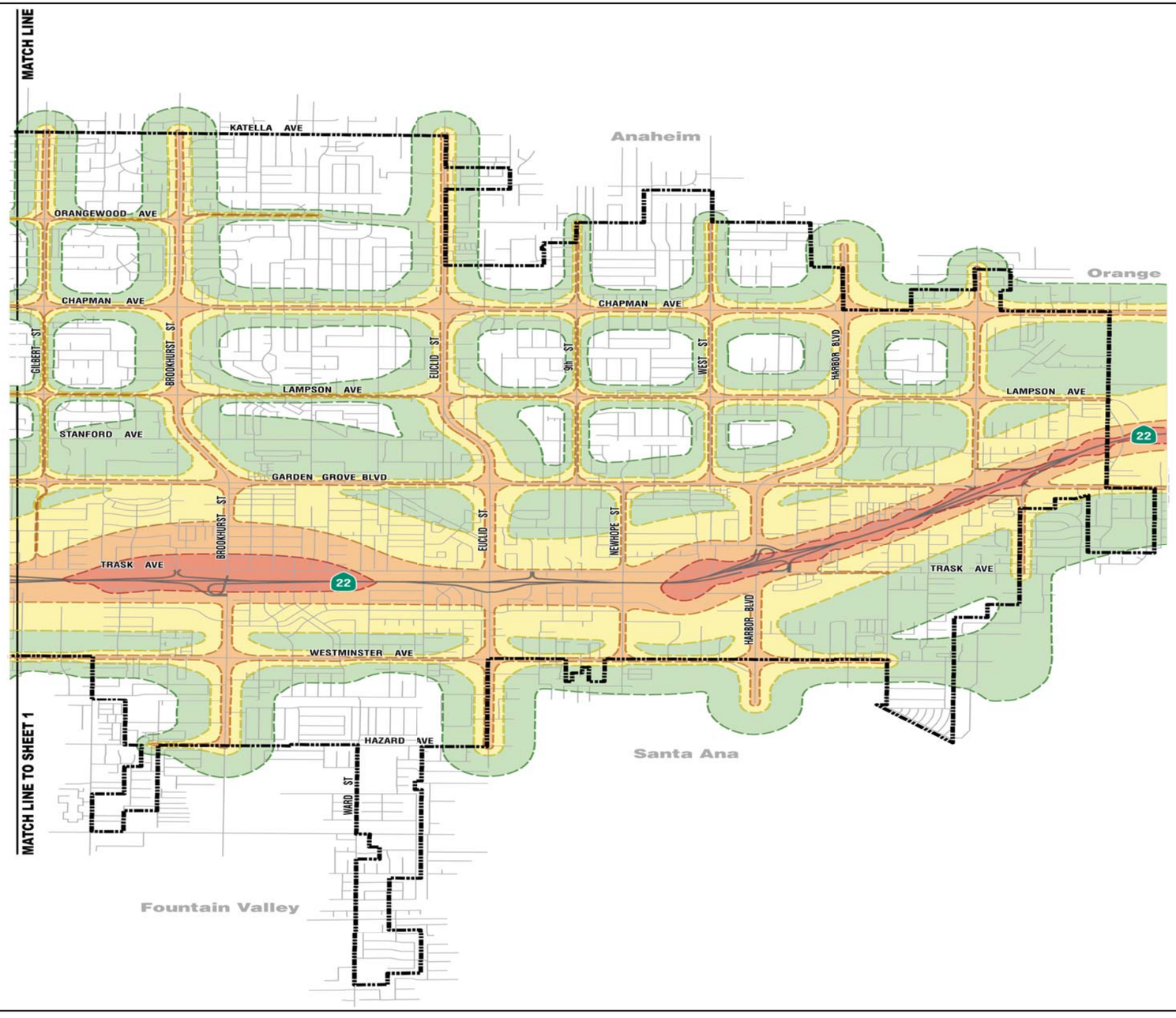
SOURCE: RBF Consulting, May 2008.

RBF CONSULTING

05/08 • JN 10-104660

Existing Noise Contours • West

EXHIBIT N-1A



General Plan 2030

LEGEND

- Major Streets
- Freeway
- City Boundary
- Existing 75 CNEL
- Existing 70 CNEL
- Existing 65 CNEL
- Existing 60 CNEL

0 2250'
APPROXIMATE

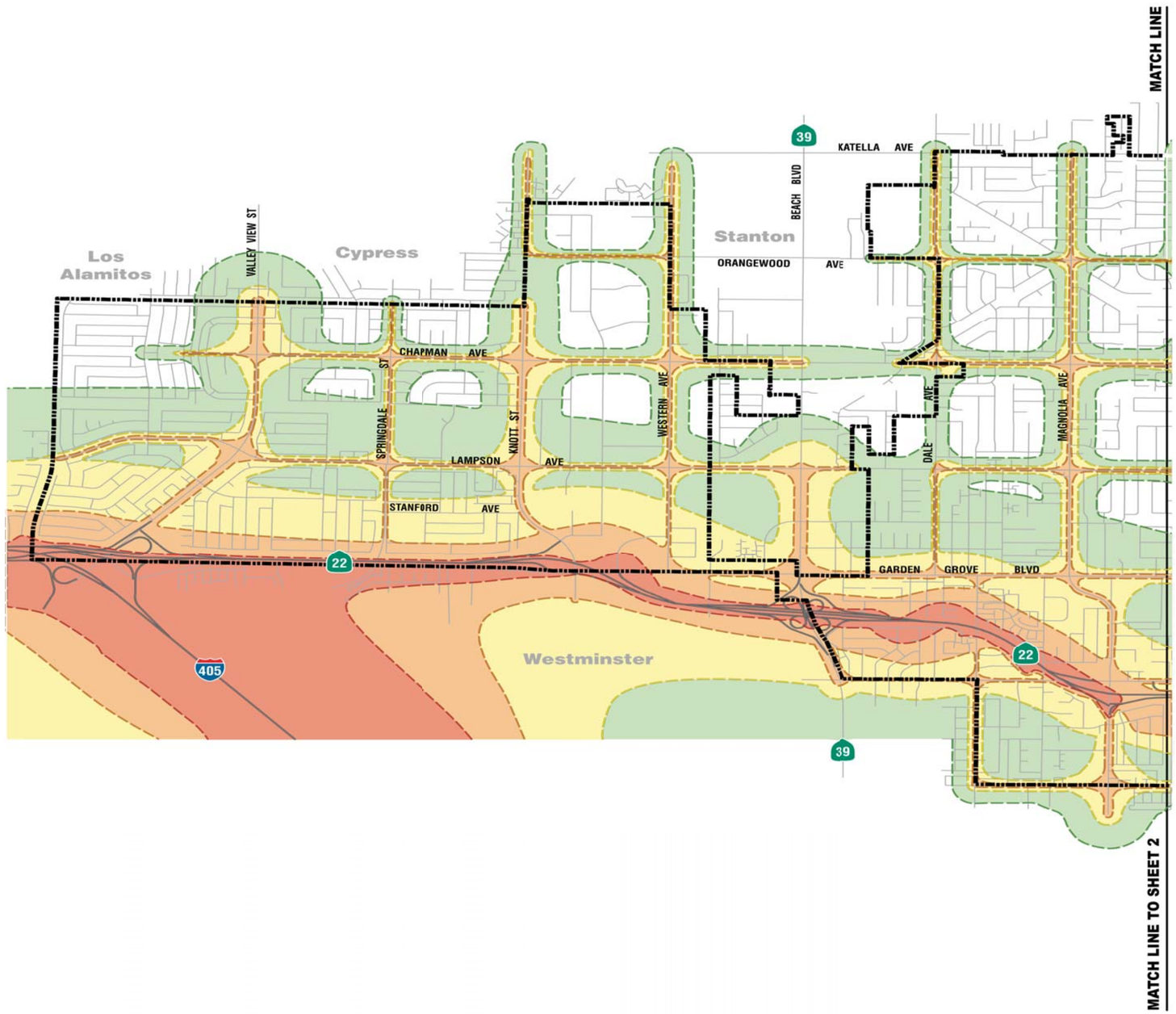
SOURCE: RBF Consulting.

RBF CONSULTING

05/08 • JN 10-104660

Existing Noise Contours • East

EXHIBIT N-1B



General Plan 2030

LEGEND

- Major Streets
- Freeway
- City Boundary
- Existing 75 CNEL
- Existing 70 CNEL
- Existing 65 CNEL
- Existing 60 CNEL

0 2250'
APPROXIMATE

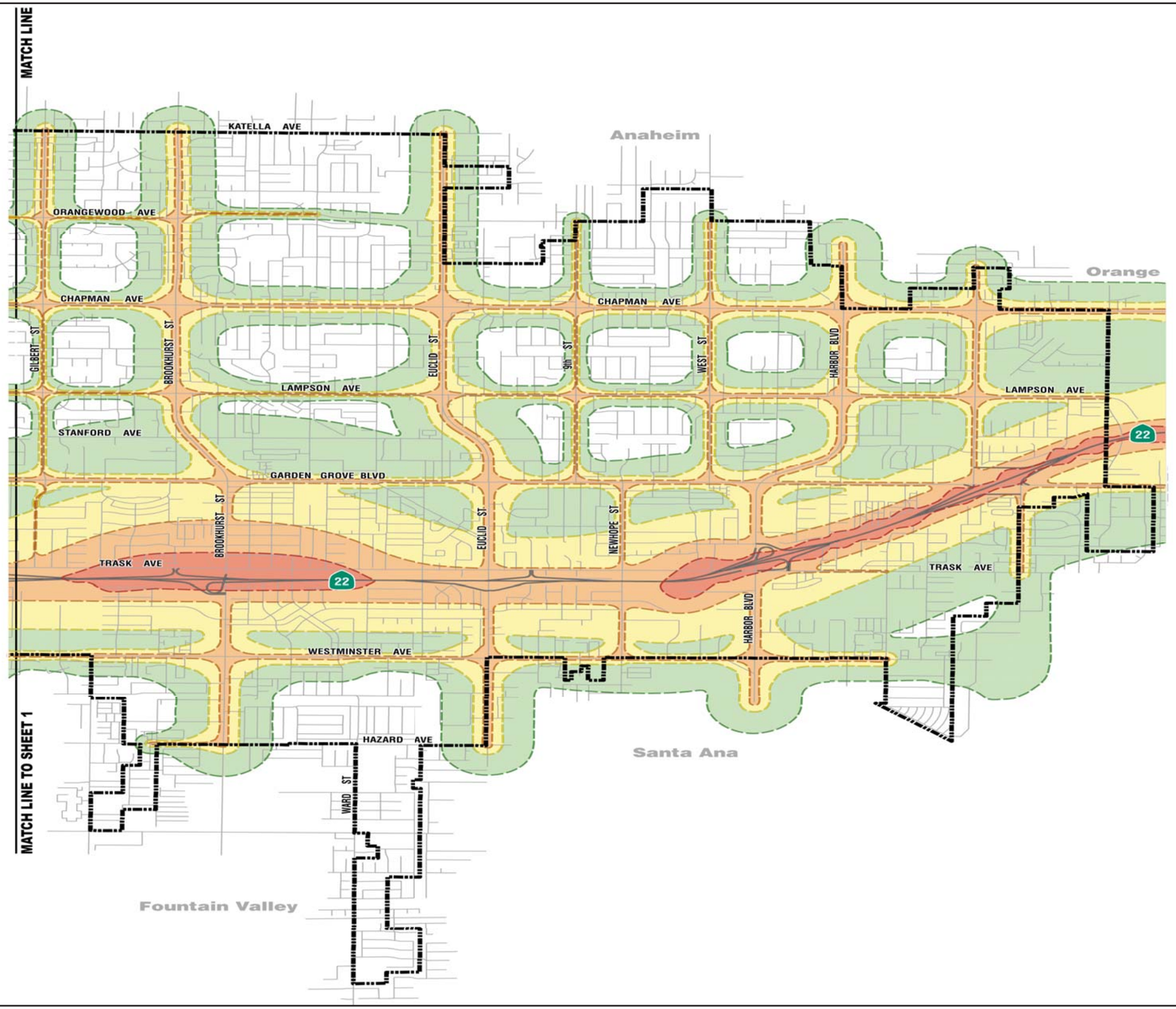
SOURCE: RBF Consulting, May 2008.

RBF CONSULTING

05/08 • JN 10-104660

FUTURE NOISE CONTOURS • WEST

EXHIBIT N-2A



General Plan 2030

LEGEND

- Major Streets
- Freeway
- City Boundary
- Existing 75 CNEL
- Existing 70 CNEL
- Existing 65 CNEL
- Existing 60 CNEL

0 2250'
APPROXIMATE

SOURCE: RBF Consulting.

RBF CONSULTING

05/08 • JN 10-104660

Future Noise Contours • East

EXHIBIT N-2B

Chapter 8.47 NOISE CONTROL

Note

* **Prior ordinance history**: Ord. Nos. 1949, 1950, and 2258.

8.47.020 Definitions

The following words, phrases, and terms as used in this chapter shall have the meaning as indicated below:

"Actual measured ambient noise level" shall mean that noise level existing in the general area of the noise problem, excluding the noise generated by the noise source being evaluated.

"Ambient base noise level" shall mean the maximum loudness level normally found to be acceptable for given land uses and that serves as the basis for determining loudness noise violations pursuant to the provisions of Section 8.48.040 of this chapter.

"Ambient noise level" shall mean the all-encompassing background noise associated with a given environment, being usually a composite of sounds from many sources near and far.

"Commercial use" shall mean any enterprise whose principal endeavor is the sale of goods and/or services.

"Decibel (dB)" shall mean a unit that denotes the ratio between two quantities that are proportional to power: the number of decibels corresponding to the ratio of two amounts of power is 10 times the logarithm to the base 10 of this ratio. The commonly used unit for measuring sound pressure levels.

"Emergency" means operations made necessary to restore property to a safe condition following a public calamity, or work required to protect persons or property from an imminent exposure to danger or work by private or public utilities when restoring utility service.

"Industrial use" means any facility or operations involved in the manufacturing, repairing, testing, processing, warehousing, wholesaling, researching, and treatment of products.

"Institutional use" means an establishment maintained and operated by a society, church, corporation, individual, foundation, or public agency for the purpose of providing religious, charitable, social, educational, fraternal, or similar services.

"Noise" means any sound that exceeds the appropriate actual or presumed ambient noise level, that annoys or tends to disturb humans, or that causes or tends to cause an adverse psychological or physiological effect on humans of normal sensitiveness.

"Office-professional use" means any enterprise engaged in providing business or professional services.

"Residential use" means any structure utilized principally for human habitation, excluding hotels, motels, and recreational vehicle parks.

"Sound amplifying equipment" means any device for the amplification of the human voice, music, or any other sound and does not include standard automobile radios when used and heard only by the occupants of the vehicle in which the automobile radio is installed or devices on authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes.

"Sound level in decibels (dB)" means the sound measured utilizing the A-weighting scale and the slow needle response by a sound level meter.

"Sound level meter" means an instrument meeting American National Standard Institutes Standard S1.4-1971 for Type 1 or Type 2 sound level meters or an equivalent standard. (2802 § 1, 2011; 2660 § 2, 2005)

8.47.030 Noise Level Measurement

All noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter as defined in Section 8.47.020, using a fast needle response, utilizing the dB(A) scale. (2802 § 1, 2011; 2660 § 2, 2005)

8.47.040 Ambient Base Noise Levels

The ambient base noise levels contained in the following chart shall be utilized as the basis for determining noise levels in excess of those allowed by this chapter unless the actual measured ambient noise level occurring at the same time as the noise under review is being investigated exceeds the ambient base noise level contained in the chart. When the actual measured ambient noise level exceeds the ambient base noise level, the actual measured ambient noise level shall be utilized as the basis for determining whether or not the subject noise exceeds the level allowed by this section. In situations where two adjoining properties exist within two different use designations, the most restrictive ambient base noise level will apply. This section permits any noise level that does not exceed either the ambient base noise level or the actual measured ambient noise level by 5 dB(A), as measured at the property line of the noise generation property.

USE CATEGORIES	USE DESIGNATIONS	AMBIENT BASE NOISE LEVELS	TIME OF DAY
Sensitive	Residential Use	55 dB(A)	7:00 a.m.—10:00 p.m.
		50 dB(A)	10:00 p.m.—7:00 a.m.
Conditionally Sensitive	Institutional Use	65 dB(A)	Any Time
	Office-Professional Use	65 dB(A)	Any Time
	Hotels & Motels	65 dB(A)	Any Time
Non-Sensitive	Commercial Uses	70 dB(A)	Any Time
	Commercial/ Industrial Uses within 150 feet of Residential	65 dB(A)	7:00 a.m.—10:00 p.m.
		50 dB(A)	10:00 p.m.—7:00 a.m.
	Industrial Use	70 dB(A)	Any Time

(2802 § 1, 2011; 2660 § 2, 2005)

8.47.050 General Noise Regulation

A. NOISE DISTURBANCE CRITERIA. It shall be unlawful for any person to willfully make, continue, or cause to be made or continued, any loud, unnecessary, or unusual noise that disturbs the peace or quiet of any neighborhood, or that causes discomfort or annoyance to any person of normal sensitiveness.

B. The criteria that shall be utilized in determining whether a violation of the provisions of this section exists shall include, but not be limited to, the following:

1. The level of the noise.
2. The frequency of occurrence of the noise.
3. Whether the nature of the noise is usual or unusual.
4. The level and intensity of the background noise, if any.
5. The proximity of the noise to residential sleeping facilities.
6. The nature and zoning of the area within which the noise emanates.

7. The density of the inhabitation of the area within which the noise is received.

8. The time of day or night the noise occurs.

9. The duration of the noise.

C. DURATION OF NOISE. The following criteria shall be used whenever the noise level exceeds:

1. The noise standard for a cumulative period of more than 30 minutes in any hour;

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

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

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

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

D. In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. (2802 § 1, 2011; 2660 § 2, 2005)

8.47.060 Special Noise Sources

A. RADIOS, TELEVISION SETS, AND SIMILAR DEVICES.

1. USE RESTRICTED. It shall be unlawful for any person within any residential area of the City to use or operate any radio receiving set, musical instrument, stereo equipment, television set, or other machine or device for the producing or reproducing of sound between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day in such a manner as to disturb the peace, quiet, and comfort of any person of normal sensitiveness residing in the area, as determined utilizing the criteria established in Section 8.47.050(A).

2. PRIMA FACIE VIOLATION. Any noise level exceeding the ambient base level at the property line of any property (or, if a condominium or apartment house, within any adjoining apartment) by more than five decibels shall be deemed to be prima facie evidence of a violation of the provisions of this section.

