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ATTACHMENT E

MEMORANDUM

To:	Rathar Duong, Senior Planner City of Pasadena, Planning & Community Development Department Design & Historic Preservation Section
From:	Brett Pomeroy, Associate Principal, Impact Sciences
Subject:	600 North Rosemead Boulevard Project (Case No. DHP 2026-00073); Response to Appeal
Date:	May 8, 2026

INTRODUCTION

The 600 North Rosemead Boulevard Project (Case No. DHP 2026-00073) was approved by the City of Pasadena Design Commission on April 14, 2026. The approval was later appealed on April 24, 2026, by Lower Hastings Ranch Association. Impact Sciences prepared the Noise and Vibration Technical Report (April 2026) associated with the Project's Class 32 Categorical Exemption. The appellant states: "*The Noise and Vibration Technical Report used to grant a CEQA Class 32 Exemption was incomplete and/or inaccurate, in that it did not state or explain the aggregate noise levels caused by the proposed 150 HVAC outdoor condenser units and the impact on sensitive receptor sites.*" While the Project's Noise and Vibration Technical Report (Technical Report) appropriately addressed the less-than-significant noise impacts due to the operation of HVAC equipment, this memorandum further substantiates the impact conclusion therein.

PROJECT HVAC EQUIPMENT

The Project would include rooftop-mounted HVAC condenser units and associated mechanical equipment on Buildings A and B. As shown in Attachment A, Project Mechanical Equipment, the rooftop equipment layout diagram illustrates HVAC equipment would generally be centrally located on the roof and screened by equipment screens/louvers in accordance with Pasadena Municipal Code Section 17.40.150. The Project includes approximately 150 outdoor HVAC condenser units associated with the proposed residential uses across Buildings A and B. HVAC equipment would consist of residential-scale ductless outdoor condensing units typical of multi-family residential development.

EXISTING CONDITIONS

The Project Site currently includes existing rooftop mechanical equipment and associated rooftop mechanical screening related to the existing commercial office use. Existing rooftop mechanical equipment is centrally located on the roof and screened from surrounding views by rooftop screening elements. Project plans indicate that existing rooftop mechanical equipment would be removed and replaced as part of the proposed adaptive reuse and redevelopment of the site. In addition, surrounding residential and commercial uses in the Project vicinity also include mechanical and HVAC equipment typically associated with urban residential and commercial development. Thus, the Project's placement and use of HVAC equipment would be consistent with the existing noise environment in the vicinity of the Project Site.

Noise Sensitive Receptors

As discussed in the Project's Technical Report, the closest noise-sensitive receptors to the Project Site are residences to the south along North Rosemead Boulevard (15 feet to the nearest structure), adjacent residences to the east along Rim Road (59 feet to the nearest structure), the Sierra Madre Villa Avenue Baseball Field and Church of Jesus Christ of Latter-day Saints (361 feet), and residences across Sierra Madre Villa Avenue (474 feet). Based on a review of the roof plans in Attachment A, the nearest distances from the rooftop HVAC equipment to the adjacent property lines are approximately 41 feet to the southern property line, 52 feet to the eastern property line, and 74 feet to the northern property line.

Ambient Noise Levels

As discussed in the Technical Report, existing noise levels were monitored at five locations in the vicinity of the Project Site. The noise survey was conducted in January 2026 and February 2026 using the Larson Davis Sound Expert 821 (Type 1) sound level meter, which conforms to industry standards set forth in ANSI S1.4-1983 (R2006) – Specification for Sound Level Meters/Type 1. This instrument was calibrated and operated according to the manufacturer's written specifications. At the measurement sites, the microphone was placed at a height of approximately five feet above grade. As shown in the Technical Report, the daytime ambient noise levels ranged from 51.0 dB(A) Leq to 67.0 dB(A) Leq in the vicinity the Project Site. Noise from existing mechanical equipment was observed and recorded during ambient noise measurements collected on the Project Site. A noise level of 51 dB(A) Leq was recorded while mechanical equipment was operating on the Project Site at an approximate distance of 30 feet from the measurement. The daytime, evening and nighttime noise measurements collected at the Project Site were used to calculate a 24-hour CNEL in the vicinity of the Project Site. The estimated 24-hour ambient noise level at the Project Site fronting Rosemead Boulevard is 71.9 dB(A) CNEL.

REGULATORY SETTING

City of Pasadena Municipal Code

As stated in the Technical Report, the City has jurisdiction over noise regulation, as stated in the City's Municipal Code, Title 9, Chapter 36 Noise Restrictions (Noise Ordinance). The Noise Ordinance is intended to enforce the City's policy to prohibit "unnecessary, excessive, and annoying noises from all sources." The Noise Ordinance generally limits the generation of noise that exceeds the actual measured existing ambient noise level by 5 dB(A) at neighboring properties, with adjustments made for steady audible tones, repeated impulsive noise, and noise occurring for limited periods. Section 9.36.060 sets interior noise level standards for multifamily residential development at 60 dB(A) during daytime hours (7:00 AM to 10:00 PM) and 50 dB(A) during nighttime hours (10:00 PM to 7:00 AM).

Section 9.36.090: Machinery, equipment, fans and air conditioning

Except for emergency work, as defined in this chapter it is 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 which would cause the noise level at the property line of any property to exceed the ambient noise level by more than 5 decibels.

Section 17.40.150: Screening

A. General requirement. Except as otherwise specified, all new exterior mechanical equipment, except solar collectors, shall be screened or located out of view from public rights-of-way (not including freeways). Equipment to be screened includes air conditioning and refrigeration equipment, duct work, heating, plumbing lines, and satellite receiving antennas.

B. Utility meters. Aboveground utility meters shall not be located between the front property line and the front foot of building occupancy or the corner side property line and the front foot of building occupancy.