B. MUSICAL INSTRUMENTS—USE RESTRICTED. It shall be unlawful for any person to use any drum or other instrument or device of any kind for the purpose of attracting attention by the creation of noise within the City. This section shall not apply to any person who is a participant in a duly licensed parade or who has been otherwise duly authorized to engage in such conduct.

C. MACHINERY, EQUIPMENT, FANS, AND AIR CONDITIONING. It shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise that would cause the noise level at the property line of any property to exceed either the ambient base noise level or the actual measured ambient noise level by more than five decibels.

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

E. VEHICLE REPAIRS. It shall be unlawful for any person within any residential area of the City to repair, rebuild, or test any motor vehicle in such a manner that a person of normal sensitiveness residing in the area is caused discomfort or annoyance, as determined utilizing the criteria established in Section 8.47.050, unless such operations are of an emergency nature.

F. MOTOR DRIVEN VEHICLES. It shall be unlawful for any person to operate any motor driven vehicle within the City in such a manner that a person of normal sensitiveness residing in the area is caused discomfort or annoyance, as determined utilizing the criteria established in Section 8.47.050(B), unless such operations are of an emergency nature;

provided, however, any such vehicle that is operated upon any public highway, street, or right-of-way shall be excluded from the provisions of this section.

G. AMPLIFIED SOUND.

1. PURPOSE. While recognizing the constitutional rights of freedom of speech and assembly, the City nevertheless feels obligated to reasonably regulate the use of sound amplifying equipment in order to protect the rights of the citizens of the City to privacy and freedom from excessively loud and unnecessary noise.

2. REGISTRATION. It shall be unlawful for any person, other than personnel of law enforcement or governmental agencies, to install, use, or operate within the City a loudspeaker or sound amplifying equipment mounted upon any vehicle for the purposes of warnings, giving instructions, directions, talks, addresses, lectures, or transmitting music to any persons or assemblages of persons without first filing a registration statement at least seven days prior to the date on which the sound amplifying equipment is intended to be used and obtaining approval from the Zoning Administrator.

3. APPROVAL. The Zoning Administrator shall return to the applicant an approved copy of the registration statement unless he or she finds that:

a. The conditions of the motor vehicle movement are such that use of the equipment would constitute a detriment to traffic safety; or

b. The conditions of pedestrian movement are such that use of the equipment would constitute a detriment to traffic safety.

4. DISAPPROVAL. In the event the registration statement is disapproved, the Zoning Administrator shall endorse upon the statement the reason for disapproval and return it to the applicant.

5. APPEALS. Any decision by the Zoning Administrator may be appealed to the City Council within seven days of action of the Zoning Administrator by filing a notice of appeal with the City Clerk.

H. WASTE HAULERS/COMMERCIAL SWEEPERS AND LEAF BLOWERS. It shall be unlawful for any person within any commercial, industrial, or office complex area of the City to operate any refuse compacting, processing or collection vehicle, parking lot sweeper or leaf blower within 150 feet of residential property between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day.

I. LOADING/UNLOADING. It shall be unlawful for any person in any commercial or industrial area of the City that abuts or is located adjacent to any residential property between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day to load or unload any vehicle, or operate any dollies, carts, forklifts, or other wheeled equipment that causes any noise that disturbs the peace or quiet of the residential neighborhood. (2802 § 1, 2011; 2660 § 2, 2005)

8.47.070 Exemptions

A. EMERGENCY ACTIVITIES. The provisions of this chapter shall not preclude the operation, maintenance, and repair of equipment, apparatus, or facilities of essential public services, including those of governmental agencies and public utilities providing those activities are of an emergency nature or are necessary to maintain the health, safety, and welfare of the citizenry.

B. COMMUNITY ACTIVITIES. Community events, as described in Section 8.08.060 of the Municipal Code, outdoor gatherings, school bands, dances, shows, and athletic events are hereby exempted from the provisions of this chapter provided such activities are conducted pursuant to a duly authorized license or permit.

C. STATE AND FEDERAL PREEMPTIONS. Motor vehicle and aircraft operations and any other activity whose regulation has been preempted by state or federal law is hereby exempted from the provisions of this chapter. (2802 § 1, 2011; 2660 § 2, 2005)

8.47.080 Abatement

The City Manager or his or her designee and his or her duly authorized representatives are hereby directed to enforce the provisions of this chapter by requiring that the alleged offender correct violations and achieve compliance with the provisions of this chapter within a reasonable period of time.

A. The City Manager or his or her designee shall have the power and duty to enforce the following noise control provisions of this Code: Section 8.47.050, Section 8.47.060(A)(2), (C), (H), and (I).

B. The Police Department shall have the power and duty to enforce the following noise control provisions of this Code: Section 8.47.060 (A)(1), (B), (E), (F), (G)(1) and (2).

C. The Building Official shall have the power and duty to enforce the following noise control provisions of this Code: Section 8.47.060(D). (2802 § 1, 2011; 2660 § 2, 2005)

Appendix B

Field Data and Photos

Field Sheet

Project: Choisser Apartment Noise Impact Study **Engineer:** D. Shivaiah

Date: 3/31/2022
JN: 2250-2021-04

Measurement Address: 12241 Choisser Road, Garden Grove, CA 92840
City: Garden Grove
Site No.: 1

Sound Level Meter:
Piccolo II
Serial # P0218042101
Serial # P0218092808
Serial # P0221010801
Serial # P0221010802

Calibrator:
CA114 Sound Calibrator
Serial # 500732

Calibration Record:

	Input, dB/	Cali. Date	Time
1	94.0	03/30/2022	1:00 PM
2	94.0		
3	94.0		
4	94.0		

Notes:

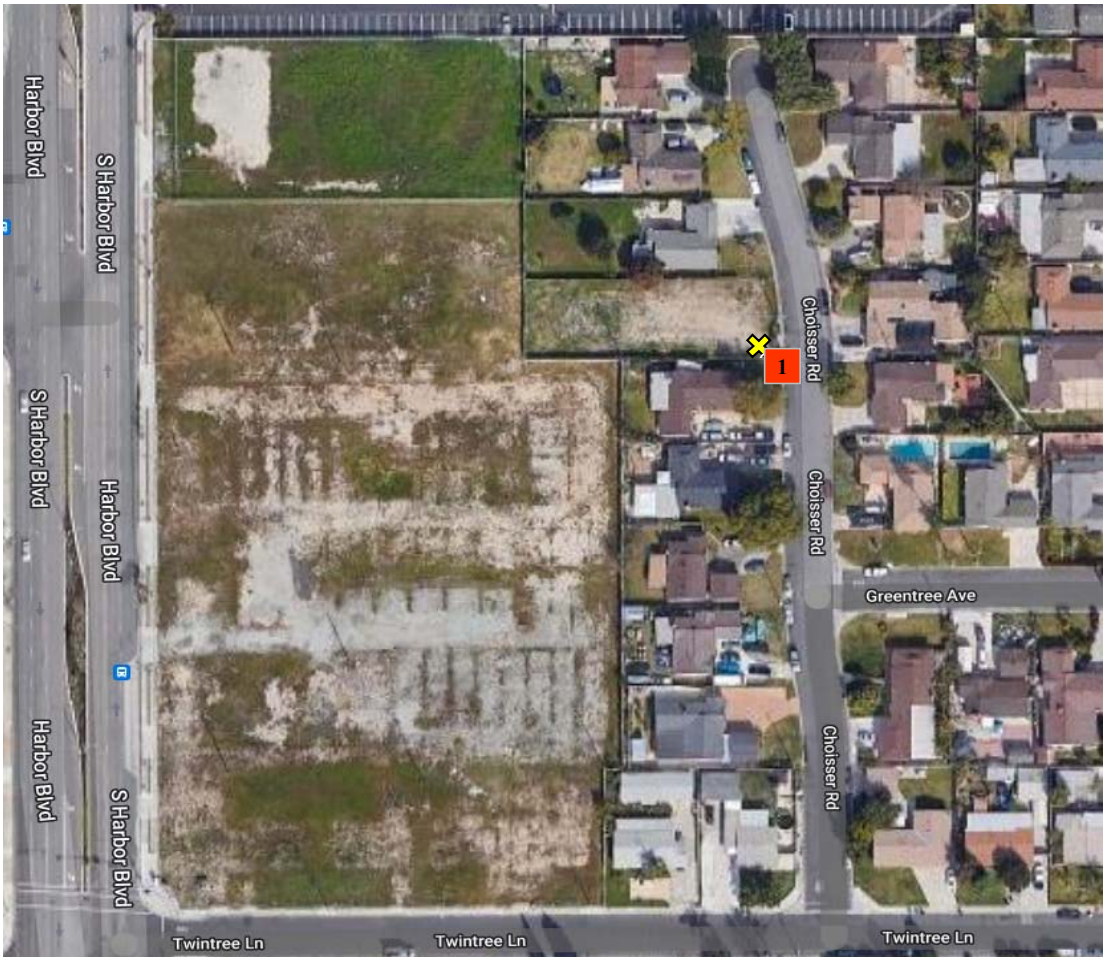
Temp: 74
Windspeed: 11 MPH
Direction: SW
Skies: Clear
Camera:
Photo Nos.

Meter Settings:

☒ A-WTD ☐ LINEAR ☒ SLOW ☐ 1/1 OCT ☒ INTERVALS ___60____- MINUTE
☐ C-WTD ☐ IMPULSE ☐ FAST ☐ 1/3 OCT ☒ L_N PERCENTILE VALUES

Notes:

Measurement Type:
Long-term X
Short-term



RK engineering group, inc.

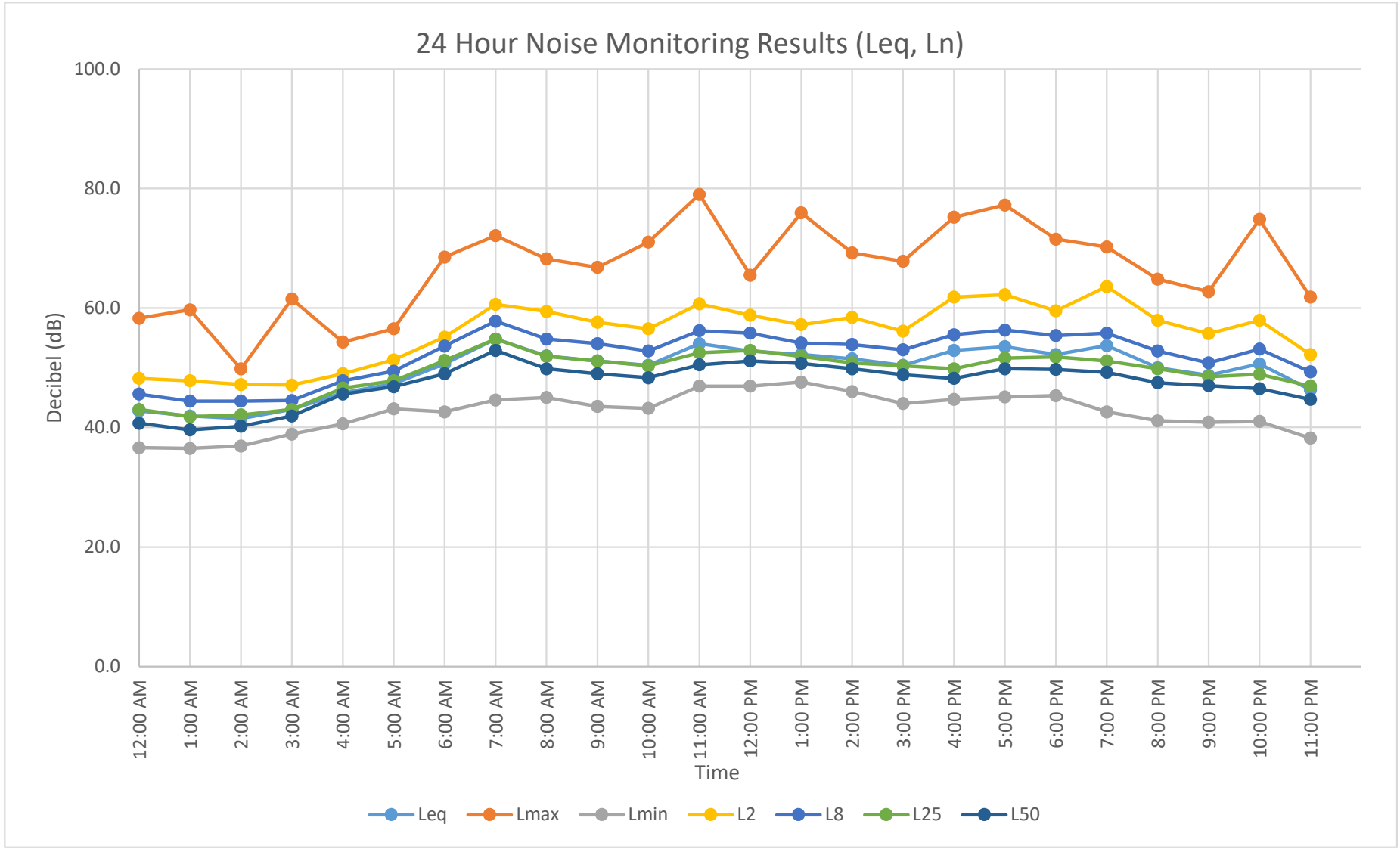
Field Sheet - Noise Monitoring Location Photos

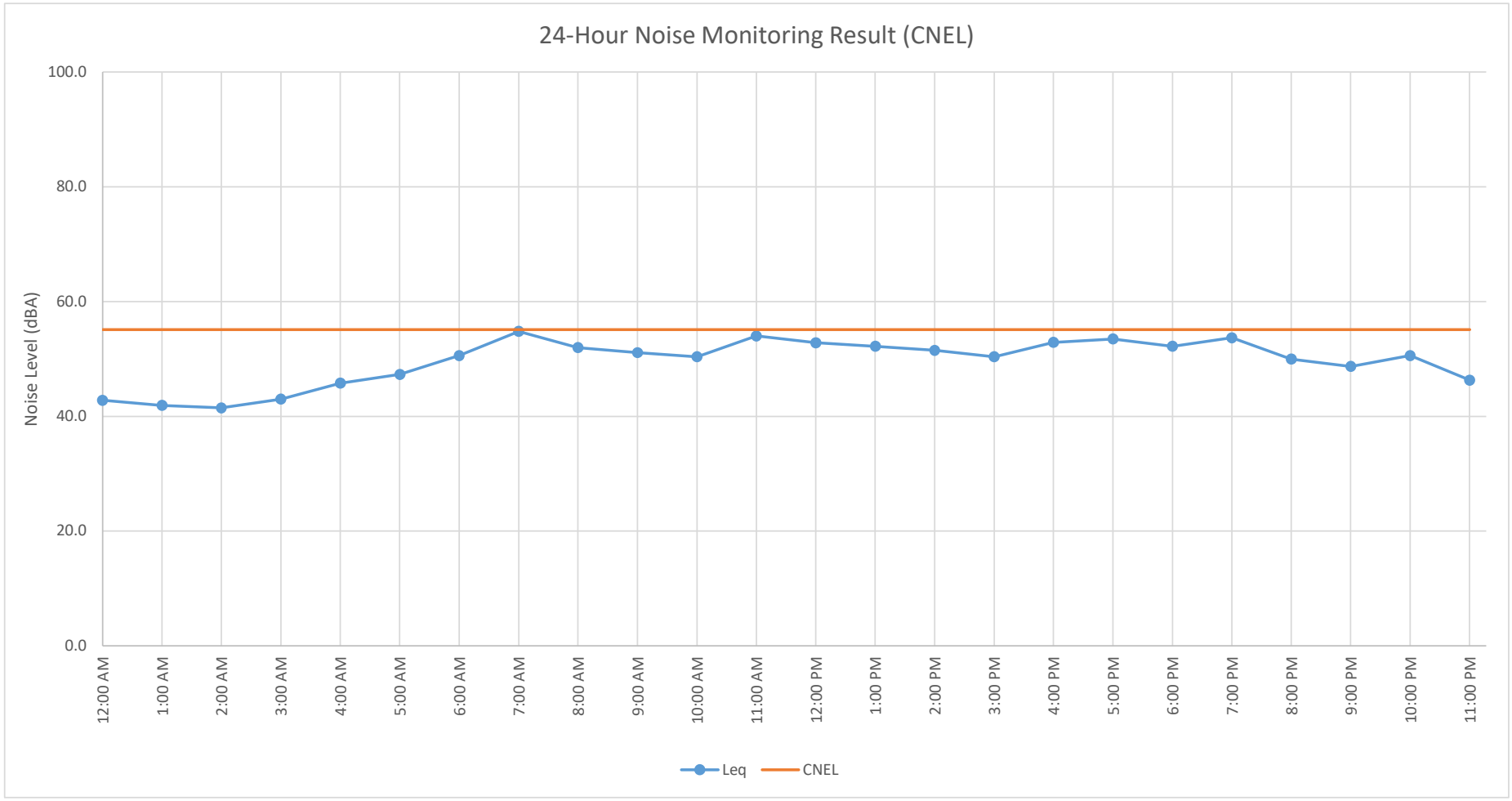
Project: Choisser Apartment Noise Impact Study	**Engineer:** D. Shivaiah	**Date:**	4/5/2022
		JN:	2250-2021-04
Measurement Address:	**City:** Garden Grove	**Site No.:**	1

Long-term noise monitoring was taken along the eastern property line approximately 10 feet from the southern property line.

RK engineering group, inc.