C. Screening specification. At a minimum, screening materials shall have evenly distributed openings or perforations not exceeding 50 percent of surface area and shall effectively screen mechanical equipment.

D. Exceptions. The following are exceptions to the above screening requirements:

1. Screening requirements are not applicable to an antenna array consisting of a whip antenna that does not exceed a height of 15 feet or to satellite earth station antennas that are preempted by Part 25 of Title 47 of the Code of Federal Regulations.

2. The Zoning Administrator may allow utility meters to be located between the front property line and the front foot of building occupancy or the corner side property line and the front foot of building occupancy when no other location is feasible. Aboveground utility meters located in front or corner yards shall be screened from view from the public right-of-way.

3. Exceptions to the screening of mechanical equipment may be approved for projects subject to Design Review in Chapter 17.42 when the equipment is designed as an integral part of the architecture or where the screening enclosure substantially increases the visual mass on the roof line of a structure and alternative treatment may be preferable.

METHODOLOGY

The Project's potential noise generation from HVAC equipment was assessed by identifying the proposed HVAC noise sources and evaluating the sound levels that could occur at adjacent properties based on the manufacturer-provided sound pressure levels, the number of units proposed, distance attenuation, surrounding ambient noise levels, and applicable City noise standards. Estimated combined sound levels from multiple HVAC units were calculated using methodologies provided in AHRI Standard 275-2018 (R2023) for outdoor unitary equipment sound pressure level calculations.[1] HVAC equipment locations, property line setbacks, and screening features were reviewed based on the rooftop equipment layout diagram and associated architectural plans (see Attachment A).

PROJECT HVAC NOISE IMPACTS

As shown in Attachment A, rooftop HVAC equipment would be setback from surrounding roof edges and clustered within designated screened equipment areas. Based on a review of the roof plans, the nearest rooftop HVAC equipment would be located approximately 41 feet from the southern property line, 52 feet from the eastern property line, and 74 feet from the northern property line. In addition, rooftop HVAC equipment would be screened by equipment screens/louvers in accordance with Pasadena Municipal Code (PMC) Section 17.40.150. The rooftop equipment screen detail identifies aluminum louver equipment screens with supporting framing intended to visually screen rooftop mechanical equipment from adjacent properties and public viewpoints.

As shown in Attachment A, the HVAC specification sheets provided for the Project identify outdoor sound pressure levels for the proposed condenser units of approximately 58 dBA. Although the manufacturer does not specify a reference distance for this data, HVAC sound pressure ratings are commonly reported at a standardized reference

1 Air-Conditioning, Heating, and Refrigeration Institute, *2018 (Reaffirmed 2023) Standard for Application of Outdoor Unitary Equipment A-weighted Sound Power Rating*, 2023. Available at: https://www.ahrinet.org/search-standards/ahri-275-application-outdoor-unitary-equipment-weighted-sound-power-ratings-sii-p

distance of approximately 1 meter (3.3 feet) under laboratory test conditions.[2] Accordingly, the reported value is assumed to represent a sound level of approximately 58 dBA at 3.3 feet from the equipment.[3] This analysis conservatively assumes concurrent operation of all 150 rooftop condenser units under maximum operating conditions. In addition, the analysis conservatively assumes that all units operate at the nearest rooftop HVAC setback distance to each adjacent property line, although the rooftop equipment plans indicate that equipment is distributed across multiple rooftop locations at varying distances from adjacent property lines. Furthermore, while the Project complies with PMC screening requirements through the use of rooftop equipment screens/louvers (see **Attachment A**), the calculations below do not account for additional noise attenuation associated with rooftop screening, building shielding, atmospheric absorption, or other intervening features that may further reduce line-of-sight sound transmission to adjacent properties. As shown in **Table 1, Estimated Operational HVAC Noise Levels at Adjacent Property Lines**, concurrent operation of all 150 HVAC units would not exceed the ambient noise level by more than 5 decibels at any adjacent property line. Sensitive receptors located at distances beyond the adjacent property lines would experience noise levels below those shown in **Table 1**. Thus, under a worst-case scenario, the Project would be consistent with PMC Section 9.36.090 and impacts would be less than significant.

Table 1
Estimated Operational HVAC Noise Levels at Adjacent Property Lines

Adjacent Property Line	Distance from Nearest HVAC Equipment (ft)	Ambient Noise Level (dB(A) Leq)[a]	Estimated HVAC Noise Level (dBA Leq)[b]	Exceed Ambient Noise by 5 dBA?
South	41	67.0	57.9	No
East	52	51.0	55.8	No
North	74	51.0	52.7	No

[a] *Ambient noise levels and associated measurement data are presented in the Project's Noise and Vibration Technical Report (April 2026).*
[b] *Estimated noise levels were calculated assuming each HVAC unit generates 58 dBA at 3.3 feet (1 meter). Calculations conservatively assume concurrent operation of 150 pieces of HVAC equipment. The combined sound levels for 150 HVAC units were logarithmically added using AHRI methodology presented in Section 4.3.1, equation 3 of AHRI Standard 275-2018.*
Source: Air-Conditioning, Heating, and Refrigeration Institute (AHRI). 2023. Application of outdoor unitary equipment A-weighted sound power ratings (AHRI Standard 275-2018). Page 7. https://www.ahrinet.org/search-standards/ahri-275-application-outdoor-unitary-equipment-weighted-sound-power-ratings-sii-p Impact Sciences, 2026.

2 Air-Conditioning, Heating, and Refrigeration Institute, *2018 (Reaffirmed 2023) Standard for Application of Outdoor Unitary Equipment A-weighted Sound Power Rating*, 2023. Available at: https://www.ahrinet.org/search-standards/ahri-275-application-outdoor-unitary-equipment-weighted-sound-power-ratings-sii-p

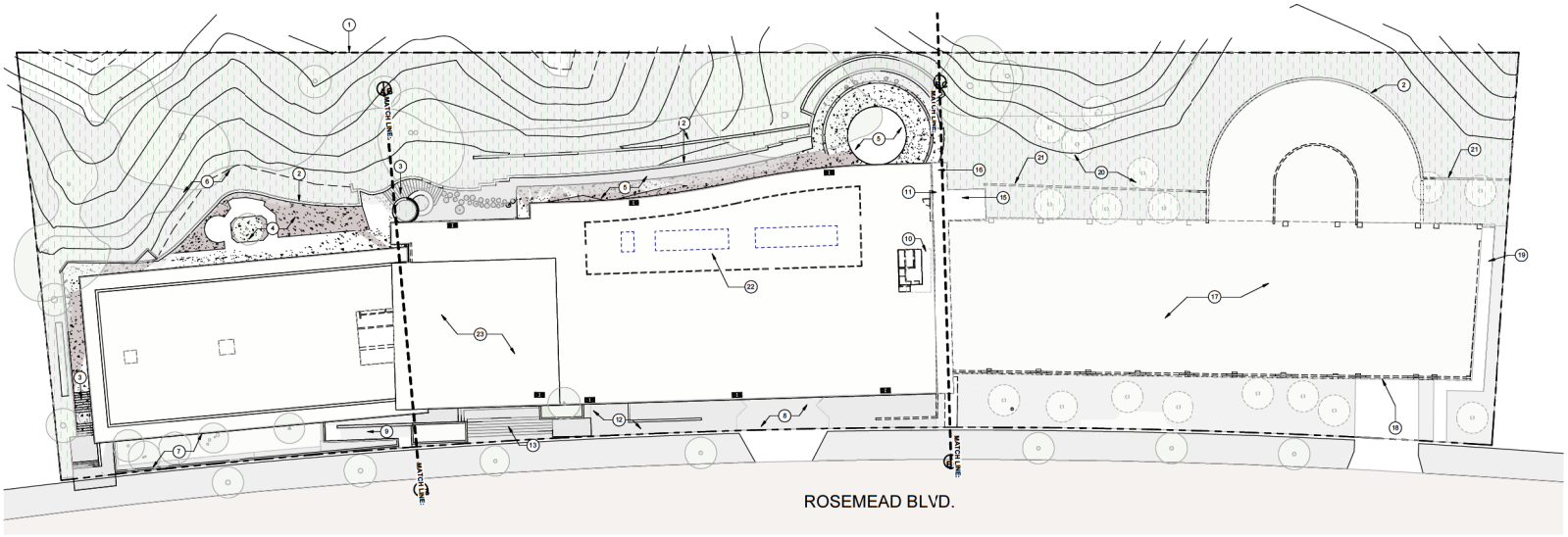
3 Ibid.

CONCLUSION

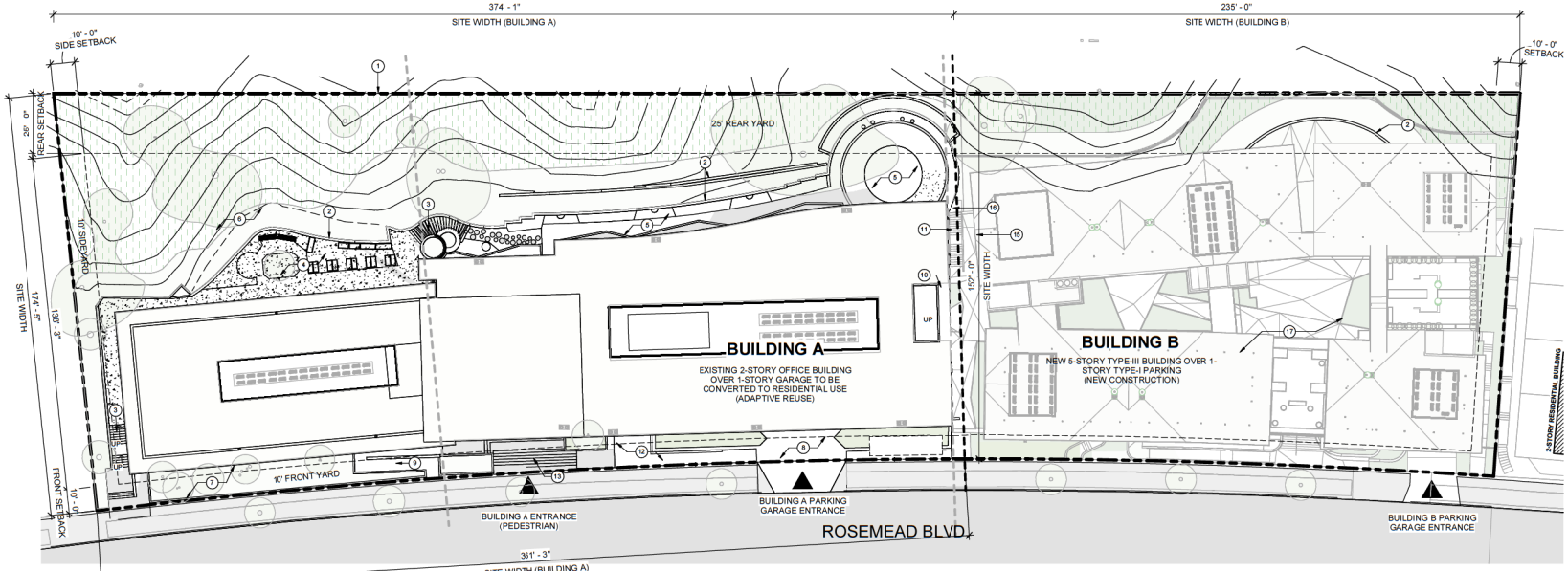
As demonstrated above, under a worst-case scenario, operation of the Project's HVAC equipment would not exceed applicable City noise standards nor would result in a substantial increase to ambient noise levels at nearby sensitive receptors. Furthermoe, the HVAC equipment proposed by the Project would be typical of residential and infill development within the City and would not represent unique or unusual sources of noise. As such, the Project's Noise and Vibration Technical Report appropriately concluded noise impacts with respect to HVAC equipment would be less than significant.