PROJECT:	Choisser Apartment Noise Impact Study					JOB #:	2250-2021-04
NOISE METER	Piccolo II SLM, 24-Hour Measurement					DATE:	03/31/2022
LOCATION:	Long-term noise monitoring was taken along the eastern property line approximately 10 feet from the southern property line.					BY:	D. Shivaiah
Time	Leq	Lmax	Lmin	L2	L8	L25	L50
12:00 AM	42.8	58.3	36.6	48.2	45.6	43.0	40.7
1:00 AM	41.9	59.7	36.5	47.8	44.4	41.8	39.6
2:00 AM	41.5	49.8	36.9	47.2	44.4	42.1	40.2
3:00 AM	43.0	61.5	38.9	47.1	44.5	43.0	41.9
4:00 AM	45.8	54.3	40.6	49.0	47.8	46.6	45.6
5:00 AM	47.3	56.5	43.1	51.3	49.4	47.8	46.8
6:00 AM	50.6	68.5	42.6	55.1	53.6	51.2	49.0
7:00 AM	54.8	72.1	44.6	60.6	57.8	54.8	52.9
8:00 AM	52.0	68.2	45.0	59.4	54.8	51.9	49.8
9:00 AM	51.1	66.8	43.5	57.6	54.0	51.1	49.0
10:00 AM	50.4	71.0	43.2	56.5	52.8	50.3	48.3
11:00 AM	54.0	79.0	46.9	60.7	56.2	52.5	50.5
12:00 PM	52.8	65.5	46.9	58.8	55.8	52.9	51.1
1:00 PM	52.2	75.9	47.6	57.2	54.1	51.9	50.7
2:00 PM	51.5	69.2	46.0	58.4	53.9	50.8	49.8
3:00 PM	50.4	67.8	44.0	56.1	53.0	50.3	48.8
4:00 PM	52.9	75.2	44.7	61.8	55.5	49.8	48.2
5:00 PM	53.5	77.2	45.1	62.2	56.3	51.6	49.8
6:00 PM	52.2	71.5	45.3	59.5	55.4	51.8	49.7
7:00 PM	53.7	70.2	42.6	63.6	55.8	51.1	49.2
8:00 PM	50.0	64.8	41.1	57.9	52.8	49.8	47.5
9:00 PM	48.7	62.7	40.9	55.7	50.8	48.5	47.0
10:00 PM	50.6	74.8	41.0	57.9	53.1	48.9	46.5
11:00 PM	46.3	61.8	38.2	52.2	49.3	46.9	44.7
Daytime	52.2	79.0	40.9	59.6	54.8	51.4	49.6
Nighttime	46.0	68.5	36.5	50.7	48.6	46.5	44.8


24 Hour Noise Monitoring Results (Leq, Ln)
Decibel (dB)
100.0
80.0
60.0
40.0
20.0
0.0
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
Time
Leq
Lmax
Lmin
L2
L8
L25
L50


24-Hour Noise Monitoring Result (CNEL)
Noise Level (dBA)
100.0
80.0
60.0
40.0
20.0
0.0
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
Leq
CNEL

Appendix C

Stationary Noise Analysis Results

NOISE BARRIER CALCULATIONS - BASED UPON FHWA - RD-77-108

PROJECT:	Choisser Apartment Noise Impact Study	JOB #:	2250-2021-4
SOURCE:	HVAC Unit	DATE:	14-Apr-22
LOCATION:	Nearest Receptor to the South	BY:	D. Shivaiah

NOISE INPUT DATA

OBS DIST=	50.0			
DT WALL=	25.0			
DT W/OB=	25.0			
HTH WALL=	66.5	********		
BARRIER =	0.0	(0=WALL,1=BERM)		
OBS HTH=	5.0			
NOISE HTH=	63.0		BARRIER+	
OBS EL =	0.0		TOPO SHIELDING =	-18.30
NOISE EL =	0.0		NOISE HTH EL=	63.0
DROP-OFF=	10.0	(20 = 6 dBA PER DOUBLING OF DISTANCE)		
COFF				

NOISE OUTPUT DATA (dBA)

	DIST (FT)	Leq	Lmax	L2	L8	L25	L50
REF LEVEL	3	77.0					
PROJ LEVEL	50	64.8	-12.2	-12.2	-12.2	-12.2	-12.2
SHIELDING	50	-18.3	-18.3	-18.3	-18.3	-18.3	-18.3
ADJ LEVEL	50	***46.5***	***-30.5***	***-30.5***	***-30.5***	***-30.5***	***-30.5***

NOISE LEVEL REDUCTION DUE TO DISTANCE = -12.2184875

NOISE BARRIER CALCULATIONS - BASED UPON FHWA - RD-77-108

PROJECT:	Choisser Apartment Noise Impact Study	JOB #:	2250-2021-4
SOURCE:	HVAC Unit	DATE:	14-Apr-22
LOCATION:	Nearest Receptor to the East	BY:	D. Shivaiah

NOISE INPUT DATA

OBS DIST=	85.0			
DT WALL=	25.0			
DT W/OB=	60.0			
HTH WALL=	66.5	********		
BARRIER =	0.0	(0=WALL,1=BERM)		
OBS HTH=	5.0			
NOISE HTH=	63.0		BARRIER+	
OBS EL =	0.0		TOPO SHIELDING =	-16.60
NOISE EL =	0.0		NOISE HTH EL=	63.0
DROP-OFF=	10.0	(20 = 6 dBA PER DOUBLING OF DISTANCE)		
COFF				

NOISE OUTPUT DATA (dBA)

	DIST (FT)	Leq	Lmax	L2	L8	L25	L50
REF LEVEL	3	77.0					
PROJ LEVEL	85	62.5	-14.5	-14.5	-14.5	-14.5	-14.5
SHIELDING	85	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6
ADJ LEVEL	85	***45.9***	***-31.1***	***-31.1***	***-31.1***	***-31.1***	***-31.1***

NOISE LEVEL REDUCTION DUE TO DISTANCE = -14.5229767

NOISE BARRIER CALCULATIONS - BASED UPON FHWA - RD-77-108

PROJECT:	Choisser Apartment Noise Impact Study	JOB #:	2250-2021-4
SOURCE:	PARKING LOT	DATE:	19-Apr-22
LOCATION:	Nearest Receptor to the East	BY:	D. Shivaiah

NOISE INPUT DATA

OBS DIST=	60.0			
DT WALL=	0.0			
DT W/OB=	60.0			
HTH WALL=	0.0	********		
BARRIER =	0.0	(0=WALL,1=BERM)		
OBS HTH=	5.0			
NOISE HTH=	3.0		BARRIER+	
OBS EL =	0.0		TOPO SHIELDING =	0.00
NOISE EL =	0.0		NOISE HTH EL=	3.0
DROP-OFF=	20.0	(20 = 6 dBA PER DOUBLING OF DISTANCE)		
COFF				

NOISE OUTPUT DATA (dBA)

	DIST (FT)	Leq	Lmax	L2	L8	L25	L50
REF LEVEL	6	63.8					
PROJ LEVEL	60	43.8	-20.0	-20.0	-20.0	-20.0	-20.0
SHIELDING	60	0.0	0.0	0.0	0.0	0.0	0.0
ADJ LEVEL	60	***43.8***	***-20.0***	***-20.0***	***-20.0***	***-20.0***	***-20.0***

NOISE LEVEL REDUCTION DUE TO DISTANCE = -20

Appendix D

Construction Noise and Vibration
Analysis Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/30/2022
Case Description: Choisser Apartment Noise Study

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Site Preparation	Residential	80	80	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		50	0
Tractor	No	40	84		50	0

Results

Calculated (dBA)

Equipment	*Lmax	Leq
Grader	85	81
Tractor	84	80
Total	85	83.6

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/30/2022
Case Description: Choisser Apartment Noise Study

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Grading	Residential	80	80	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		50	0
Dozer	No	40		81.7	50	0
Grader	No	40	85		50	0
Grader	No	40	85		50	0

Results

	Calculated (dBA)	
Equipment	*Lmax	Leq
Grader	85	81
Dozer	81.7	77.7
Grader	85	81
Grader	85	81
Total	85	86.4

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/30/2022
Case Description: Choisser Apartment Noise Study

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Building Construction	Residential	80	80	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	50	0
Pickup Truck	No	40		75	50	0
Welder / Torch	No	40		74	50	0
Pickup Truck	No	40		75	50	0
Welder / Torch	No	40		74	50	0

Results

	Calculated (dBA)	
Equipment	*Lmax	Leq
Crane	80.6	72.6
Pickup Truck	75	71
Welder / Torch	74	70
Pickup Truck	75	71
Welder / Torch	74	70
Total	80.6	78

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/30/2022
Case Description: Choisser Apartment Noise Study

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Paving	Residential	80	80	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0
Concrete Mixer Truck	No	40		78.8	50	0
Concrete Mixer Truck	No	40		78.8	50	0
Concrete Mixer Truck	No	40		78.8	50	0

Results

		Calculated (dBA)	
Equipment		*Lmax	Leq
Concrete Mixer Truck		78.8	74.8
Paver		77.2	74.2
Roller		80	73
Tractor		84	80
Concrete Mixer Truck		78.8	74.8
Concrete Mixer Truck		78.8	74.8
Concrete Mixer Truck		78.8	74.8
	Total	84	84.3

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/30/2022
Case Description: Choisser Apartment Noise Study

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Architectural Coating	Residential	80	80	45

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40		77.7	50	0

Results

Calculated (dBA)

		*Lmax	Leq
Equipment			
Compressor (air)		77.7	73.7
	Total	77.7	73.7

*Calculated Lmax is the Loudest value.

VIBRATION IMPACTS FROM CONSTRUCTION AND OPERATIONS

PROJECT:	Vibration Study	JOB #:	2250-2021-04
ACTIVITY:	Choisser Apartments	DATE:	14-Apr-22
LOCATION:	Receptors at 25 feet	ENGINEER:	Darshan Shivaiah

VIBRATION INPUT/OUTPUT DATA

OTHER CONSTRUCTION EQUIPMENT

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV =	**0.089 in/sec**

Equipment Type =	2	Large Bulldozer
PPV_{ref} =	0.089	Reference PPV at 25 ft.
D =	25.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

EQUIPMENT PPV REFERENCE LEVELS

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

VIBRATION IMPACTS FROM CONSTRUCTION AND OPERATIONS

PROJECT:	Vibration Study	JOB #:	2250-2021-04
ACTIVITY:	Choisser Apartments	DATE:	14-Apr-22
LOCATION:	Receptors at 25 feet	ENGINEER:	Darshan Shivaiah

VIBRATION INPUT/OUTPUT DATA

OTHER CONSTRUCTION EQUIPMENT

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV =	**0.210 in/sec**

Equipment Type =	1	Vibratory Roller
PPV_{ref} =	0.210	Reference PPV at 25 ft.
D =	25.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

EQUIPMENT PPV REFERENCE LEVELS

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

VIBRATION IMPACTS FROM CONSTRUCTION AND OPERATIONS

PROJECT:	Vibration Study	JOB #:	2250-2021-04
ACTIVITY:	Choisser Apartments	DATE:	14-Apr-22
LOCATION:	Receptors at 25 feet	ENGINEER:	Darshan Shivaiah

VIBRATION INPUT/OUTPUT DATA

OTHER CONSTRUCTION EQUIPMENT

$$PPV = PPV_{ref}(25/D)^{n} \text{ (in/sec)}$$

PPV =	**0.076 in/sec**

Equipment Type =	4	Loaded Trucks
PPV_{ref} =	0.076	Reference PPV at 25 ft.
D =	25.00	Distance from Equipment to receiver in ft.
n =	1.10	Vibration attenuation rate through the ground

EQUIPMENT PPV REFERENCE LEVELS

Type	Equipment	Reference PPV
1	Vibratory Roller	0.210
2	Large Bulldozer	0.089
3	Caisson Drilling	0.089
4	Loaded Trucks	0.076
5	Jackhammer	0.035
6	Small Bulldozer	0.003
7	Crack and Seat	2.400

Shade/Shadow Study
for
Choisser Apartments Project

AECOM
999 Town & Country Road
Orange, CA 92868

February 2022

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Section **Page**

LIST OF EXHIBITS

Exhibits **Page**

1.0 PURPOSE OF THE STUDY

The purpose of this Shade/Shadow Study (Study) is to describe the existing shade/shadow conditions at the project site and in the immediate vicinity, as well as analyze the introduction of new sources of shade/shadow associated with the site plan and project description for the Choisser Apartments Project (hereafter referred to as the "proposed project"), as described in further detail below in Section 1.1, Project Description. The information upon which this Study was based was compiled from desktop reconnaissance conducted by AECOM personnel and shade/shadow diagrams prepared by Archilier Architecture for both the existing and proposed conditions.

1.1 PROJECT DESCRIPTION

PROJECT LOCATION

The proposed project is located on four vacant parcels at 12233, 12235, 12237, and 12239 Choisser Road, in the City of Garden Grove, California. Regional access to the project site is provided by State Route 22 (SR-22) and Interstate 5 (I-5). Local access to the project site is currently provided via Harbor Boulevard, Twintree Lane, and Choisser Road. The project site is identified by Assessor's Parcel Numbers (APNs) 231-491-12, through 231-491-15. The project site is located within an urbanized area of the City, and it is generally surrounded by residential, commercial, and hotel uses as well as vacant commercial lots. Commercial uses such as Target shopping center are located just north of the project site. Residential uses are located adjacent to the project site to the northeast, east, and south, and vacant lots are located adjacent to the project site to the west. Hotel uses are located across Harbor Boulevard to the west/northwest, including the Sheraton Garden Grove - Anaheim South, Crown Plaza Resort Hotel Anaheim-Garden Grove Marriott Suites and Homewood Suites. There are also vacant lots located across Harbor Boulevard to the southwest.

PROJECT DESCRIPTION

The proposed project involves the construction of an at-grade, six-story (approximately 70 feet tall) multifamily housing development on an 0.66-acre (28,832-square foot [SF]) site. The ground level of the structure would be used for parking (providing 58 parking spaces, with 10 on-site parking spaces and 48 garage parking spaces) with five stories of residential above. The proposed project includes 53 units (46 units plus 7 bonus density units), which would have a mix of studios, one-bedroom units, two-bedroom units, and three-bedroom units. Of the 53 units, six units would be affordable housing units, where five units would be for very low income and the remaining one unit would be for low-income. The proposed project would have a total buildable area of 88,492 SF, where 7,820 SF would be for recreational uses, including a fitness center and lounge, roof deck lounge with barbeque lounge, private open space balconies for 20 units, and passive recreation area (landscape area).

The project site has a General Plan land use designation of International West Mixed Use (IW) and is zoned as Planned Unit Development (PUD)(C) (PUD-128-12).

2.0 METHODOLOGY

Shading refers to the effect of shadows cast upon adjacent areas by proposed structures. Consequences of shadows upon land uses may be positive, including cooling effects during warm weather, or negative, such as the loss of natural light necessary for solar energy purposes or the loss of warming influences during cool weather. Shadow effects are dependent upon several factors, including the local topography, the height and bulk of the proposed project's structural elements, sensitivity of adjacent land uses, season, and duration of shadow projection. Facilities and operations sensitive to the effects of shading include: routinely useable outdoor spaces associated with residential, recreational, or institutional (e.g., schools, convalescent homes) land uses; commercial uses such as pedestrian-oriented outdoor spaces, hotels with outdoor pools, or restaurants with outdoor eating areas; nurseries; and existing solar collectors. These uses are considered sensitive because sunlight is important to function, physical comfort, or commerce.

In order to identify the proposed project's potential shadow-related impacts, existing and project-generated morning, afternoon, and evening shade patterns were compared for each of the four seasons. Specifically, four dates and time ranges were used for analysis purposes: summer solstice (June 20th, from 9:00 a.m. and 5:00 p.m. Pacific Standard Time [PST]) and winter solstice (December 21st, from 9:00 a.m. and 3:00 p.m. PST), when the sun is at its highest and lowest and point, respectively; and, the spring equinox (March 20th, from 9:00 a.m. and 3:00 p.m. PST) and fall equinox (September 22nd, from 9:00 a.m. and 5:00 p.m. PST), when day and night are of approximately equal length. The shortest shadows are cast during the summer months and the longest shadows are cast during the winter months. The following discussion describes the summer and winter solstices as well as the spring and fall equinoxes phenomenon, local topography, and some general assumptions that affect shadow patterns in the project vicinity.

2.1 SUMMER AND WINTER SOLSTICES

"Solstice" is defined as either of the two points on the ecliptic that lie midway between the equinoxes (separated from them by an angular distance of 90°). At the solstices, the sun's apparent position on the celestial sphere reaches its greatest distance above or below the celestial equator, about 23.5° of the arc. At the time of summer solstice, approximately June 21st, the sun is directly overhead at noon at the Tropic of Cancer. In the Northern Hemisphere, the longest day and shortest night of the year occur on this date, marking the beginning of summer. At winter solstice, approximately December 21st, the sun is overhead at noon at the Tropic of Capricorn; this marks the beginning of winter in the Northern Hemisphere. Measuring shadow lengths for the summer and winter solstices represents the extreme shadow patterns that occur throughout the year. Shadows cast on the summer solstice are the shortest shadows during the year, becoming progressively longer until winter solstice when the shadows are at the longest during the year.

2.2 SPRING AND FALL EQUINOXES

An equinox is the moment when the sun passes over the equator. The event occurs twice a year, approximately March 20th and September 22nd. The equinoxes are the two days each year when the middle of the sun is an equal amount of time above and below the horizon for every location on Earth. In the Northern Hemisphere, the March equinox is known as the vernal equinox and the September equinox is the autumnal equinox. In the Southern Hemisphere, the names are reversed. In practice, at the equinox, the day is longer than the night. The equinoxes can be interpreted as virtual points in the sky. As Earth moves around the sun, the apparent position of the sun relative to the other stars moves in a full circle over the period of a year. This circle is called the ecliptic and is also the plane of Earth's orbit projected against the whole sky. Other bright planets like Venus, Mars, and Saturn also appear to move along the ecliptic, because their orbits are in a similar plane to Earth's. Another virtual circle in the sky is the celestial equator, or the projection of the plane of Earth's equator against the whole sky. Because Earth's axis of rotation is tilted relative to the plane of Earth's orbit around the sun, the celestial equator is inclined to the ecliptic by about 23.5°.

2.3 SHADE/SHADOW DIAGRAMS

The shade/shadow diagrams are composed of a series of three-dimensional (3D) rendered site plans. The site plans consist of the proposed project massing models, as well as the surrounding context and geography. The 3D model was created in Autodesk Revit and merged with an aerial photograph at the project site coordinates to create the model's base. The Autodesk Revit file was then imported into SketchUp where the remainder of the model was built, based on the proposed building heights. Once brought into SketchUp, the 3D model was geolocated, so the correct longitude and latitude were built into the model to ensure accurate shade/shadow analysis. Within SketchUp, the model location, times, and dates were set to render the shadow conditions. Thus, the models illustrate the shadow effects of existing buildings and new building proposed as part of the proposed project. As discussed above, the dates and time ranges used for the analysis were the following: summer solstice (June 20th, from 9:00 a.m. and 5:00 p.m. Pacific Standard Time [PST]) and winter solstice (December 21st, from 9:00 a.m. and 3:00 p.m. PST), when the sun is at its highest and lowest and point, respectively; and, the spring equinox (March 20th, from 9:00 a.m. and 3:00 p.m. PST) and fall equinox (September 22nd, from 9:00 a.m. and 5:00 p.m. PST), when day and night are of approximately equal length.

3.0 EXISTING CONDITIONS

The existing project site encompasses four vacant parcels with a total area of 0.66 acre. These four vacant parcels are disturbed and consist of dirt pads with limited vegetation. The existing site is fenced and not accessible to the public. The previous use was residential and the buildings were demolished between 2018 and 2020.

As mentioned previously, the project site is located within an urbanized area of the City, and it is generally surrounded by residential, commercial, and hotel uses as well as vacant lots, as described below:

- North: Target shopping center and associated parking along with other retail/commercial uses
- South: Residential uses
- East (Across Choisser Road): Residential uses
- West: Vacant lots and further west (across Harbor Boulevard) are hotel uses as well as vacant lots

3.1 CLIMATE

The City climate is usually hot and dry in the summer and has mild winters (City of Garden Grove 2019). Data from the Western Regional Climate Center, from 1906 to 2016, shows the record maximum temperatures were a high of 112 degrees Fahrenheit (°F) (on June14, 1917) and a low of 22°F (on December 31, 1918) (City of Garden Grove 2019). Average summer highs range from the lower to upper 80s. Average winter lows range from the lower to upper 40s. Garden Grove averages 25 days each year with temperatures exceeding 90°F. Annual precipitation averages just over 13 inches in the Garden Grove vicinity; more than 50 percent of the annual precipitation normally occurs from December through February (City of Garden Grove 2019).

3.2 EXISTING SHADE/SHADOW CONDITIONS

Archilier Architecture prepared shade/shadow diagrams for the existing conditions, which are provided in Exhibits 2 through 4 below. Residences adjacent to the project site to the east are highlighted in orange to show the nearest shadow-sensitive uses with the most potential for shade/shadow impacts associated with the proposed project, as shown on Exhibit 1 (Nearest Shadow-Sensitive Uses to the Project Site).

The following describes the existing shadow conditions in the vicinity of the project site during the summer and winter solstices as well as the spring and fall equinoxes.

June 20th. As shown on Exhibit 2 (Existing Condition – Summer Solstice [June 20th] Shadow Simulation), no residences are shaded in the vicinity of the project site between the hours of 9:00 a.m. and 5:00 p.m. PST by existing, adjacent residential structures. Thus, no shadow-sensitive uses in the vicinity of the project site are currently shaded between the hours of 9:00 a.m. and 5:00 p.m. PST by existing, adjacent residential structures.

December 21st. As shown on Exhibit 3 (Existing Condition – Winter Solstice [December 21st] Shadow Simulation), partial shading occurs at eight residences in the vicinity of the project site

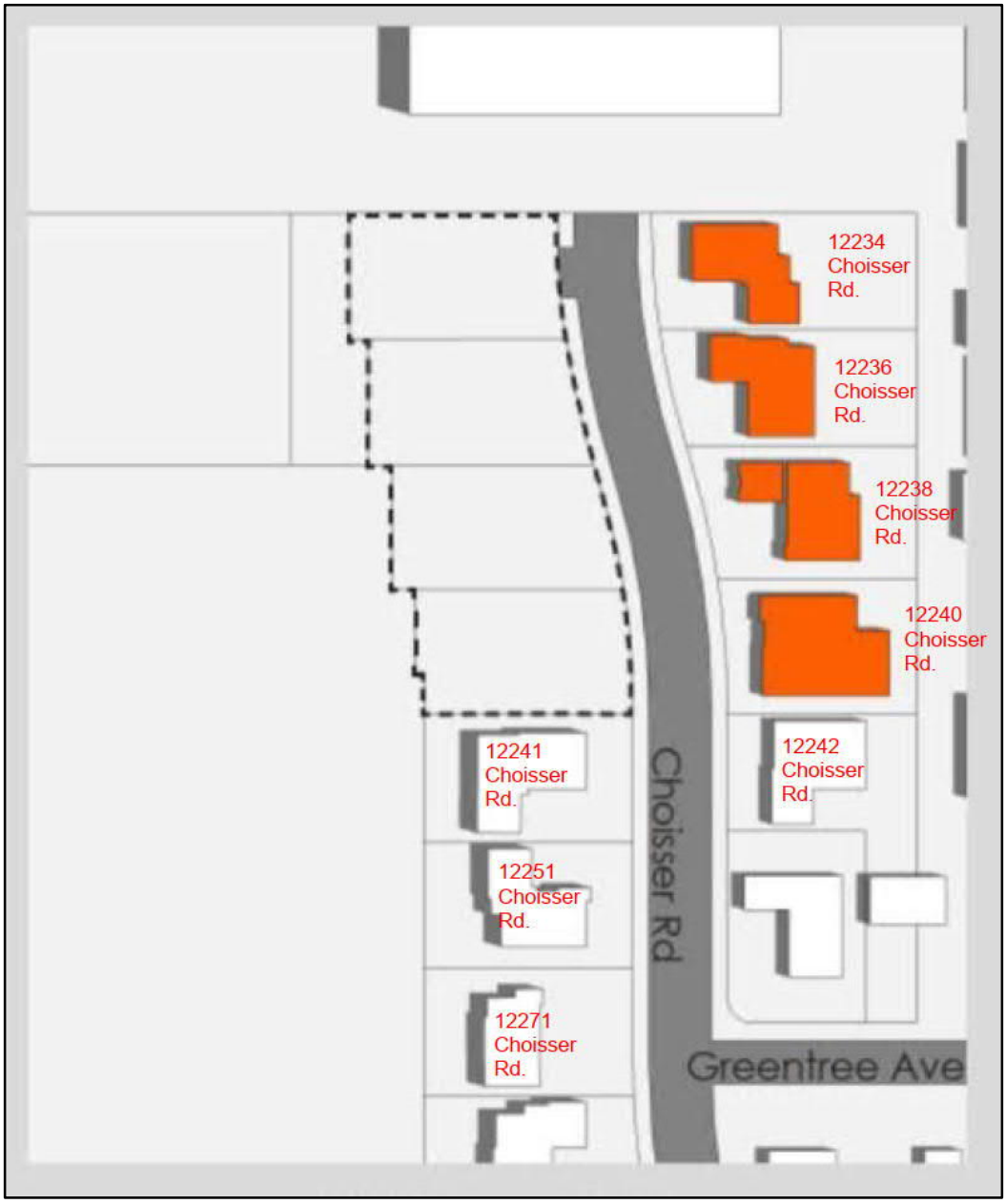


Exhibit 1
Nearest Shadow-Sensitive Uses to the Project Site

February 2022

Shade/Shadow Analysis (Existing Condition)

Summer Solstice (June 20th)

N

Not to Scale

Project Site

Exhibit 2
Existing Condition – Summer Solstice (June 20th) Shadow Simulation

December 2021

Shade/Shadow Analysis (Existing Condition)

Winter Solstice (December 21st)

N

Not to Scale

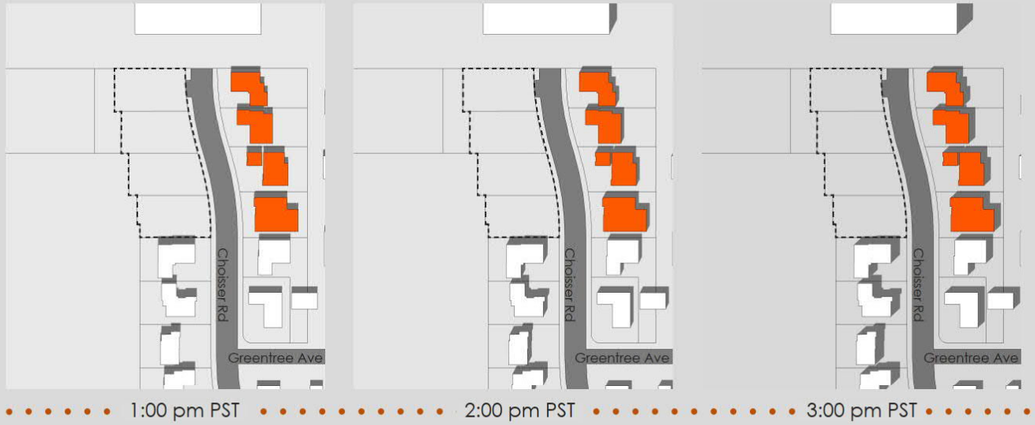
Project Site

Exhibit 3
Existing Condition – Winter Solstice (December 21st) Shadow Simulation

December 2021

Shade/Shadow Analysis (Existing Condition)

Spring Equinox (March 20th)



N

Not to Scale

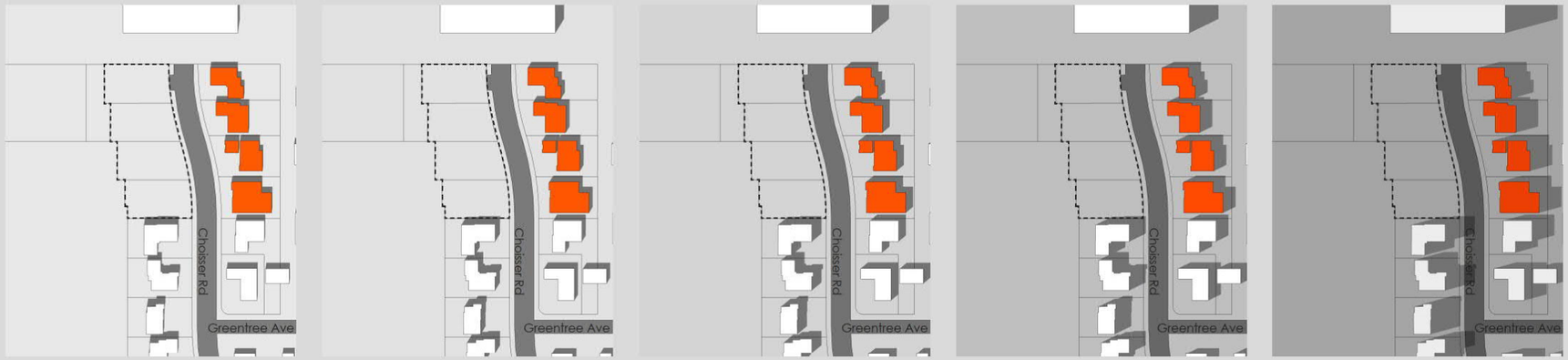
Project Site

Exhibit 4
Existing Condition – Spring Equinox (March 20th) Shadow Simulation

December 2021

Shade/Shadow Analysis (Existing Condition)

Fall Equinox (September 22nd)



N

Not to Scale

Project Site

Exhibit 5
Existing Condition – Fall Equinox (September 22nd) Shadow Simulation

December 2021

between the hours of 9:00 a.m. and 3:00 p.m. PST – specifically, five residences to the east/southeast of the project site (across Choisser Road) at 12234, 12236, 12238, 12240, and 12242 Choisser Road, and three residences to the south of the project site at 12241, 12251, and 12271. Choisser Road by existing, adjacent, residential structures. In summary, shadow-sensitive uses are currently shaded for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. PST by existing, adjacent residential structures.

March 20th. As shown on Exhibit 4 (Existing Condition – Spring Equinox [March 20th] Shadow Simulation), no residences are shaded in the vicinity of the project site between the hours of 9:00 a.m. through 3:00 p.m. PST by existing, adjacent residential structures. Thus, no shadow-sensitive uses in the vicinity of the project site are currently shaded between the hours of 9:00 a.m. and 3:00 p.m. PST by existing, adjacent residential structures.

September 22nd. As shown on Exhibit 5 (Existing Condition – Fall Equinox [September 22nd] Shadow Simulation), no residences are shaded in the vicinity of the project site between the hours of 9:00 a.m. and 5:00 p.m. PST by existing, adjacent residential structures. Thus, no shadow-sensitive uses in the vicinity of the project site are currently shaded between the hours of 9:00 a.m. and 5:00 p.m. PST by existing, adjacent residential structures.

4.0 SHADE/SHADOW ANALYSIS

4.1 THRESHOLDS OF SIGNIFICANCE

A project would have a significant impact if:

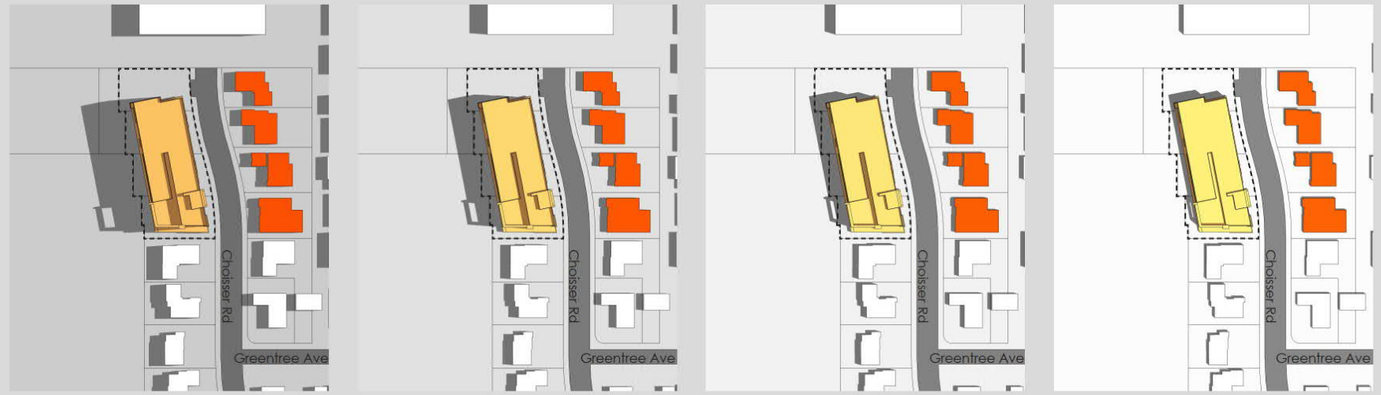
- Shadow-sensitive use areas (where sunlight is important to its function) would be shaded by project-related structures for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. PST (between late October and early April), or for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. PST (between early April and late October), compared to existing conditions.

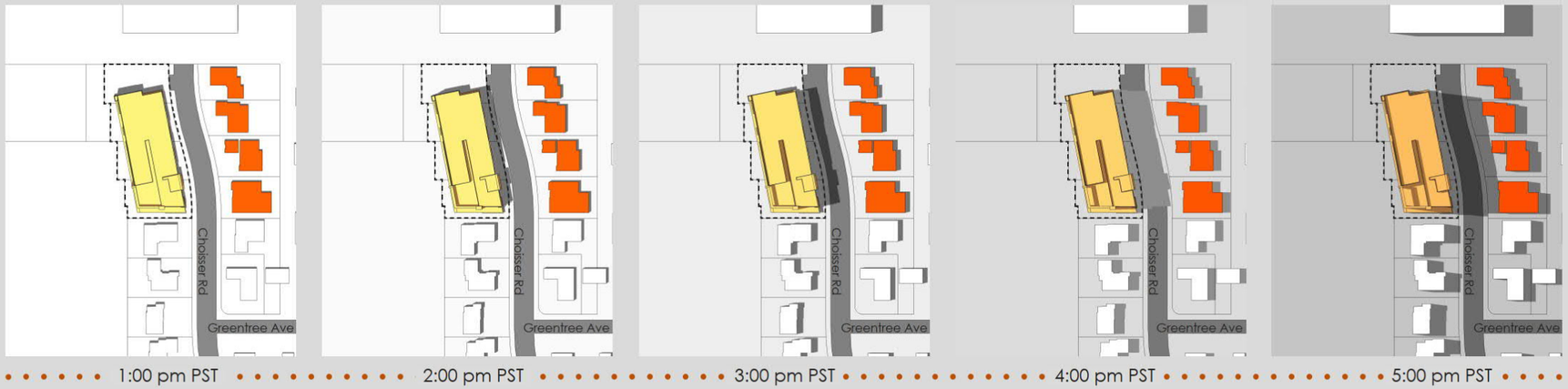
4.2 IMPACTS

The proposed project involves the construction of an at-grade, six-story ((approximately 70 feet tall) multifamily housing development on an 0.66-acre site. Construction of the new building would cast shadows on nearby residential uses. The following analysis describes the proposed shadow conditions from the proposed project onto surrounding uses during the summer and winter solstices as well as the spring and fall equinoxes. Exhibits 6 through 9 illustrate the proposed shadow conditions during these seasons. Residences adjacent to the project site to the east are highlighted in orange to show the nearest shadow-sensitive uses with the most potential for shade/shadow impacts associated with the proposed project

Shade/Shadow Analysis (Proposed Condition)

Summer Solstice (June 20th)





N

Not to Scale

Project Site

Exhibit 6
Proposed Condition – Summer Solstice (June 20th) Shadow Simulation

December 2021

Shade/Shadow Analysis (Proposed Condition)

Winter Solstice (December 21st)

N

Not to Scale

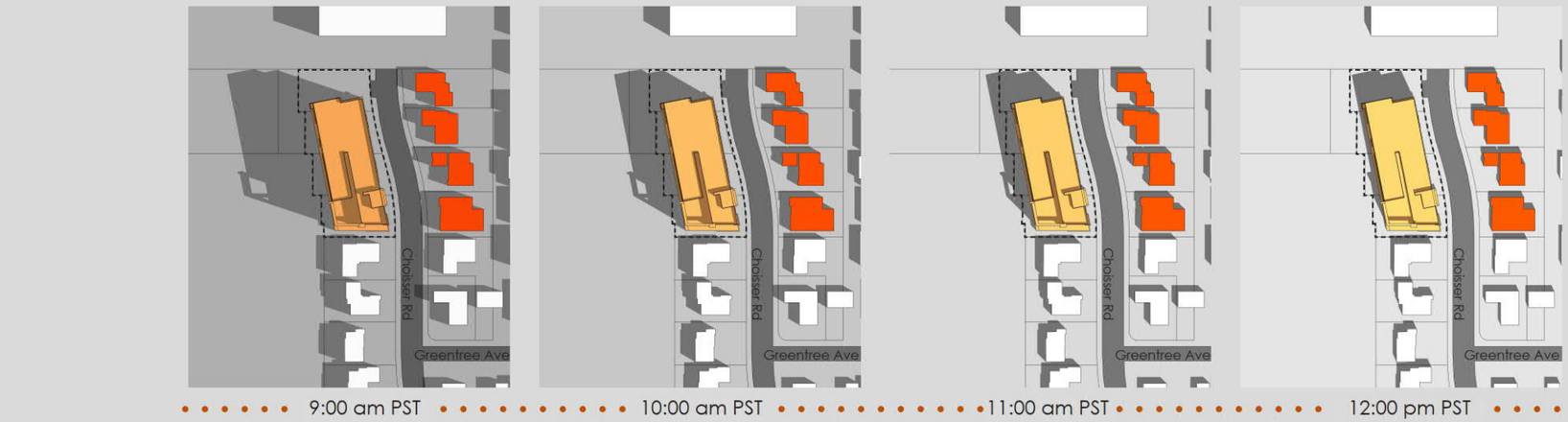
Project Site

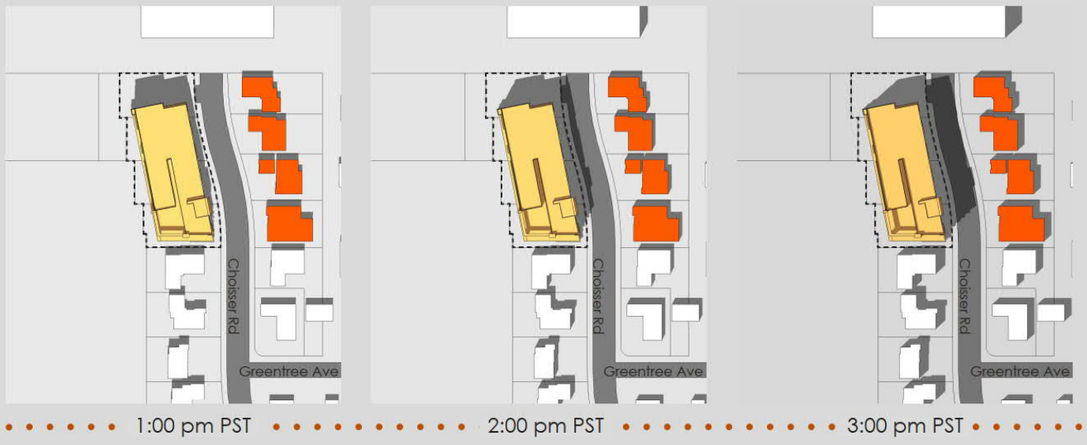
Exhibit 7
Proposed Condition – Winter Solstice (December 21st) Shadow Simulation