Attachment: A (Project Mechanical Equipment)

ATTACHMENT A
Project Mechanical Equipment



2 SITE PLAN - DEMO
1" = 20'-0"



1 SITE PLAN - PROPOSED
1" = 20'-0"

KEYNOTES

1. SITE PROPERTY LINE (TYP.)
2. EXISTING RETAINING WALL TO REMAIN (SEE CIVIL DRAWINGS)
3. EXISTING STAIRS TO REMAIN
4. EXISTING PATIO TO BE MODIFIED (LEVEL 3)
5. EXISTING PATIO TO BE MODIFIED (LEVEL 2)
6. EXISTING LANDSCAPE TO BE MODIFIED (SEE LANDSCAPE PLANS)
7. EXISTING RAISED PLANTER TO REMAIN.
8. EXISTING DRIVEWAY TO BE MODIFIED. (SEE CIVIL DRAWINGS)
9. EXISTING RAMP TO REMAIN
10. NEW EGRESS STAIRS
11. NEW STEPS. (SEE LANDSCAPE PLANS)
12. EXISTING CONCRETE TO REMAIN.
13. EXISTING BRICK ENTRY STEPS TO REMAIN.
14. NEW PWP ELECTRICAL SERVICE IN VAULT.
15. EXISTING STAIR TOWER TO BE DEMOLISHED.
16. EXISTING ROOF OVERHANG TO BE MODIFIED.
17. EXISTING PARKING GARAGE TO BE DEMOLISHED.
18. EXISTING DRIVEWAY TO BE DEMOLISHED.
19. EXISTING STAIR TO BE DEMOLISHED.
20. EXISTING TREES TO BE REMOVED.
21. EXISTING RETAINING WALL TO BE DEMOLISHED.
22. EXISTING MECHANICAL EQUIPMENT TO BE DEMOLISHED.
23. EXISTING ROOF TO BE REMOVED, AND REPLACED.

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NOT FOR CONSTRUCTION

PROJECT NAME:
ROSEMEAD FAMILY APARTMENTS

PROJECT ADDRESS:
600 N. ROSEMEAD AVE, PASADENA CA 91107

PROJECT NUMBER -

CLIENT NAME:
ELYSIAN HOUSING

CLIENT ADDRESS:

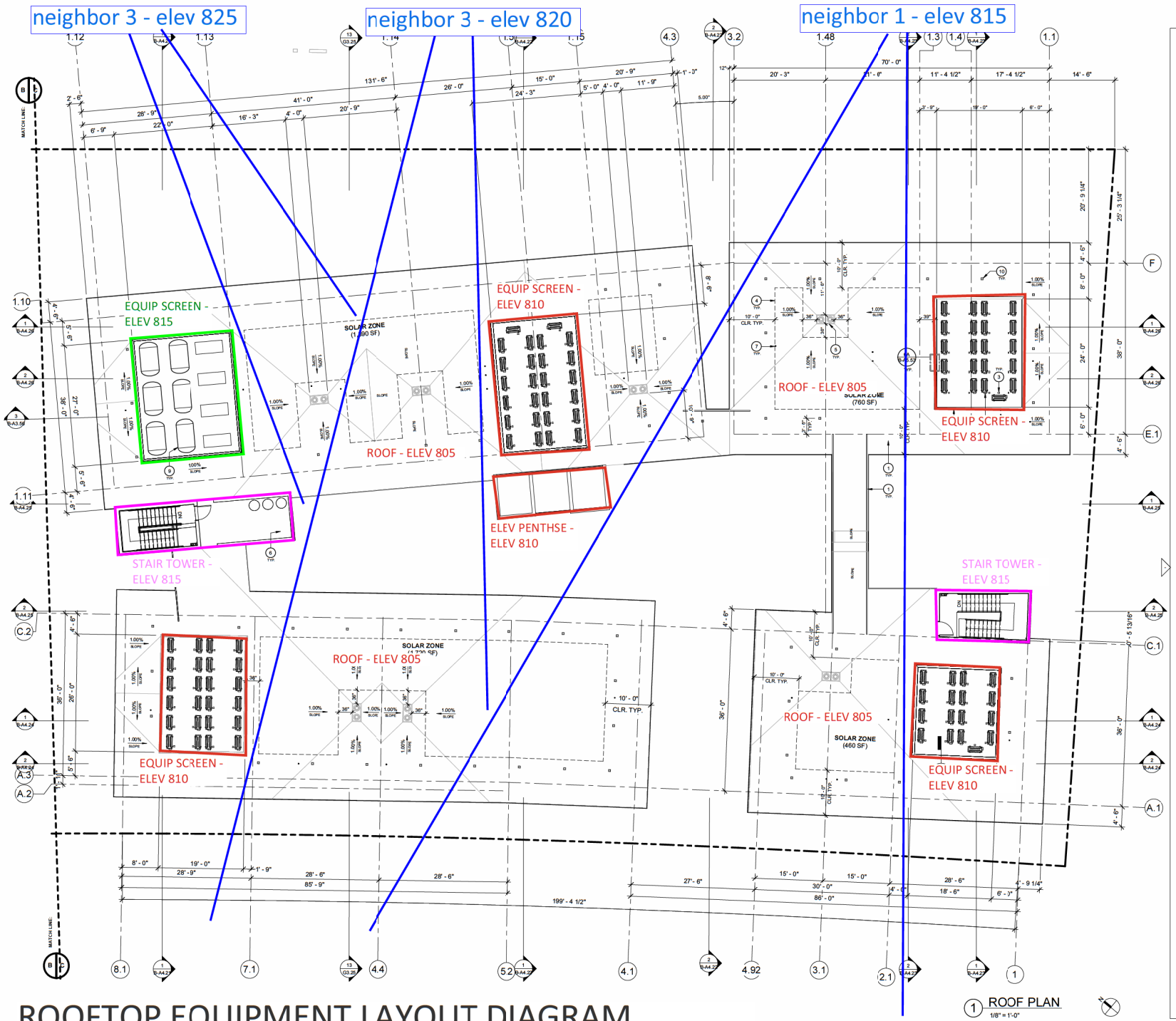
DRAWING TITLE:
SITE PLAN (E) & (N)