December 2021

Shade/Shadow Analysis (Proposed Condition)

Spring Equinox (March 20th)





N

Not to Scale

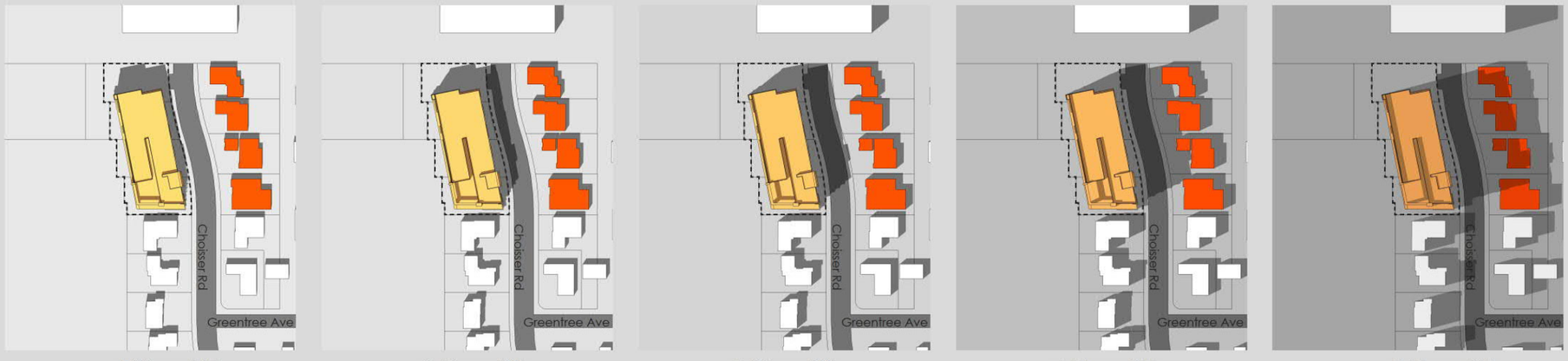
Project Site

Exhibit 8
Proposed Condition – Spring Equinox (March 20th) Shadow Simulation

December 2021

Shade/Shadow Analysis (Proposed Condition)

Fall Equinox (September 22nd)



N

Not to Scale

Project Site

Exhibit 9
Proposed Condition – Fall Equinox (September 22nd) Shadow Simulation

December 2021

SUMMER SOLSTICE

June 20th. As shown on Exhibit 6 (Proposed Condition – Summer Solstice [June 20th] Shadow Simulation), no residences would be shaded between the hours of 9:00 a.m. through 4:00 p.m. PST by the proposed project. The only shading that would occur would be partial shading at three residences adjacent to the proposed project to the east (across Choisser Road) at 12236, 12238, and 12240 Choisser Road at 5:00 p.m. PST. In summary, similar to existing conditions, no shadow-sensitive uses would be shaded for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. PST by the proposed project. Therefore, impacts would be less than significant.

WINTER SOLSTICE

December 21st. As shown on Exhibit 7 (Proposed Condition – Winter Solstice [December 21st] Shadow Simulation), with implementation of the proposed project, the existing partial shadows at the eight residences between the hours of 9:00 a.m. and 3:00 p.m. PST described previously in Section 3.2 of this study would remain mostly unchanged, with the exception of two of the eight residences (specifically, at 12234 and 12236 Choisser Road) which would be completed shaded for one hour (at 3:00 p.m. PST). The proposed project would also provide additional partial shading to these same two residences at 2:00 p.m. PST and to one other residence at 12238 Choisser Road between 2:00 p.m. and 3:00 p.m. PST. However, the additional shading provided by the proposed project would be of short duration (no more than one hour). In summary, no shadow-sensitive uses would be shaded for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. PST by the proposed project. Therefore, impacts would be less than significant.

SPRING EQUINOX

March 20th. As shown on Exhibit 8 (Proposed Condition – Spring Equinox [March 20th] Shadow Simulation), no residences would be shaded between the hours of 9:00 a.m. through 3:00 p.m. PST by the proposed project. In summary, similar to existing conditions, no shadow-sensitive uses would be shaded between the hours of 9:00 a.m. and 3:00 p.m. PST by the proposed project. Therefore, no impact would occur.

FALL EQUINOX

September 22nd. As shown on Exhibit 9 (Proposed Condition – Fall Equinox [September 22nd] Shadow Simulation), partial shading would occur at four residences adjacent to the proposed project to the east (across Choisser Road) at 12234, 12236, 12238, and 12240 Choisser Road between 4:00 p.m. and 5:00 p.m. PST. In summary, no shadow-sensitive uses would be shaded for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. PST by the proposed project. Therefore, impacts would be less than significant.

IMPACT CONCLUSION

As described above, while the proposed project would cast new shadows onto surrounding shadow-sensitive use areas (e.g., residential uses), these shadow-sensitive use areas would not be shaded by project-related structures for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. PST (between late October and early April [illustrated in Exhibits 7 and 8 showing

the winter solstice and spring equinox]), or for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. PST (between early April and late October [illustrated in Exhibits 6 and 9 showing the summer solstice and fall equinox]), compared to existing conditions. Therefore, implementation of the proposed project would result in a less than significant impact related to shade/shadow.

5.0 REFERENCES

5.1 PREPARERS

AECOM
999 Town & Country Road
Orange, CA 92868

Jerry Flores, Project Manager
Hallie Fitzpatrick, AICP, Environmental Planner

5.2 DOCUMENTS

Archilier Architecture. 2021. Shade Shadow Diagrams. December.

City of Garden Grove. 2019. Local Hazard Mitigation Plan. Available at https://ggcity.org/sites/default/files/Garden%20Grove%20LHMP%20January%202020%20Public%20Review%20Complete.pdf (accessed June 2021).

City of Los Angeles. 2006. L. A. CEQA Thresholds Guide. Available at: https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/A07.pdf (accessed July 2021).

RESOLUTION NO. 6058-23

RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF GARDEN GROVE APPROVING SITE PLAN NO. SP-120-2023 AND VESTING TENTATIVE PARCEL MAP NO. PM-2021-206 FOR PROPERTY LOCATED ON THE WEST SIDE OF CHOISSER ROAD AND NORTH OF TWINTREE LANE AT 12233, 12235, 12237, and 12239 CHOISSER ROAD, ASSESSOR'S PARCEL NOS. 231-491-12, 231-491-13, 231-491-14, and 231-491-15.

BE IT RESOLVED that the Planning Commission of the City of Garden Grove, in a regular session assembled on February 16, 2023, hereby approves Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206 for property located on the west side of Choisser Road and north of Twintree Lane at 12233, 12235, 12237, and 12239 Choisser Road, Accessor Parcel Nos. 231-491-12, 231-491-13, 231-491-14, and 231-491-15, subject to the conditions of approval attached hereto as Exhibit "A".

BE IT FURTHER RESOLVED in the matter of Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206, the Planning Commission of the City of Garden Grove does hereby report as follows:

1. The subject case was initiated by Investel Garden Resorts, LLC, the owner of the subject site (the "applicant").

2. The applicant is requesting Site Plan approval to construct a six-story, 53 unit-residential apartment complex on four (4) vacant lots with a combined lot area of 28,793 square feet (0.66 acres). The proposal includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" Households, and one (1) unit designated for "Low-Income" households. Pursuant to the State Density Bonus Law, the applicant is requesting the following concessions and waivers from applicable development standards: (1) concession to allow the first habitable floor on the second floor; (2) a concession to allow fewer parking spaces than the maximum number of parking spaces the City is otherwise permitted to require pursuant to the State Density Bonus Law; (3) a waiver to allow the building to be constructed within the 45-degree encroachment plane required for Mixed-Use zoned properties abutting Residentially-Zoned lots along the side yard setback; (4) a waiver to deviate from the requirement to provide a separate storage space for each unit; (5) a waiver to deviate from the requirement to provide at least 300 square feet of open space, recreation, and leisure are per unit; (6) a waiver to deviate from the requirement to provide at least 90 square feet of private open space per unit; (7) a waiver to deviate from the requirement to provide passive recreation areas with minimum dimensions of 10 feet in width and 30 feet in length; and (8) a waiver to deviate from the minimum parking space length, from 19 feet to 18 feet. In accordance with the State Subdivision Map Act, the application is also requesting approval of a Vesting Tentative Parcel Map to

consolidate four existing parcels into a single lot to facilitate the development of the residential apartment complex.

3. The City of Garden Grove Planning Commission hereby determines that the proposed project is categorically exempt from review under the California Environmental Quality Act ("CEQA") pursuant to Section 15332 (In-Fill Development Projects) of the State CEQA Guidelines (14 Cal. Code Regs., Section 15303). As set forth in the Class 32 exemption, the proposed project is: (1) consistent with the applicable General Plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations; (2) the proposed development occurs within City limits on a project site of no more than five acres substantially surrounded by urban uses; (3) the project site has no value as habitat for endangered, rare or threatened species; (4) approval of the project would not result in any significant effects relating to traffic, noise, air quality or water quality; and (5) the site can be adequately served by all required utilities and public services. The project is therefore exempt from CEQA review.

4. The project site has a General Plan Land Use designation of International West Mixed Use and is designated for the development of low-income housing in the General Plan Housing Element. The project site is part of Planned Unit Development No. PUD-128-12, and the zoning provisions of the International West Mixed Use Overlay apply to the site. The site is currently vacant, but was previously improved with four (4) single-family homes.

5. Existing land use, zoning, and General Plan designation of property in the vicinity of the subject property have been reviewed.

6. Report submitted by the City staff was reviewed.

7. Pursuant to a legal notice, a public hearing was held on February 16, 2023, and all interested persons were given an opportunity to be heard.

8. The Planning Commission gave due and careful consideration to the matter during its meeting on February 16, 2023.

BE IT FURTHER RESOLVED, FOUND AND DETERMINED that the facts and reasons supporting the conclusion of the Planning Commission, as required under Municipal Code Section 9.60.020 and 9.40.060 are as follows:

FACTS:

The project site is comprised of four (4) vacant lots with a combined lot area of 28,793 square feet (0.66 acres), located on the west side of Choisser Road and north of Twintree Lane. The project site has a General Plan Land Use designation of International West Mixed Use and is designated for the development of low-income

housing in the General Plan Housing Element. The project site is part of Planned Unit Development No. PUD-128-12, and the zoning provisions of the International West Mixed Use Overlay apply to the site.

The property abuts a commercial shopping center zoned HCSP-TCB (Harbor Corridor Specific Plan-Tourist Commercial "B") improved with commercial buildings to the north; R-1 (Single-Family Residential) zoned properties to the east across Choisser Road, consisting of single-family homes; R-1 zoned properties to the south, consisting of single-family homes; Planned Unit Development No. PUD-128-12 zoned property to the west developed with a Raising Cane's drive-through restaurant and vacant land that is entitled for the development of a 769-room resort hotel and retail complex commonly referred to as the Site "C" Project.

The project site has a General Plan land use designation of International West Mixed Use (IW). The IW land use designation is intended to provide for a mix of uses, including resort, entertainment, retail, hotel, and some higher density residential that are appropriate for a major entertainment and tourism destination. The IW land use designation is implemented by Planned Development PUD-128-12. The property site also is part of the International West Mixed Use Overlay Zone.

The project site is also identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing. The project site was included in the Housing Element Sites Inventory, as the parcels complied with the State's criteria for the development of lower income units. State law specifies that sites suitable for the development of lower income units must meet a minimum allowable density of 30 units per acre, and the parcels size be limited to between 0.5 and 10 acres. The project site has a maximum allowable residential density of 70 units per acre and has a combined lot area of 0.66 acres. Furthermore, State law correlates higher density sites with the ability to provide lower-income housing. As such, the majority of the lower income RHNA sites are located along mixed-use corridors, including along Harbor Boulevard.

The applicant is requesting Planning Commission approval of (1) a Vesting Tentative Parcel Map to consolidate the four existing parcels into a single lot to facilitate the development of a residential apartment complex and (2) a Site Plan for a six-story, 53-unit residential apartment complex on the combined site. The proposed project includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" Households, and one (1) unit designated for "Low-Income" households. Inclusion of the fie (5) very low-income units qualifies the project for a density bonus, concessions, waivers of development standards, and reduced parking pursuant to the State Density Bonus Law. The proposed project has been designed to incorporate additional density and certain concessions and waivers of development standards pursuant to the State Density Bonus Law. An Affordable Housing Regulatory Agreement consistent with the State Density Bonus Law and the Garden Grove Municipal Code must be recorded to ensure affordability of the very low-income and low-income units.

FINDINGS AND REASONS:

SITE PLAN (HOUSING DEVELOPMENTS)

1. The proposed development project is consistent, in compliance, and in conformity with the applicable, objective standards, provisions, conditions or requirements of the General Plan, Title 9, or other applicable ordinances or policies of the City.

   The proposed project includes the construction of a six-story, 53-unit residential apartment complex on four (4) vacant lots with a combined lot area of 28,793 square feet (0.66 acres). The proposal includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" Households, and one (1) unit designated for "Low-Income" households. In accordance with the State Subdivision Map Act, the application is also requesting approval of a Vesting Tentative Parcel Map to consolidate four existing parcels into a single lot to facilitate the development of the residential apartment complex.

   The subject site has a General Plan land use designation of International West Mixed Use (IW) and is zoned Planned Development PUD-128-12. The project site is also part of the International West Mixed Use Overlay. The IW land use designation is intended to allow for mixed-use residential and commercial developments with higher residential densities up to 70 dwelling units per acre. The IW land use designation is implemented Planned Unit Development No. PUD-128-12 and by the International West Mixed Use Overlay zone. The project site is also identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing.

   The project has been designed to comply with the development standards of the Municipal Code for the International West Mixed Use Overlay zone, as implemented by the GGMU-1 zone, and is within the density permitted under the General Plan, with the exception of the increased density, concessions/incentives, waivers, and reduced parking ratios permitted pursuant to State Density Bonus Law. In addition, the proposed project is consistent with the goals and policies of the General Plan, including:

   a. *Policy LU-1.2: Encourage modern residences in areas designated as Mixed Use.*

      The proposed project, which is located in the International West Mixed Use Overlay zone, is a six-story, fifty-three (53) unit apartment building with a contemporary modern architectural design. The building consists of an articulated roof line and varying wall planes on all building sides, creating shadow and architectural interests, which will visually enhance the overall massing of the structure. The entrance to the main lobby is at grade and facing the street. The area will include landscaping for

added decoration and visual interest. Additionally, the project proposes various active and passive open spaces in a configuration that is more conducive to an urban project. Thus, the proposed project encourages modern residences in areas designated as Mixed Use.

b. *Policy LU-1.3: Support the production of housing Citywide that is affordable to lower- and moderate-income households consistent with the policies and targets set forth in the Housing Element; Policy LU-3.2: Support development of multi-family housing that provides a diversity of densities, types, and prices that meet the needs of all household income levels; GOAL H-2: Housing supply to accommodate housing needs at all affordability levels; AND Policy H-2.1: Expanding Affordable Housing. Preserve and expand the City's supply of affordable rental and ownership housing for lower-income households.*

The project proposes a total of 53 residential apartment units, consisting of 47 "above moderate income" units, five (5) "very low-income" units, and one (1) "very low-income" unit. The project will introduce new rental housing units to the local housing market, and will expand the number of affordable housing units in the City to meet the community needs. The project site has been identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing. Furthermore, the proposed project will contribute to the City meeting its RHNA obligation.

c. *Policy LU-3.1: Preserve existing and encourage new multi-family residential development in the Focus Areas, allowing mixed-use in older or underutilized commercial centers. Such housing provides convenient access to jobs and activities and supplies a resident clientele to support commercial sales and services in mixed-use areas AND Policy LU-3.4: Consider expanding affordable housing opportunities for lower income households in all land use designations that allow residential uses through the creation of a housing overlay zone or other similar tools.*

The project site has a General Plan land use designation of International West Mixed Use (IW). The IW land use designation is intended to provide for a mix of uses, including resort, entertainment, retail, hotel, and some higher density residential that are appropriate for a major entertainment and tourism destination. The project site is conveniently located to potential employment centers and other commercial services in the area. The project site also is part of the International West Mixed Use Overlay Zone, which applies to certain properties, along Harbor Boulevard, identified in the Housing Element Sites Inventory to be suitable for the development of housing. The Overlay zone allows these parcels to be developed with mixed-use or stand-alone residential developments.

d. *Policy LU-3.3: Encourage developers to build housing projects at or maximum allowable densities; Policy H-3.2: Provide adequate sites to encourage housing development that will meet the needs of all income groups; AND Policy H-3.3: Promote a balance of housing types, including mixed use development, to meet the needs of the community.*

The Under IW General Plan land use designation, the subject project is allowed a maximum density of 70 dwelling units per acre, which yields forty-six (46) units. Under a State Density Bonus, the project will maximize the allowable density by constructing a total of fifty-three (53) apartment units. The project will provide 47 "above moderate income" units, five (5) "very low-income" units, and one (1) "very low-income" unit to meet the housing needs of the community. The project site is also identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing. Furthermore, the project will contribute to meeting the City's Regional Housing Needs Allocation (RHNA), as well as the Housing Element policies.

e. *Policy LU-IMP-3E: Use programs and incentives outlined in the Housing Element to produce all types of desired multi-family housing; Policy H-2.3: Provide density bonuses and other financial and regulatory incentives to facilitate the development of affordable housing; Policy LU-4.1: Locate higher-density residential uses within proximity of commercial uses to encourage pedestrian traffic, and to provide a consumer base for commercial uses; AND GOAL H-3: A range of available housing types, densities, and affordability levels to meet diverse community needs.*

The project site has a General Plan land use designation of International West Mixed Use (IW). The IW land use designation is intended to provide for a mix of uses, including resort, entertainment, retail, hotel, and some higher density residential that are appropriate for a major entertainment and tourism destination. The property site is part of the International West Mixed Use Overlay Zone, which applies to certain properties, along Harbor Boulevard, identified in the Housing Element Sites Inventory to be suitable for the development of housing. The Overlay zone allows these parcels to be developed with mixed-use or stand-alone residential developments. Under the International West Mixed Use Overlay zone, higher residential densities are allowed up to 70 units per acre, with the maximum density of 46 units allowed for the project site. Under a State Density Bonus, the project includes 53 units, with five (5) units reserved for very low income and one (1) unit reserved for low income. Furthermore, the project site is located in a resort district that allows for hotel resort, entertainment, commercial,

and higher density residential uses. The project site is located adjacent to hotel and commercial uses that will encourage pedestrian activity, and will also provide a consume base for the commercial uses.

f. Policy H-3.1: Maintain land use policies and regulations that create capacity for development of a range of residential development types that can fulfill local housing needs, including accessory dwelling units, low-density single-family uses, moderate-density townhomes and middle housing, higher-density apartments and condominiums, senior housing, and mixed-use projects.

The project site is identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing. The project site is allowed a higher residential density of 70 units per acre. With the additional density allowed by the State Density Bonus Law, the project includes the construction of fifty-three (53) apartment units, which provide 47 "above moderate income" units, five (5) "very low-income" units, and one (1) "low-income" unit to meet the housing needs of the community.

g. *Policy H-3.4: Maintain an inventory of vacant and underutilized land, and make available to the development community*.

The project site was included in the Housing Element Sites Inventory as the parcels complied with the state's criteria for the development of lower income units. State law specifies that lower income sites must meet a minimum density of 30 units per acre, and the parcels size limited between 0.5 and 10 acres. The project site has a residential density of 70 units per acre and has a combined lot area of 0.66 acres. The project site is identified as having a combined realistic capacity of 40 "lower income" units, consisting of 10 units per lot. Furthermore, state law correlates higher density sites with the ability to provide lower-income housing. As such, the majority of the lower income RHNA sites are located along mixed-use corridors, including along Harbor Boulevard. In addition, the applicant is requesting State Density Bonus allowances for concessions and waivers to applicable development standards to support the proposed project density and site design.

h. Policy 2.3 of the Housing Element: Provide density bonuses and other financial and regulatory incentives to facilitate the development of affordable housing.

The proposed project is a six-story, 53-unit residential apartment complex on four (4) vacant lots with a combined lot area of 28,793 square feet (0.66 acres). The proposal includes six (6) affordable

housing units, five (5) units designated for "Very Low-Income" Households, and one (1) unit designated for "Low-Income" households. To facilitate the development, the applicant is requesting State Density Bonus allowances for concessions and waivers from applicable development standards. Furthermore, the Project will contribute to meeting the City's Regional Housing Needs Allocation (RHNA).

2. The provisions of the California Environmental Quality Act have been complied with.

   The proposed development is exempt from the California Environmental Quality Act ("CEQA"), pursuant to Section 15332 (In-Fill Development Projects) of the CEQA Guidelines (14 Cal. Code Regs., Section 15303). As set forth in the Class 32 exemption, the proposed project is: (1) consistent with the applicable general plan designation and all applicable General Plan policies as well as with applicable zoning designation and regulations; (2) the proposed development occurs within City limits on a project site of no more than five acres substantially surrounded by urban uses; (3) the project site has no value as habitat for endangered, rare or threatened species; (4) approval of the project would not result in any significant effects relating to traffic, noise, air quality or water quality; and (5) the site can be adequately served by all required utilities and public services. Therefore, the provisions of the California Environmental Quality Act have been complied with.

3. The proposed development project does not have specific, adverse impacts, as defined in subdivision (j)(1)(A) of Government Code Section 65589.5, on public health and safety without any feasible method to satisfactorily mitigate or avoid the specific adverse impact, other than the disapproval of the proposed project.

   The proposed six-story, 53-unit residential apartment complex will not have specific, adverse impacts on the public health and safety. The proposed project is within the maximum allowable density, is compatible with surrounding uses, is similar in scale to the adjoining neighborhood, and is consistent with the land use type and intensity in the immediate neighborhood. Furthermore, the Project will contribute to meeting the City's Regional Housing Needs Allocation (RHNA), as well as the Housing Element policies.

VESTING TENTATIVE PARCEL MAP

1. The proposed map is consistent with the General Plan.

   The proposed map is consistent with the provisions of the General Plan. The project site has a land use designation of International West Mixed Use, which is intended to provide for a mix of uses, including some higher density residential with densities up to 70 units per acre. The Density Bonus Law

allows housing developments that provide affordable housing to exceed the maximum allowable density of the General Plan. The project site is also identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing. The proposed project includes the construction of a six-story, 53-unit residential apartment complex on four (4) vacant lots with a combined lot area of 28,793 square feet (0.66 acres). The proposal includes six (6) affordable housing units, 5 units designated for "Very Low-Income" Households, and one unit designated for "Low-Income" households. The proposed tentative parcel map will consolidate four existing parcels to facilitate the development of the proposed density bonus project.

In addition, the proposed map is consistent with the goals and policies of the General Plan for the reasons stated above supporting approval of the proposed Site Plan.

2. The design and improvement of the proposed subdivision are consistent with the General Plan.

The design and improvement of the proposed subdivision are consistent with the General Plan for the reasons stated above supporting approval of the proposed Site Plan for development of the proposed consolidated site.

3. The site is physically suitable for the type of development and complies with the spirit and intent of the Municipal Code.

The site is zoned to permit high-density multiple-family housing developments of the type proposed, and the proposed project is designed to be consistent with applicable objective development standards for the site, except as otherwise required to be waived pursuant to State Density Law. As designed, the site is able to accommodate fifty-three (53) units, and the required parking, landscaping, private and common recreation areas, setbacks, and building height. Therefore, the property is sufficient in size to accommodate the proposed development, and complies with all applicable provisions of the City of Garden Grove Municipal Code and the State Density Bonus Laws.

4. The design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat, and the requirements of the California Environmental Quality Act have been satisfied.

Pursuant to the California Environmental Quality Act ("CEQA"), the City of Garden Grove Planning Commission has determined that the proposed project is categorically exempt from the CEQA pursuant to Section 15332 (In-Fill Development Projects) of the CEQA Guidelines (14 Cal. Code Regs., Section

15332). The proposed project is characterized as in-fill development meeting conditions described in Section 15332.

5. The site is physically suitable for the proposed density of the development.

The site is physically suitable for the density proposed by the developer. The General Plan land use designation of IW is intended to provide for a mix of uses, including resort, entertainment, retail, hotel, and some higher density residential densities up to 70 dwelling units per acre that are appropriate for a major entertainment and tourism destination. The IW land use designation is implemented by the International West Mixed Use Overlay zone which allows residential developments without a commercial component. Under the International West Mixed Use Overlay zone, the base density for the site is 70 units per acre, with yields 46 dwelling units on the project site. The project has been designed as a State Density Bonus project, including allowances for concessions and waivers. As designed, the site is able to accommodate fifty-three (53) units, and the required parking, landscaping, private and common recreation areas, setbacks, and building height. Therefore, the property is sufficient in size to accommodate the proposed development, and complies with all applicable provisions of the City of Garden Grove Municipal Code and the State Density Bonus Laws.

6. The design of the subdivision and the proposed improvements are not likely to cause serious public health problems.

The design of the subdivision and the proposed improvements are not likely to cause serious public health problems since conditions of approval will be in place to safeguard the public health. The proposed subdivision has been designed to comply with the development standards of the International West Mixed Use Overlay and the State Density Bonus Laws. City Departments, including the Traffic Division, Water Division, Engineering Division and the Planning Division, and the Orange County Fire Authority (OCFA) have reviewed the proposed development and have applied conditions of approval to minimize potential negative impacts that the project may have on the community. The conditions of approval for on and off-site improvements will safeguard the public health.

7. The design of the project and the proposed improvements will not conflict with easements of record or easements established by court judgment acquired by the public at large for access through or use of property within the subdivision; or, if such easements exist, alternate easements for access or for use will be provided and these will be substantially equivalent to the ones previously acquired by the public.

The design of the subdivision and the proposed improvements will not conflict with easements of record or easements established by court judgment

acquired by the public at large for access through or use of property within the proposed subdivision. The project has been designed to avoid development over existing easements.

8. The design and improvement of the proposed subdivision are suitable for the uses proposed and the subdivision can be developed in compliance with the applicable zoning regulations.

   The proposed Vesting Tentative Parcel Map No. PM-2021-206 has been specifically designed to accommodate the proposed six-story, fifty-three (53) unit residential apartment complex on the property, which has been designed to comply with the International West Mixed Use Overlay zone developments standards and State Density Bonus allowances. As designed, the site is able to accommodate fifty-three (53) units, with parking, landscaping, private and common recreation areas, setbacks, and building height. Therefore, the design and improvement of the proposed subdivision is suitable for the proposed use and the subdivision can be developed in compliance with the applicable provisions of the City of Garden Grove Municipal Code and the State Density Bonus Laws.

9. The design of the subdivision provides, to the extent feasible, for future passive or natural heating and cooling opportunities in the subdivision.

   To the extent feasible, the project has been designed in accordance with Government Code Section 66473.1, such as to allow for passive or natural heating opportunities in the subdivision design, to encourage the orientation of structures to take advantage of shade and prevailing breezes, to allow solar access for passive heating and opportunities for placement of shade trees and other vegetation for cooling.

10. The design, density, and configuration of the subdivision strike a balance between the effect of the subdivision on the housing needs of the region and public service needs. The character of the subdivision is compatible with the design of existing structures, and the lot sizes of the subdivision are substantially compatible with the lot sizes within the general area.

    The applicant is requesting approval of Vesting Tentative Parcel Map No. PM-2021-206 to consolidate four existing parcels into a single lot to facilitate the development of the residential apartment complex. Approval of the map will allow construction of a six-story, fifty-three (53) unit-residential apartment complex, which includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" Households, and one (1) unit designated for "Low-Income" households. The project site is identified in the General Plan Housing Element as a site suitable for the development of multiple-family lower-income housing. The project site has a maximum allowable residential density of 70 units per acre under the International West Mixed Use general

plan land use designation and under the International West Mixed Use Overlay zone. The project complies with the density requirements of the General Plan, as well as the International West Mixed Use Overlay zone development standards and allowances allowed by State Density Bonus laws, and further the goals of the Housing Element of the General Plan.

11. The subject property is not located within a state responsibility area or a very high fire hazard severity zone, the proposed subdivision is served by local fire suppression services, and the proposed subdivision meets applicable design, location, and ingress-egress requirements.

12. The discharge of waste from the proposed subdivision into the existing sewer system will not result in violation of existing requirements prescribed by the California Regional Water Quality Control Board. The conditions of approval for on and off-site improvements will ensure permitted capacity of the public sewer system is not exceeded.

NO NET LOSS (GOVERNMENT CODE SECTION 65863) FINDINGS

1. If approval of the proposed Project will result in development of the Site at a lower residential density, the reduction in residential density is consistent with the adopted General Plan, including the Housing Element.

   The project site is a six-story, 53-unit residential apartment complex on four (4) vacant lots (APN #231-491-12, 231-491-13, 231-491-14, and 231-491-15) with a combined lot area of 28,793 square feet (0.66 acres). The proposal includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" Households, and one (1) unit designated for "Low-Income" households. The project site has a General Plan Land Use designation of International West Mixed Use and is zoned Planned Unit Development No. PUD-128-12 and is in the International West Mixed Use Overlay. Under the International West Mixed Use Overlay zone, the base density for the site, which is the maximum number of units allowed by the one, is 46 dwelling units (0.66 acres x 70 dwelling units per acre). A density bonus of 32.5% allows fifteen (15) additional units above the base density, for a total of 61 units. Under the State Density Bonus Law, the applicant proposes to construct only seven (7) additional units above the base density, for a total of 53 units. The proposed project will be developed in a residential density that is consistent with the adopted general plan, including the housing element.

2. The remaining sites identified in the housing element are adequate to meet the requirements of Government Code Section 65583.2 and to accommodate the City's share of the regional housing need pursuant to Government Code Section 65584; or, if not, the City has, or will within 180 days, identify and make available additional adequate sites to accommodate the City's share of the regional housing need by income level.

The City's 6th Cycle RHNA requires the City to plan for 19,168 housing units for all income levels. A component of preparing the City's Housing Element is the identification of vacant and underutilized sites suitable for residential development, and an evaluation of the housing development potential of these sites in fulfilling the City's RHNA. The combined project site is identified in the City's Housing Element sites inventory as having a realistic capacity to accommodate a total of forty (40) "lower income" units. The project proposes a total of fifty-three (53) units consisting of forty-seven (47) "above moderate income" units and five (5) "very low income" units and one (1) "low income" unit. Because the proposed project includes fewer lower-income units than shown in the Housing Element sites inventory, the City must determine the remaining unmet RHNA by income level if the project is approved as proposed. Staff has evaluated the housing projects that have been permitted or approved during the current planning period, or which are otherwise not accounted for in the Housing Element site analysis, and has determined that the remaining sites identified in the sites inventory have sufficient capacity to accommodate the City's remaining unmet RHNA need for each income level.

At the time the Housing Element was prepared and adopted, the City's *unmet* RHNA was calculated to be 18,208 units, broken down as follows: 6,567 low and very low-income units, 3,087 moderate-income units, and 8,554 above moderate-income units. The sites identified in the adopted Housing Element were determined adequate to accommodate a total of 18,291 units, including 401 more units than the City's unmet RHNA in the low and very low-income categories and 240 more units than the City's unmet RHNA for the moderate-income category. Sites deemed adequate to accommodate the lower and moderate-income categories are also adequate to accommodate above-moderate income units. Overall, the sites inventory in the adopted Housing Element reflected a total capacity surplus of 83 units. Due to this surplus, the proposed project will not create a reduction to the City's total required RHNA allocation.

Beginning of the 6th RHNA cycle, October 15, 2021, to the time of writing the staff report, the City issued 474 building permits and entitled 105 units. After accounting for these permitted and entitled units, and the 53 units in the proposed project, the City's total remaining unmet RHNA would be 17,567 units, broken down as follows: 6,555 low and very low-income units, 3,087 (no change) moderate-income units, and 7,925 above-moderate income units. The remaining capacity of the sites identified in the Housing Element would be 18,186 units, resulting in a total capacity surplus of 145 units. The remaining sites are also adequate to accommodate a surplus of low and very low-income units (413) and moderate-income units (221), and such sites are also adequate to accommodate the City's remaining unmet above moderate-income RHNA. Due to this surplus, the overall residential capacity on sites identified in the Housing Element will still be sufficient to accommodate the

City's total remaining unmet RHNA if the proposed project is approved. The required No Net Loss findings can be made and are included in Resolution No. 6058-23.

INCORPORATION OF FACTS AND FINDINGS SET FORTH IN STAFF REPORT

In addition to the foregoing, the Planning Commission incorporates herein by this reference, the facts and findings set forth in the staff report.

BE IT FURTHER RESOLVED that the Planning Commission does conclude:

1. The Site Plan and Vesting Tentative Parcel Map possess characteristics that would justify the request in accordance with Municipal Code Section No. 9.60.020 (Review of Housing Development Projects) and Section 9.40.060 (Tentative Maps).

2. In order to fulfill the purpose and intent of the Municipal Code and thereby promote the health, safety, and general welfare, the attached Conditions of Approval (Exhibit "A") shall apply to Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206.

EXHIBIT "A"

Site Plan No. SP-120-2023

Vesting Tentative Parcel Map No. PM-2021-206

12233, 12235, 12237, and 12239 Choisser Road

CONDITIONS OF APPROVAL

General Conditions

1. The applicant and each owner of the property shall execute, and the applicant shall record a "Notice of Agreement with Conditions of Approval and Discretionary Permit of Approval," as prepared by the City Attorney's Office, on the property. Proof of such recordation is required prior to issuance of building permits.

2. All Conditions of Approval set forth herein shall be binding on and enforceable against each of the following, and whenever used herein, the term "applicant" shall mean and refer to each of the following: the project applicant, owner and developer of the project, Investel Garden Resorts, LLC, and the future owner(s) and tenants(s) of the property, and each of their respective successors and assigns. All conditions of approval are required to be adhered to for the life of the project, regardless of property ownership. Except for minor modifications authorized to be approved by the Community and Economic Development Director pursuant to Condition No. 4, any changes of the Conditions of Approval require approval by the appropriate City hearing body.

3. Site Plan No. SP-120-2023 only authorizes construction of a six-story, 53 unit-residential apartment complex, which includes six (6) affordable housing units, five (5) units designated for "Very Low-Income" Households, and one (1) unit designated for "Low-Income" households, on four (4) vacant lots with a combined lot area of 28,793 square feet (0.66 acres) located on the west side of Choisser Road and north of Twintree Lane at 12233, 12235, 12237, and 12239 Choisser Road (APN: 231-491-12, 231-491-13, 231-491-14, and 231-491-15), as depicted on the plans submitted by the applicant and made part of the record of the February 16, 2023, Planning Commission proceedings. Approval of this Site Plan shall not be construed to mean any waiver of applicable and appropriate zoning and other regulations; and wherein not otherwise specified, all requirements of the City of Garden Grove Municipal Code shall apply.