PLAN CHECK	
Date	2/13/2026
Drawn by	Author
Checked by	Checker

A-A1.00

Scale 1" = 20'-0"

03/05/26



ROOFTOP EQUIPMENT LAYOUT DIAGRAM

1 ROOF PLAN
1/8" = 1'-0"

KEYNOTES

1. 60MIL MIN. FIRESTONE ULTRAPLY WHITE OR EQUAL CLASS 'A' SINGLE PLY TPO/L ROOF OVER 1/4" DENSE DECK PRIME SHEATHING INSTALLED PER MANUFACTURER RECOMMENDATIONS. PROVIDE PENETRATION FLASHING AND TPO COATED SHEET METAL FLASHING PER MANUFACTURER REQUIREMENTS. MINIMUM 78 SRI (SOLAR REFLECTANCE INDEX) CONTRACTOR TO PROVIDE MINIMUM 20 YEAR NDL WARRANTY. ICC# ESR-2531 (REFER TO 8723-RF-S-012 CUT SHEET ON B8-G1.60)
2. MECHANICAL CONDENSER UNITS ON EQUIPMENT PAD (MIN. 8" A.F.F. HIGHEST ADJACENT ROOF F.INISH ELEVATION PER MANUFACTURER RECOMMENDATIONS).
3. CONDENSER UNIT DISCONNECT TO BE MOUNTED ON EQUIPMENT PAD (SEE ELECTRICAL / MECHANICAL PLANS)
4. SOLAR PV PANEL ARRAY SYSTEM (TO BE PREPARED BY SOLAR PV CONSULTANT AS A DESIGN BUILD ITEM. GENERAL CONTRACTOR TO PROVIDE ALLOWANCE FOR SCOPE)
5. ROOF DRAIN AND OVERFLOW DRAIN. OVERFLOW DRAIN SHALL DISCHARGE THROUGH WALL SCUPPERS ON'D ROOF DECK AT LEVEL BELOW.
6. TRASH CHUTE EXHAUST VENTS
7. PLUMBING VENT TO ROOF
8. EQUIPMENT SCREEN / LOUVER PER 1/8-A5.55
9. WATER TANK MOUNTED ON EQUIPMENT PAD (SIZE TBD BY PLUMBING ENGINEER)
10. ROOF ANCHOR
11. 42" TALL METAL GAURDRAIL
12. EXTERIOR METAL STAIR ASSEMBLY (PER DETAIL 1/A5.31)

LID / STORMWATER MANAGEMENT NOTES

A. ALL STORMWATER RUN-OFF FROM ROOF DRAINS, DOWNSPOUTS, AND AREA DRAINS WITHIN PODIUM AND SIDE YARDS TO BE CONNECTED TO APPROVED LID / BMP (SEE C3.00, P1.02 - P1.09 FOR MORE INFORMATION).

B. PUMP DESIGN FOR RAINWATER HARVESTING TANK SHALL BE PROVIDED BY MANUFACTURER (TBD AT LATER DATE). SEE SYSTEMS DIAGRAM IN APPROVED LID EXHIBIT ON C3.01

SOLAR ZONE NOTES

SOLAR ZONE AREA WITH TOTAL AREA EQUAL TO OR GREATER THAN 15% OF THE BUILDING'S TOTAL ROOF AREA PROVIDED (2020 LAGBC 4.211.4).

ROOF AREA: 18,750 SF
SOLAR ZONE AREA REQUIRED: 18,750 SF x .15 = 2,812 SF
SOLAR ZONE AREA PROVIDED: 4,290 SF = 15% REQUIRED

SOLAR ZONE SHALL BE FREE OF OBSTRUCTIONS AND BE SETBACK AT LEAST TWO TIMES THE HEIGHT OF OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO, VENTS, CHIMNEYS, AND EQUIPMENT (2020 LAGBC 4.211.4)