4. The approved site plan and floor plan are an integral part of the decision approving this Site Plan. There shall be no additional changes in the design of the site plan and floor plan without the approval of the City. Minor modifications to the Site Plan and/or these Conditions of Approval, which do

not materially change the scope or intensity of the project and which will not result in impacts that have not previously been addressed, may be approved by the Community and Economic Development Director, in his or her discretion. Proposed modifications to the project and/or these Conditions of Approval determined by the Community and Economic Development Director not to be minor in nature shall be subject to approval of new and/or amended land use entitlements by the applicable City hearing body.

5. All conditions of approval shall be implemented at the applicant's expense, except where specified in the individual condition.

Public Works Engineering Division

Project Design

6. A geotechnical study prepared by a registered geotechnical engineer is required. The report shall analyze the liquefaction potential of the site and make recommendations. The report shall analyze sub-surface issues related to the past uses of the site, including sub-surface tanks and basement and septic facilities. Any soil or groundwater contamination shall be remediated prior to the issuance of a building permit per the requirements of the Orange County Health Department and the mitigation requirements of governing regulatory requirements. The report shall make recommendations for foundations and pavement structural section design of interior streets and parking spaces. The report shall also test and analyze soil conditions for LID (Low Impact Development) principles and the implementation of water quality for storm water runoff, including potential infiltration alternatives, soil compaction, saturation, permeability and groundwater levels.

7. Prior to the issuance of any grading or building permits, the applicant shall submit to the City for review and approval a final design Water Quality Management Plan that:

   a. Addresses required mitigation Site Design Best Management Practices (BMPs) based upon the latest Santa Ana Regional Water Quality Control Board (SARWQCB) Drainage Area Management Plan (DAMP) as identified in the geotechnical report recommendations and findings, including, but not limited to, infiltration minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating reduced or "zero discharge" areas, and conserving natural areas as required by the latest adopted County of Orange Technical Guidance Document (TGD).

   b. BMP's shall be sized per the requirements of the latest Technical Guidance Documents.

c. Incorporates the applicable Routine Source Control BMPs as defined in the DAMP.

d. Incorporates structural and Treatment Control BMPs as defined in the DAMP.

e. Generally describes the long-term operation and maintenance requirements for the Treatment Control BMPs.

f. Identifies the entity that will be responsible for long-term operation and maintenance of the Treatment Control BMPs.

g. Describes the mechanism for funding the long-term operation and maintenance of the Treatment Control BMPs.

h. Provides a hydrological analysis with scaled map as well as hydrologic and hydraulic calculations to size storm drains per the Orange County RDMD standards.

8. Parkway culverts shall be designed per City of Garden Grove Standard Plan B-209. Storm drain lateral pipe connections to City maintained storm drains within City right of way shall be RCP with a minimum diameter of 18-inches.

9. Grading plans prepared by a registered Civil Engineer are required. As required under Section 107 of the California Building Code (CBC), the grading plan shall be based on a current survey of the site, including a boundary survey, topography on adjacent properties up to 30' outside the boundary, and designed to preclude cross-lot drainage. Minimum grades shall be 0.50% for concrete flow lines and 1.25% for asphalt. The grading plan shall also include water and sewer improvements. The grading plan shall include a coordinated utility plan showing all existing utility facilities, easements and proposed utility facilities. All on-site improvements shall be tied by horizontal dimensional control to the property boundary as established by survey. A minimum uninterrupted 20-foot wide throat access to the site is required from the street for the multi residential projects and shall meet the requirements of the California Fire Code throughout the site. Vehicle maneuvering, as demonstrated by Auto Turn along private streets and access ways, shall be demonstrated on the grading plan. Street improvement plans shall conform to all format and design requirements of the City Standard Drawings & Specifications.

10. All vehicular access drives to the site shall be provided in locations approved by the City Traffic Engineer. (Policies and Procedures – TE-17)

11. The applicant shall coordinate with Planning Services Division and Orange County Fire Authority to identify proper emergency vehicle access to the site and shall provide the Engineering Division a copy of the approval letters upon first submittal of the grading and street improvement plans.

12. The applicant shall complete the following for the parcel map:

    a. Prior to recordation of a final parcel or tract map, the surveyor/engineer preparing the map shall tie the boundary of the map into the Horizontal Control System established by the County Surveyor in a manner described in Sections 7-9-330 and 7-9-337 of the Orange County Subdivision Code and Orange County Subdivision Manual, Subarticle 18. The surveyor/engineer shall submit record information to the City on Auto Cad DWG format.

    b. Prior to recordation of a final parcel or tract map, the surveyor/engineer preparing the map shall submit to the County Surveyor a digital graphics file of said map in a manner described in Sections 7-9-330 and 7-9-337 of the Orange County Subdivision Code and Orange County Subdivision Manual, Subarticle 18. The surveyor/engineer shall submit record information to the City on Auto Cad DWG format.

    c. Prior to issuance of a grading permit, the applicant shall submit to the Planning Services Division an updated title report along with copies of the recorded instruments listed in the title report, reference maps used to prepare legal description and the plat for review and approval of the parcel map.

    d. All subdivision mapping shall be concurrently reviewed by the City Engineering Division and the County of Orange Survey Department. The applicant shall forward all plan check comments received from the County of Orange Survey Department to the City of Garden Grove's Engineering Division upon receipt from the county.

13. Any new drive approaches to the site shall be constructed in accordance with Garden Grove Standard B-121 as they conform to land use and roadway designation.

14. The grading plan shall depict an accessibility route for the ADA pathway in conformance with the requirements of the Department of Justice standards, latest edition and section 1110A of the California Building Code.

15. All trash container areas shall meet the following requirements per City of Garden Grove Standard B-502 and State mandated commercial organic

recycling law-AB 1826, including any other applicable State recycling laws related to refuse, recyclables, and/or organics:

a. Paved with an impervious surface, designed not to allow run-on mixing of drainage from adjoining areas, designed to divert drainage from adjoining roofs and pavements to be directed around the area for trash roll out, and screened or walled to prevent off-site transport of trash by water or wind.

b. Provide solid roof or awning to prevent direct precipitation into the enclosure.

c. Connection of trash area drains to the municipal storm drain system is prohibited. Drainage from the enclosure may be directed to a conforming grease or contaminant interceptor.

d. Potential conflicts with fire code access requirements and garbage pickup routing for access activities shall be considered in implementation of design and source control. See CASQA Storm Water Handbook Section 3.2.9 and BMP Fact Sheet SD-32 for additional information.

e. The trash enclosure and containers shall be located to allow pick-up and maneuvering, including turnarounds, in the area of enclosures, and concrete aprons for roll-out areas.

f. Pursuant to state mandated commercial organic recycling law-AB 1826, the applicant is required to coordinate storage and removal of the organics waste with local recycling/trash company.

g. Pursuant to applicable state mandated laws, the applicant is required to contact and coordinate with the operations manager of the local recycling/trash company (Republic Services, 800-700-8610) to ensure the trash enclosure includes the appropriate size and number of containers for the disposal of items such as, but may not limited to, municipal solid waste (MSW), recyclables, and organic green waste.

h. Based on the amount of waste disposed, per week, the applicant shall coordinate with the local recycling/trash company to ensure the adequate frequency of trash pick-up is serviced to the site for municipal solid waste (MSW), recyclables, and organic green waste, including any other type of waste.

i. The applicant shall ensure large bulk items, intended for coordinated and scheduled pick-up by the local recycling/trash company, are not placed in areas that encroach into drive aisles, parking spaces, pedestrian pathways, or areas in the front of the property including areas public right-of-way

(e.g., street, sidewalk), during and after construction. Any large bulk items shall be out of public vantage points.

j. The requirements for the trash enclosure and design criteria are bound and coordinated with the Water Quality Management Plan (WQMP), when required, as depicted on the project grading plan, which shall be incorporated into the WQMP by narrative description, exhibits and an Operation and Maintenance Plan (O&M).

16. Any new or required block walls and/or retaining walls shall be shown on the grading plans, both in plan-view and cross sections. Cross sections shall show vertical and horizontal relations of improvements (existing and proposed) on both sides of property lines. Required wall heights shall be measured vertically from the highest adjacent finished grade. Block walls shall be designed in accordance to City of Garden Grove Standard B-504, B-505, B-506 & B-508 or designed by a professional registered engineer. In addition, the following shall apply:

a. Any block walls shall be decorative and utilize stucco finish, slump stone or split-face block, and shall include trailing vines, hedges planted along the base of the exterior face, or other landscaping treatments that deter graffiti.

b. Openings for drainage through walls shall be shown in section details and approved by the City Engineer. Cross-lot drainage is not allowed.

17. The applicant shall remove any existing substandard driveway approaches, curbs, sidewalks, ADA ramps, pavement sections, tree well and landscaping, and construct Choisser Road frontage improvements as identified below. All landscape, irrigation, sidewalk, and lighting improvements installed within the public rights-of-way shall be maintained by the applicant and shall require the approval of the City Engineer, Street Division, and Planning Division.

a. Existing substandard driveways on Choisser Road shall be removed and replaced with new curb, gutter, landscape, and sidewalk per City standards and specifications.

b. The new driveway approach to the site on Choisser Road shall be constructed in accordance with Garden Grove Standard B-121.

c. The applicant shall install red curb near driveway approach and easterly curb on Choisser Road per approved site plan SP-120-2023.

d. The applicant shall remove the existing improvements fronting the project on Choisser Road and construct new 5'-3" wide sidewalk panels in

accordance with City of Garden Grove Standard B-105. The owner/contractor shall verify the placement limits of sidewalk concrete panels with public works inspector prior to start of construction.

e. Construct curb and gutter when replacing any existing driveway approach along the property frontage on Choisser Road in accordance with City Standard Plan B-114.

f. The applicant shall remove and replace the street pavement fronting the project on Choisser Road from the edge of easterly gutter to the edge of the westerly gutter per City of Garden Grove standard plan B-104.

g. The applicant shall locate all existing public utilities across the property frontage and within the property boundary of the project prior to commencement of grading operation and mobilization.

h. The applicant shall coordinate with the Planning Services Division and Public Works Street Division before placing any type of tree within public right of way and proposed landscape area.

i. Street signs shall be installed as required and approved by the City Traffic Engineer.

18. Any proposed new landscaping in public right-of-way shall be approved by the Planning Services Division and maintained by the owner for the life of the project.

19. Driveway widths shall be in accordance with City's Traffic Engineering Policy TE-8 (Driveway Opening Policy).

20. Sight Distance Standards shall be in accordance with City's Traffic Engineering Policy TE-13. All structures and walls shall be designed to ensure proper vision clearance for cars entering or leaving the driveway and parking areas. No structure, wall or fence shall cause an exceedance of the applicable site distance standards set forth in City Traffic Engineering Policy TE 13.

21. The Site Plan shall comply with the completed Development Review and Comment Sheet prepared pursuant to City's Traffic Engineering Policy TE-17 and provided to the applicant.

22. Private Property Tow Away Sign Design shall be in accordance with City's Traffic Policy & Procedures TE-19.

23. No Parking Fire Lane Sign Design shall be in accordance with City's Traffic Policy & Procedures TE-20.

24. Parking lot layout shall be in accordance with City Standard B-311 & B-312.

25. Off-street parking requirements for residential uses shall be in accordance with the City of Garden Grove's Traffic Engineering Policy TE-17.

26. A minimum five-foot-by-five-foot-wide maneuvering area shall be provided at the end of a dead-end parking aisle and shall consist of a ten-foot-by-nineteen-foot-wide turnaround space.

Permit Issuance

27. The applicant shall be subject to Traffic Mitigation Fees (Garden Grove City Council Resolution 9401-16), In-Lieu Park Fees, Drainage Facilities Fees, Water Assessment Fees, and other applicable mitigation fees identified in Chapter 9.44 of the Garden Grove Municipal Code, along with all other applicable fees duly adopted by the City.

28. A separate street permit is required for work performed within the public right-of-way.

29. The applicant shall identify a temporary parking site(s) for construction crew and construction trailers office staff prior to issuance of a grading permit. No construction parking is allowed on local streets. Construction vehicles should be parked off traveled roadways in a designated parking area. Parking areas, whether on-site or off-site, shall be included and covered by the erosion control plans.

30. Prior to issuance of a grading permit, the applicant shall submit and obtain approval of a work-site traffic control plan for all the proposed improvements within public right-of-way, which shall be subject to the review and approval of the City Traffic Engineer.

31. In accordance to City of Garden Grove Municipal Code (Chapter 9.48.030), the applicant is required to underground all existing and proposed on-site and off-site utility facilities fronting the project which the developer is developing or redeveloping. All existing improvements and utilities shall be shown as part of the grading submittal package in the topography section. In accordance to City of Garden Grove Municipal Code (9.48.050), the applicant may elect to pay the City an in-lieu fee to offset the developer's fair share of the costs of undergrounding the off-site utilities.

Project Construction/Operation

32. The applicant shall coordinate with City's Public Works Department (engineering, water services and streets division) and setup appointments for preconstruction inspections for all the on-site and off-site improvements prior to commencement of grading operation and mobilization.

33. In accordance with the Orange County Storm Water Program manual, the applicant and/or its contractors shall provide dumpsters on-site during construction unless an Encroachment Permit is obtained for placement in street.

34. The applicant and its contractors shall be responsible for protecting all existing horizontal and vertical survey controls, monuments, ties (centerline and corner) and benchmarks located within the limits of the project. If any of the above require removal; relocation or resetting, the applicant and its contractors shall, prior to any construction work, and under the supervision of a California licensed Land Surveyor, establish sufficient temporary ties and benchmarks to enable the points to be reset after completion of construction. Any ties, monuments and bench marks disturbed during construction shall be reset per Orange County Surveyor Standards after construction. Applicant and its contractors shall also re-set the tie monuments where curb or curb ramps are removed and replaced or new ramps are installed. The applicant and its contractors shall be liable for, at their expense, any resurvey required due to his negligence in protecting existing ties, monuments, benchmarks or any such horizontal and vertical controls. Temporary Benchmarks shall not be used for Vertical control. Benchmarks shall be to the National Geodetic Vertical Datum (NGVD).

35. Heavy construction truck traffic and hauling trips, and any required lane closures shall occur outside peak travel periods. Peak travel periods are considered to be from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

36. Prior to grading or building permit closeout and/or the issuance of a certificate of use or a certificate of occupancy, the applicant shall:

    a. Demonstrate that all structural best management practices (BMPs) described in the Project WQMP have been constructed and installed in conformance with approved plans and specifications.

    b. Demonstrate that the applicant is prepared to implement and maintain all non-structural BMPs described in the Project WQMP.

    c. Demonstrate that an adequate number of copies of the approved Project WQMP are available on-site.

d. Submit for review and approval by the City an Operations and Maintenance (O&M) Plan for all structural BMPs.

Public Works Water Services Division

37. New water service installations 2" and smaller, shall be installed by the City of Garden Grove at owner's/developer's expense, unless otherwise approved. Installation shall be scheduled upon payment of applicable fees, unless otherwise noted. Fire services and larger water services 3" and larger, shall be installed by developer/owner's contractor per City Standards.

38. Water meters shall be located within the City right-of-way. Fire services and large water services 3" and larger, shall be installed by contractor with Class A or C-34 license, per City water standards and inspected by approved Public Works inspection.

39. A Reduced Pressure Principle Device (RPPD) backflow prevention device shall be installed for meter protection. The landscape system shall also have RPPD device. Installation shall be per City Standards and shall be tested by a certified backflow device tester immediately after installation. Cross-connection inspector shall be notified for inspection after the installation is completed. Owner shall have RPPD device tested once a year thereafter by a certified backflow device tester and the test results to be submitted to Public Works, Water Services Division. Property owner must open a water account upon installation of RPPD device.

40. It shall be the responsibility of owner/developer to abandon any existing private water well(s) per Orange County Health Department requirements. Abandonment(s) shall be inspected by Orange County Health Department inspector after permits have been obtained.

41. A composite utility site plan shall be part of the water plan approval.

42. There shall be a minimum 15-foot clearance of building footings from water main. Clearances less than 15 feet shall be reviewed and approved by Water Engineering.

43. New utilities shall have a minimum 5-foot horizontal and a minimum 1-foot vertical clearance from water main and appurtenances.

44. There shall be a minimum clearance from sewer main and water main of 10 feet from outside-of-pipe to outside-of-pipe.

45. Any new or existing water valve located within new concrete driveway or sidewalk construction shall be reconstructed per City Standard B-753.

46. Any existing meter and service shall be abandoned at the water main per City standard.

47. Existing 6" water main in Choisser Rd is a dead end main. Per calculations submitted by the engineer for the project on March 24, 2022, the anticipated demand for the development is 230 gpm for domestic water and 400 gpm for fire water. A fire pump is being proposed. Given the proposed demand and the proposed fire system design, the development may connect to the exiting 6" water main. Should any changes occur, it is the responsibility of the developer and his engineer to propose alternate solutions such to provide adequate fire flow for the project.

48. Fire service shall have above-ground backflow device with a double-check valve assembly. Device shall be tested immediately after installation and once a year thereafter by a certified backflow device tester and the results to be submitted to Public Works, Water Services Division. Device shall be on private property and is the responsibility of the property owner. The above-ground assembly shall be screened from public view as required by the Planning Division.

49. Water meters and boxes shall be installed by City forces upon payment of applicable fees and after new water system (including water services) pass all bacteriological and pressure tests.

50. No permanent structures, trees or deep-rooted plants shall be placed over sewer main or water main.

51. Location and number of fire hydrants shall be as required by Water Services Division and the Orange County Fire Authority (OCFA).

52. Owner shall install new sewer lateral with clean out at right-of-way line. Lateral in public right-of-way shall be 6 inch minimum diameter, extra strength VCP with wedgelock joints.

53. Contractor shall abandon any existing unused sewer lateral(s) at street right-of-way on the property owner's side. The sewer pipe shall be capped with an expansion sewer plug and encased in concrete. Only one sewer connection per lot is allowed, unless otherwise approved.

Orange County Fire Authority

54. The applicant shall comply with all applicable Orange County Fire Authority (OCFA) requirements, including but not limited to the Fire Master Plan.

55. The applicant shall construct and maintain a fire turnaround area on Choisser Road to the satisfaction of the City Engineer.

56. The applicant shall obtain approval for red curbing from the City's Traffic Engineer.

Building and Safety Division

57. All work shall comply with the applicable edition of the California (CA) Building Standards Code (CBC).

58. A soils report per the latest edition of CBC Chapter 18 is required and shall be submitted at time of building permit application.

59. The number of Electric Vehicle (EV) Capable, EV Ready and EV chargers shall comply with CA Green Building Standards Code.

60. Building accessibility shall comply with CBC Chapter 11A and public use areas shall comply with CBC Chapter 11B.

61. Fire-rated constructions shall comply with the latest edition of the CBC Chapter 7.

62. Minimum sound attenuation rating of STC 52 shall be provided between units.

Planning Services Division

63. The applicant shall submit detailed plans showing the proposed location of utilities and mechanical equipment to the Community and Economic Development Department, Planning Services Division for review and approval prior to submitting plans into the Building and Safety Division Plan Check process. The project shall also be subject to the following:

64. The applicant shall submit detailed plans showing the proposed location of utilities and mechanical equipment to the Community and Economic Development Department, Planning Services Division for review and approval prior to submitting plans into the Building and Safety Division Plan Check process. The project shall also be subject to the following:

    a. All on-site and off-site utilities (off-site refers to the areas within public right-of-way to the center-line of the streets adjacent to the subject

property) within the perimeter of the site and to the center-line of the adjacent streets shall be installed or relocated underground. All on-site and off-site utilities pertaining to the improvements proposed under this Site Plan and Parcel Map shall be installed or relocated underground.

b. All above-ground utility equipment (e.g. electrical, gas, telephone, cable TV) shall not be located in the street setback, within the common areas, or any parking areas, and shall be screened by densely planted and maintained landscaped hedges or a fence or wall. Ground-mounted equipment shall not exceed the maximum allowable height for a wall, fence, or hedge.

c. Clinging vines shall be installed within the landscape planters along the perimeter block walls to deter graffiti.

d. Roof-mounted mechanical equipment shall be screened by parapet walls, rooftop architectural features such as a tower equal to the height of the equipment, or low walls surrounding the equipment and shall be painted to match the color of the building materials.

e. No exterior piping, plumbing, or mechanical ductwork shall be permitted on any exterior façade and/or be visible from any public right-of-way or adjoining property. Roof rain gutters are permitted. The rain gutters shall follow the natural architecture lines of the building.

65. The applicant shall submit a complete and detailed landscaping plan with irrigation systems included for review and approval by the Community and Economic Development Department prior to the issuance of a building permit. Drought tolerant plantings are encouraged. The landscape plan shall include the type (both common and botanical names), size, location, and quantity of all proposed plant material. All landscaping shall be consistent with the landscape requirements of Title 9 of the Municipal Code. The developer shall submit a complete landscape plan governing the entire development. The landscape irrigation plans shall include type, size, location and quantity of all plant material. The landscape plan shall include irrigation plans and staking and planting specifications. All landscape irrigation shall comply with the City's Landscape Ordinance and associated Water Efficiency Guidelines. The landscape plan is also subject to the following:

a. A complete, permanent, automatic remote control irrigation system shall be provided for all landscaping areas shown on the plan. The sprinklers shall be of drip or micro-spray system sprinkler heads for water conservation.

b. Forty percent of the trees on the site shall consist of minimum size 24-inch box, and the remaining 60 percent shall be of minimum size 15 gallons. These trees shall be incorporated into the landscaped frontages

of all streets. Where clinging vines are considered for covering walls, Boston Ivy shall be used.

c. The applicant or the property owner shall be responsible for installing and maintaining the landscaping.

d. No trees shall be planted closer than five feet (5'-0") from any public right-of-way. Trees planted within ten feet (10'-0") of any public right-of-way shall be planted in a root barrier shield. All landscaping along street frontages adjacent to driveways shall be of the low-height variety to ensure safe sight clearance. All trees planted on the subject property, whether for screening the project from the neighboring lots or for aesthetic or selling/marketing purposes, shall have an irrigation system installed in order maintain the trees.

e. All trees shall be double-staked in accordance with City standards.

f. All landscape areas, including the areas located within the public rights-of-ways along Choisser Road that abuts the subject property, are the responsibility of the applicant/property owner(s).

g. Fifty percent (50%) of all required shrubs shall be a minimum size of five (5) gallons at time of planting.

h. Live groundcover shall be planted and maintained where shrubbery is not sufficient to cover exposed soil. Mulch may be used in place of groundcover where groundcover will not grow or where groundcover will cause harm to other plants, but not more than 30% of the groundcover area shall have the mulch substitute.

i. Groundcover plants shall be planted at a density and spacing necessary for them to become well established and provide surface coverage within 18 months of planting.

j. The landscape plan shall incorporate and maintain for the life of the project those means and methods to address water run-off also identified as Low Impact Development provisions, which address water run-off. This is to also to be inclusive of any application of Water Quality Management Plans (WQMP), Drainage Area Management Plans (DAMP) and any other water conservation measures applicable to this type of development.

k. At the time of irrigation installation, the irrigation system shall comply with all applicable provisions of the City's Water Conservation Ordinance, the City's Municipal Code landscape provisions, and all applicable state regulations.

l. All above-ground utilities (e.g. water backflow devices, electrical transformers, irrigation equipment) shall be shown on the landscaping plan in order to ensure landscape screening will be provided.

66. The common recreation area improvements shall be reviewed and approved by the Community and Economic Development Department, Planning Services Division prior to issuance of building permits for compliance with applicable standards. The improvements to the outdoor roof deck shall include at a minimum, porcelain tile pavers on pedestal system, raised planters, fire pits/fire tables, tables, chairs, patio and lounge furniture, barbeque grills, benches, and landscaping. All interior recreation areas shall incorporate the appropriate indoor furniture and amenities for the proposed use of the room. The indoor gym shall incorporate exercise equipment or similar equipment, and the lounge area shall be furnished with chairs, sofas, and coffee tables or other similar furniture. Lighting in the common recreation areas shall be provided at a maximum one-foot light candle during the hours of darkness, and shall be restricted to low decorative type wall-mounted lights or ground lighting systems.

67. Hours and days of construction and grading shall be as set forth in the City of Garden Grove Municipal Code Chapter 8.47 as adopted, except that:

a. Monday through Friday – not before 7:00 a.m. and not after 5:00 p.m.

b. Saturday – not before 8:00 a.m. and not after 5:00 p.m. All construction activity on Saturday shall be limited to interior construction only.

c. Sunday and Federal Holidays – no construction shall occur.

68. Construction activities shall adhere to SCAQMD Rule 403 (Fugitive Dust) that includes dust minimization measures, the use of electricity from power poles rather than diesel or gasoline powered generators, and the use methanol, natural gas, propane or butane vehicles instead of gasoline or diesel powered equipment, where feasible. Also, use of solar, low emission water heaters, and low sodium parking lot lights, shall be required to ensure compliance with Title 24.

69. All lighting structures shall be placed so as to confine direct rays to the subject property. All exterior lights shall be reviewed and approved by the Planning Services Division. Lighting adjacent to residential properties shall be restricted to low decorative type wall-mounted lights, or a ground lighting system. Lighting shall be provided throughout all private drive aisles and entrances to the development per City standards for street lighting. Lighting in the common areas shall be directed, positioned, or shielded in such manner so as not to unreasonably illuminate the window area of nearby residences.

70. The main drive aisle serves the entire project for vehicular circulation. The applicant shall utilize effective signage, and/or other acceptable means (i.e., a painted/marked red fire lane), to communicate to residents and guests that there shall be no parking anywhere within the drive aisle, except for within the designated guest parking spaces. Additionally, applicant shall ensure and enforce lease or other restrictions providing that there will be no long term parking of vehicles in the guest parking spaces and that guest parking spaces shall not be reserved for any particular units.

71. The applicant/property owner shall abate all graffiti vandalism within the premises. The property owner shall implement best management practices to prevent and abate graffiti vandalism within the premises throughout the life of the project, including, but not limited to, timely removal of all graffiti, the use of graffiti resistant coatings and surfaces, the installation of vegetation screening of frequent graffiti sites, and the installation of signage, lighting, and/or security cameras, as necessary. Graffiti shall be removed/eliminated by the property owner as soon as reasonably possible after it is discovered, but not later than 72 hours after discovery.

72. There shall be no deliveries from or to the premises before 7:00 a.m. and after 10:00 p.m., seven days a week.

73. Storage of boats, recreational vehicles, or commercial vehicles on the property shall be prohibited. The applicant/property owner shall ensure that this condition is complied with at all times by tenants of the units and shall include notice of this requirement in all lease agreements.

74. All new block walls, and/or retaining wall(s), including existing block walls to remain, if any, shall be shown on the grading plans. Block walls shall be developed to City Standards or designed by a Registered Engineer and shall be measured from on-site finished grade. The applicant shall provide the following:

    a. The project shall maintain perimeter block walls with a minimum height six (6'-00") feet to a maximum height of seven (7'-00") feet, as measured from highest point of the on-site finished grade along the east and north property lines.

    b. All existing block walls that will remain shall be modified, as necessary, to comply with the minimum block wall height requirement. The type, texture, and color of the block wall shall match any existing block wall that will remain.

    c. All block walls shall comply with the requirements of the Chapter 9.18 of the Municipal Code. Where allowed, no walls greater than 36-inches

(3'-00") in height shall be constructed within the driveway vision clearance area of the project's entrance.

d. The applicant shall work with the existing property owners along the project perimeter in designing, constructing, and maintaining the required perimeter block walls. This requirement is to avoid having double walls and to minimize any impact that it might cause to the existing landscaping on the neighbor's side as much as possible. The perimeter block wall shall be constructed and situated entirely within the subject property. In the event that the applicant cannot obtain approval from the property owners, the applicant shall construct the new wall with a decorative cap to be placed between the new and existing walls. In the event the location of a new wall adjacent to an existing wall or fence has the potential to affect the landscape planter, then the applicant shall work with City Staff to address this situation. The Community and Economic Development Director shall be authorized to approve minor alterations the size and/or location of the landscape planter to accommodate the placement of such wall.

75. All recreation areas, landscaping along the interior project street and entryway, landscaped areas, and any landscaping within the public right-of-way shall be maintained for the life of the project.

76. The passive common recreation area, as identified on the approved site plan, shall include, at a minimum, outdoor benches, pedestrian integral colored concrete for the pathway, and landscaping.

77. During construction, if paleontological or archaeological resources are found, all attempts will be made to preserve in place or leave in an undisturbed state in compliance with applicable law. In the event that fossil specimens or cultural resources are encountered on the site during construction and cannot be preserved in place, the applicant shall contact and retain, at applicant's expense, a qualified paleontologist or archaeologist, as applicable, acceptable to the City to evaluate and determine appropriate treatment for the specimen or resource, and work in the vicinity of the discovery shall halt until appropriate assessment and treatment of the specimen or resource is determined by the paleontologist or archeologist (work can continue elsewhere on the project site). Any mitigation, monitoring, collection, and specimen/resource treatment measures recommended by the paleontologist/archaeologist shall be implemented by the applicant at its own cost.

78. The applicant shall comply with the Migratory Bird Treaty Act (MBTA), and Sections 3503, 3503.5 and 3515 of the California Fish and Game regulations, which require the protection of active nests of all bird species, prior to the removal of any on-site landscaping, including the removal of existing trees.

79. Prior to the finalization of working drawings for Planning Services Division, Engineering Division, and Building and Safety Division Plan Check, the applicant shall submit to the Community and Economic Development Department detailed and dimensioned plot plans, floor plans, exterior elevations, and landscape plans which reflect the Conditions of Approval. The plans shall indicate cross-sections of all streets within the development, landscape materials, wall materials, and building materials proposed for the project.

80. Building color and material samples shall be submitted to the Planning Services Division for review and approval to ensure compliance with the color and material samples provided and presented at the meeting prior to issuance of building permits. The building shall incorporate all the architectural detailing identified on the plans presented at the meeting at which Site Plan No. SP-120-2023 was approved.

81. The project shall provide a separate trash room for the residential use with a trash shoot that serves each of the residential floors. The trash bins shall be kept inside the trash room at all times, except during disposal and pick-up. The property owner shall provide sufficient trash bins and pick-up to accommodate the site.

82. Prior to the issuance of grading permits, a temporary project identification sign shall be erected on the site in a secure and visible manner. The sign shall be conspicuously posted at the site and remain in place until occupancy of the project. The sign shall include the name and address of the development, and the developer's name, address, and a 24-hour emergency telephone number.

83. Litter shall be removed daily from the project site, including adjacent public sidewalks and all parking areas under the control of the applicant. The areas shall be swept or cleaned, either mechanically or manually, on a weekly basis, to control debris.

84. There shall be no parking allowed along any drive-aisle, except within the designated parking areas. All curbs not designated as parking areas shall be painted red. The applicant shall post "No Parking" signs along the drive aisle.

85. Each residence shall be utilized as one (1) dwelling unit. No portion of any residence shall be utilized or rented as a separate dwelling unit.

86. All balconies shall remain open and shall not be enclosed at any time. There shall be no storage allowed in the balconies at any time.

87. The maintenance of the drive aisles, storm drains, sewer system, and open space areas is the responsibility of the applicant and property owner, including the active and passive recreation and landscape areas.

88. Each unit shall be provided with an air conditioning condensing unit and/or system so that there are no wall-mounted, or window mounted units. If units are located on the roof, an architectural design of the roof areas shall be done to effectively screen such units from adjacent properties and the public right-of-way.

89. Mailboxes shall be provided and installed by the applicant. The local postmaster shall approve the design and location.

90. Each unit shall have phone jacks and cable-TV outlets in all rooms, except in the hallways and bathrooms.

91. Each unit shall be provided with washer and dryer hook-ups.

92. At applicant's request, applicant has been granted State Density Bonus allowances for an increase in density, reduced parking, and the following two (2) concessions and six (6) waivers from applicable development standards: (1) a concession to deviate from Section 9.18.110.030.D of the Municipal Code to allow the first habitable floor to be located on the second floor; (2) a concession to allow fewer parking spaces (58) than the maximum number of parking spaces (70) the City is otherwise permitted to require pursuant to the State Density Bonus Law; (3) a waiver to allow the building to be constructed within the 45-degree encroachment plane required for Mixed-Use zoned properties abutting Residentially-Zoned lots along the side yard setback; (4) a waiver to deviate from the requirement to provide a separate storage space for each unit; (5) a waiver to deviate from the requirement to provide at least 300 square feet of open space, recreation, and leisure are per unit; (6) a waiver to deviate from the requirement to provide at least 90 square feet of private open space per unit; (7) a waiver to deviate from the requirement to provide passive recreation areas with minimum dimensions of 10 feet in width and 30 feet in length; and (8) a waiver to deviate from the minimum parking space length, from 19 feet to 18 feet in exchange for the applicant's agreement to reserve five (5) dwelling units in the project for occupancy by very low-income households. In addition, pursuant to paragraph (3) of subdivision (c) of Government Code Section 65915 and paragraph (2) of subdivision (d) of Government Code Section 66300, the applicant is required to replace three (3) very-low income "protected units" and one (1) low-income "protected unit" that were demolished in the five (5) year period preceding the application date. To comply with the provisions of Government Code Sections 65915 and 66300, the applicant has offered to, and shall reserve at least five (5) dwelling units containing an aggregate of no less than nine (9) bedrooms in the project for occupancy by very low-income households and at least one (1) dwelling unit containing an aggregate of no less than three (3) bedrooms in the project for occupancy by lower-income households for a period of 55 years commencing with the issuance of the certificate of occupancy for the project. The applicant shall at all times during the term of the affordability period comply with the requirement to lease the target units to very low-income and low-income

households at an affordable rent as required by the Garden Grove Municipal Code and State Law. Pursuant to State law, the Garden Grove Municipal Code, and the City's Density Bonus Agreement Guidelines, the record owner or owners of the subject property shall enter into an affordable housing regulatory agreement with the City, which satisfies the criteria set forth in subdivision (c) of Government Code Section 65915 and Garden Grove Municipal Code Section 9.60.050. The regulatory agreement shall be prepared by the City at the applicant/owner's expense, and the applicant and/or owner shall reimburse the City for the actual fees and costs charged for the services of attorneys and/or other professional third-party consultants engaged by the City to provide consultation, advice, analysis, and/or review and/or preparation of documents in connection with preparation of the regulatory agreement, review of the initial marketing plan and management plan required as part of the regulatory agreement, review of annual compliance reports submitted by the owner pursuant to the regulatory agreement, and inspections and audits provided for in the regulatory agreement. Prior to preparation of the regulatory agreement, applicant and/or property owner shall execute a reimbursement agreement with the City, in a form approved by the City Attorney, and provide a deposit to the City in an amount sufficient to cover the estimated professional fees and costs to be incurred by the City, as determined by the Department Director, in his or her reasonable discretion. The regulatory agreement shall be approved by the City and recorded prior to final map approval. The regulatory agreement shall remain a senior, non-subordinate covenant and as an encumbrance running with the land for the full term thereof. In no event shall the regulatory agreement be made junior or subordinate to any deed of trust or other documents providing financing for the construction or operation of the project, or any other lien or encumbrance whatsoever for the entire term of the required covenants. The applicant understands and agrees that the provisions of Garden Grove Municipal Code Section 9.60.050 pertaining to affordable housing regulatory agreements in effect on the date of City approval of Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206 apply.

93. Final Vesting Tentative Parcel Map No PM-2021-206 shall be approved by the City and recorded by the applicant prior to issuance of building permits for the proposed development.

94. A copy of the resolution approving Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206, including these Conditions of Approval, shall be kept on the premises at all times.

95. The applicant shall submit a signed letter acknowledging receipt of the decision approving Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206 and its agreement with all conditions of the approval.

96. The applicant shall, as a condition of Project approval, at its sole expense, defend, indemnify and hold harmless the City, its officers, employees, agents

and consultants from any claim, action, or proceeding against the City, its officers, agents, employees and/or consultants, which action seeks to set aside, void, annul or otherwise challenge any approval by the City Council, Planning Commission, or other City decision-making body, or City staff action concerning Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206. The applicant shall pay the City's defense costs, including attorney fees and all other litigation related expenses, and shall reimburse the City for court costs, which the City may be required to pay as a result of such defense. The applicant shall further pay any adverse financial award, which may issue against the City including but not limited to any award of attorney fees to a party challenging such project approval. The City shall retain the right to select its counsel of choice in any action referred to herein.

97. In accordance with Garden Grove Municipal Code Sections 9.32.160 and 9.40.070.A, respectively, the rights granted pursuant to Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206 shall be valid for a period of two years from the effective date of this approval. Unless a time extension is granted pursuant to Section 9.32.030.D.9 of the Municipal Code, the rights conferred by Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206 shall become null and void if the subject development and construction necessary and incidental thereto is not commenced within two (2) years of the expiration of the appeal period and thereafter diligently advanced until completion of the project. In the event construction of the project is commenced but not diligently advanced until completion, the rights granted pursuant to Site Plan No. SP-120-2023 and Vesting Tentative Parcel Map No. PM-2021-206 shall expire if the building permits for the project expire.