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NOT FOR CONSTRUCTION

PROJECT NAME:
600 N. ROSEMEAD AVE

PROJECT ADDRESS:
600 N. ROSEMEAD AVE,
PASADENA CA 91107

PROJECT NUMBER
-

CLIENT NAME:
ELYSIAN HOUSING

CLIENT ADDRESS:
584 1/2 N. Larchmont Blvd.
Los Angeles, CA 90004

KEY PLAN

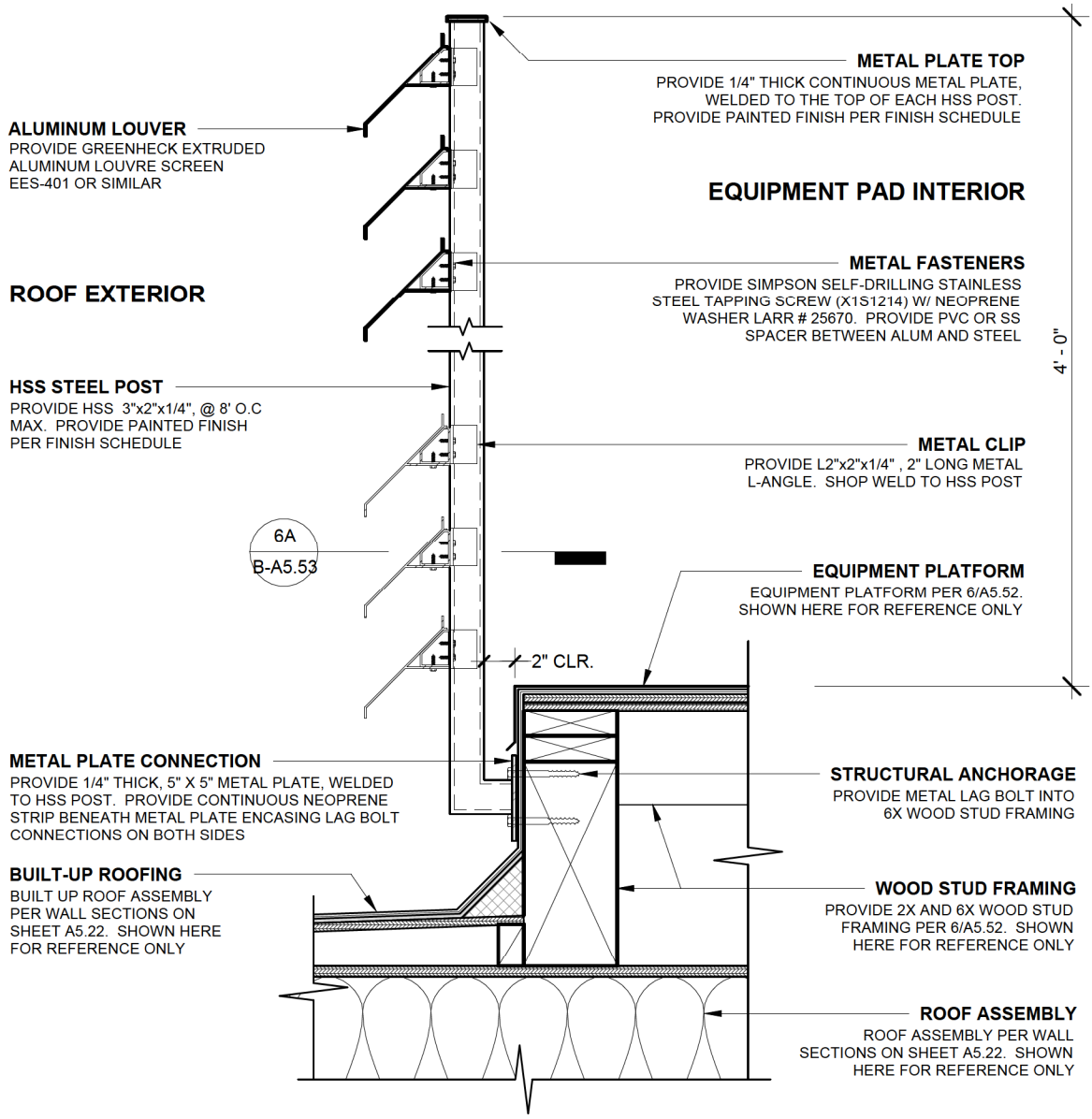
DRAWING TITLE:
BUILDING B - ROOF PLAN

PLAN CHECK SUBMISSION #1

Date	02/17/2026
Drawn by	Author
Checked by	Checker

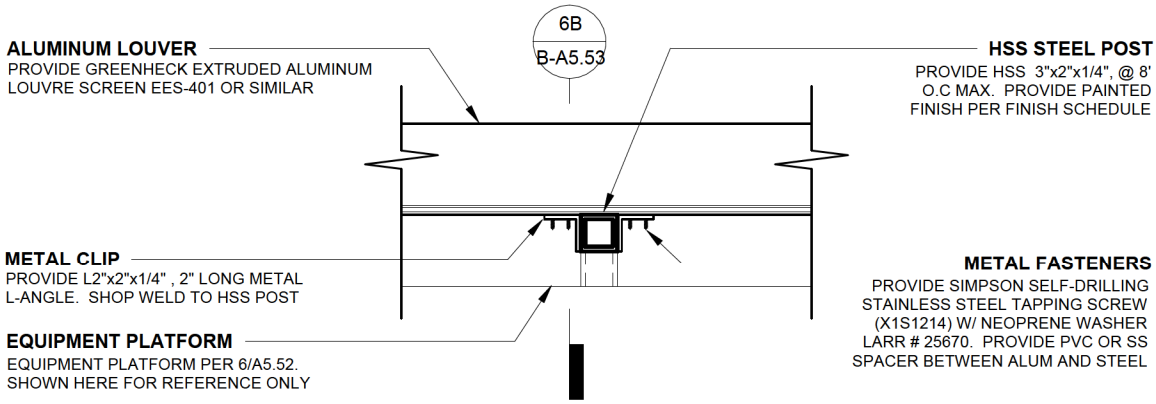
B-A2.06

Scale: As indicated



6B EQUIPMENT SCREEN - SECTION DETAIL

1 1/2" = 1'-0"



6A EQUIPMENT SCREEN - PLAN DETAIL

1 1/2" = 1'-0"

37MARA
Outdoor Unit Single Zone Ductless System
Sizes 9 to 36

Carrier

Product Data

Fig. 1 – Typical Unit

NOTE: Images for illustration purposes only. Actual models may differ.

TABLE OF CONTENTS

Table 4 – Comprehensive Specifications (Continued)

			RESIDENTIAL BLDG A, B	BLDG A CU-7	BLDG A CU-4	BLDG A CU-1, 6 BLDG B CU-1	BLDG A CU-2 BLDG B CU-2, 4		
OUTDOOR REFRIGERANT COIL SPECIFICATIONS	Number of rows	Rows	2	2	2	2	2.6	3	3
	Tube outside dia.	inch	0.276	0.276	0.276	0.276	0.276	0.276	0.276
		mm	Φ7	Φ7	Φ7	Φ7	Φ7	Φ7	Φ7
	Nominal Tube Wall	mm	0.00945 (0.24)	0.00945 (0.24)	0.00945 (0.24)	0.00945 (0.24)	0.00945 (0.24)	0.00945 (0.24)	0.00945 (0.24)
	Tube Enhancement	(Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Tube Material		Copper						
	Tube pitch (a) x row pitch (b)	inch	0.83× 0.87	0.83× 0.87	0.83× 0.87	0.83× 0.87	0.83× 0.53	0.83× 0.53	0.83× 0.53
		mm	21x22	21x22	21x22	21x22	21x13.37	21x13.37	21x13.37
	Fin Spacing	FPI	20	20	20	20	20	19	19
		mm	1.3	1.3	1.3	1.3	1.3	1.4	1.4
	Fin type		Plain fin	Plain fin	Plain fin	Plain fin	Plain fin	Louvered	Louvered
	Fin Material		Gold hydrophilic aluminum						
	Coil length x height x width	inch	29.33x19.84x0.87+27.95x19.84x0.87	29.33x19.84x0.87+27.95x19.84x0.87	29.33x19.84x0.87+27.95x19.84x0.87	35.43x23.98x0.87+34.06x23.98x0.87	39.57x29.76x1.05+23.54x29.76x0.53	39.37x29.76x0.53+38.58x29.76x0.53+37.99x29.76x0.53	39.37x29.76x0.53+38.58x29.76x0.53+37.99x29.76x0.53
		mm	745*504*22+710*504*22	745*504*22+710*504*22	745*504*22+710*504*22	900*609*22+865*609*22	1005x756x26.74+598x756x13.37	1000x756x13.37+980x756x13.37+965x756x13.37	1000x756x13.37+980x756x13.37+965x756x13.37
	Face area	ft2	4.04	4.04	4.04	5.90	8.18	8.14	8.14
	Number of circuits	#	4	4	4	6	6	6	6
	High Burst Pressure	Psi (MPa)	550(3.79)	550(3.79)	550(3.79)	550(3.79)	550(3.79)	550(3.79)	550(3.79)
	Low Burst Pressure	Psi (MPa)	340(2.34)	340(2.34)	340(2.34)	340(2.34)	340(2.34)	340(2.34)	340(2.34)
Piping and Refrigerant Information	Refrigerant Type	Type	R454B	R454B	R454B	R454B	R454B	R454B	R454B
	Charge Amount	lb. (kg)	2.09(0.95)	2.03(0.92)	2.03(0.92)	3(1.36)	4.41(2.0)	5.29(2.4)	7.05(3.2)
	Additional refrigerant charge	Oz/ft (g/m)	0.16(15)	0.16(15)	0.16(15)	0.16(15)	0.32(30)	0.32(30)	0.32(30)
	Liquid Pipe (size - connection type)	In (mm)	1/4in (6.35mm)	1/4in (6.35mm)	1/4in (6.35mm)	1/4in (6.35mm)	3/8in (9.52mm)	3/8in (9.52mm)	3/8in (9.52mm)
	Suction Pipe (size - connection type)	In (mm)	3/8in (9.52mm)	3/8in (9.52mm)	3/8in (9.52mm)	1/2in (12.7mm)	5/8in (15.9mm)	5/8in (15.9mm)	5/8in (15.9mm)
	Min. Piping Length	ft. (m)	10 (3)	10 (3)	10 (3)	10 (3)	10 (3)	10 (3)	10 (3)
	Standard Piping Length	ft. (m)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)
	Max. Piping Length with no additional refrigerant charge per System	ft. (m)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)	24.6 (7.5)
	Total Maximum Piping Length per system	ft. (m)	82.02(25)	82.02(25)	82.02(25)	98.42(30)	164.04(50)	164.04(50)	213.25(65)
	Max. outdoor-indoor height difference (OU higher than IU)	ft. (m)	49.21(15)	49.21(15)	49.21(15)	65.62(20)	82.02(25)	82.02(25)	98.43(30)
	Max. outdoor-indoor height difference (IU higher than OU)	ft. (m)	49.21(15)	49.21(15)	49.21(15)	65.62(20)	82.02(25)	82.02(25)	98.43(30)
AIRFLOW SPECIFICATIONS	Outdoor (CFM)	CFM	1236.7	1236.7	1236.7	1766.8	2237.9	2237.9	2237.9
SOUND DATA	Outdoor Sound Pressure Level	dB(A)	52.5	52.5	56	58	58	61	63

ATTACHMENT E

600 North Rosemead Boulevard Project

Noise and Vibration Technical Report

April 2026

Prepared for:

City of Pasadena
Planning and Development Department
175 North Garfield Avenue
Pasadena, CA 91101

Prepared by:

Impact Sciences, Inc.
811 W. 7th Street, Suite 200
Los Angeles, CA 90017
Contact: Brett Pomeroy, Associate Principal

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

This Noise and Vibration Technical Report describes the potential for noise and groundborne vibration impacts resulting from implementation of the proposed project located at 600 North Rosemead Boulevard Project (Project) in the City of Pasadena (City). This report includes an evaluation of potential impacts associated with substantial temporary and permanent changes in ambient noise levels in the vicinity of the Project Site in excess of standards established in the City's General Plan or Noise Ordinance or. applicable standards of other agencies. This report also evaluates whether the Project would result in generation of excessive groundborne vibration or groundborne noise levels, and whether the Project would expose people residing or working the project area to excessive noise levels related to an airport or airstrip. This report has been prepared by Impact Sciences, Inc., in support of the City of Pasadena's (lead agency's) environmental review of the Project being conducted pursuant to the California Environmental Quality Act (CEQA).

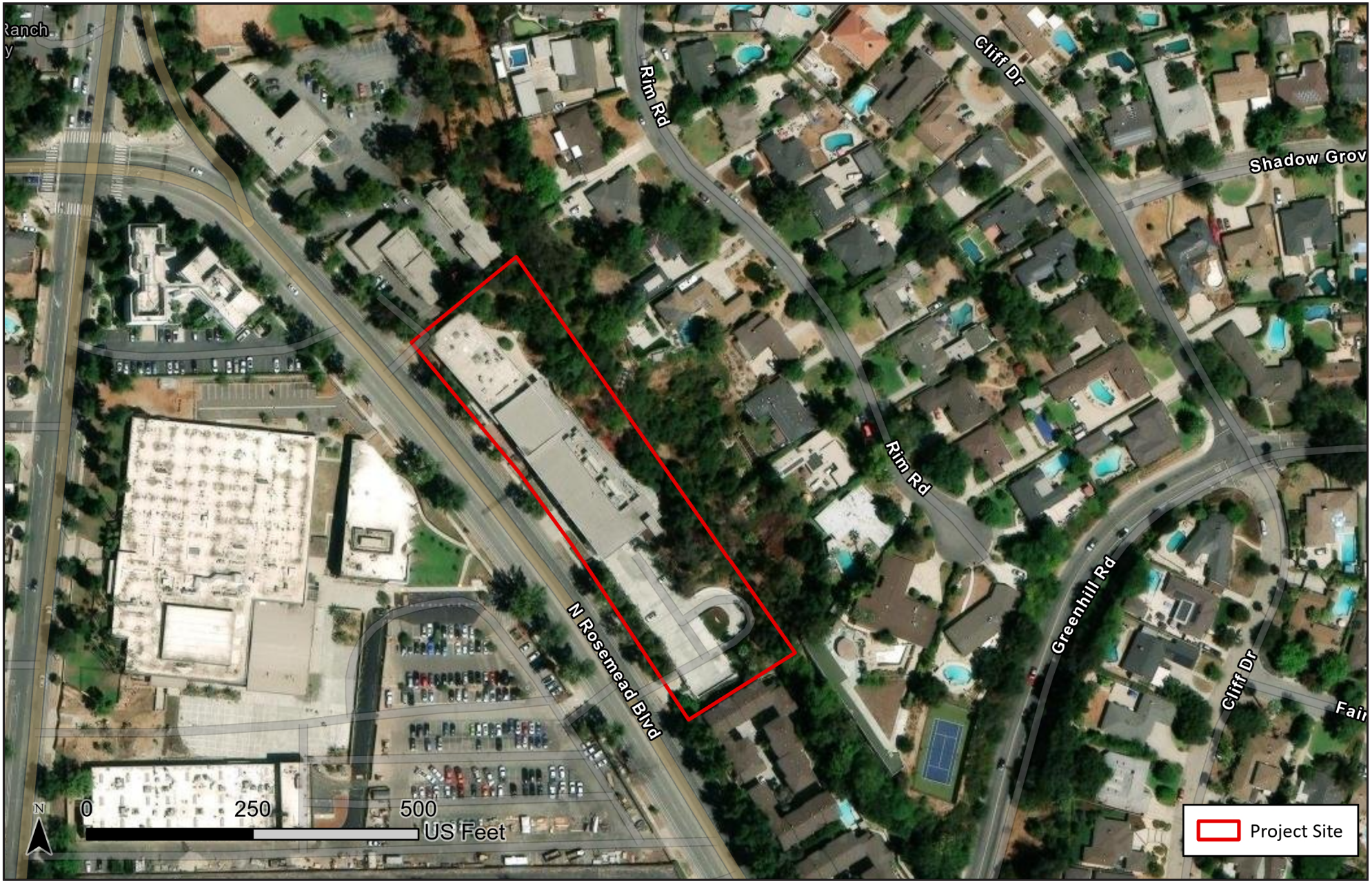
1.1 PROJECT LOCATION

The Project Site is located at 600 N. Rosemead Boulevard (APN: 5757-006-060) and is currently developed with a two-story office building and two-story parking structure. Surrounding uses include multi-family residential buildings at the adjacent property to the south, commercial uses to the north and west (across N. Rosemead Boulevard), and low-density residential uses to the east of the Project Site. See **Figure 1, Aerial Photograph of the Project Site**, which illustrates the location of the Project Site.

1.2 EXISTING CONDITIONS

The Project Site is within the East Pasadena Specific Plan area (EPSP). The City's *General Plan* designates the Project Site as ESPS Subarea 2 Commercial Office and is zoned EPSP-D2-CO-D-2. The EPSP-D2-CO-D-2 zone permits multi-family residential land uses subject to compliance with all development standards. Pursuant to Pasadena Municipal Code § 17.32.050, multi-family residential uses are permitted in this district, and the East Pasadena Specific Plan requires that such development comply with applicable multi-family (RM) development standards. The Project applies high density residential (RM-48) zone standards which allow for 0-48 dwelling units per acre, characterized by higher density multi-family complexes in neighborhoods with densities of up to 48 dwelling units per acre and two to three story buildings.[1]

[1] City of Pasadena, *Land Use Element*, amended January 2016 and May 2022. Available online at: https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Land-Use-Element-2022-05-25.pdf?v=1752250820103, accessed January 10, 2026.



SOURCE: Esri, 2026

FIGURE 1

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Aerial Photograph of the Project Site

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1.3 PROJECT CHARACTERISTICS

The Project would demolish the existing two-story parking structure, convert and expand the existing two-story, 42,518-square-foot office building into a 60,650 sf, 51-unit affordable housing building (Building A), and construct a new five-story, 76,089-square-foot building (Building B) with 82 affordable units for a total of 133 units. Each building would include one level of at grade parking. The Project would provide a total of 55 parking spaces and would include 22 on-site bicycle parking spaces. The Project would have an approximate floor area ratio ("FAR") of 1.29:1 and a maximum height of 71'. The Project would also provide approximately 15,000 sf of open space area within the Project Site and adjacent street frontages (see **Figure 2, Project Site Plan**). **Table 1, Project Summary**, below, summarizes the Project's development envelope.

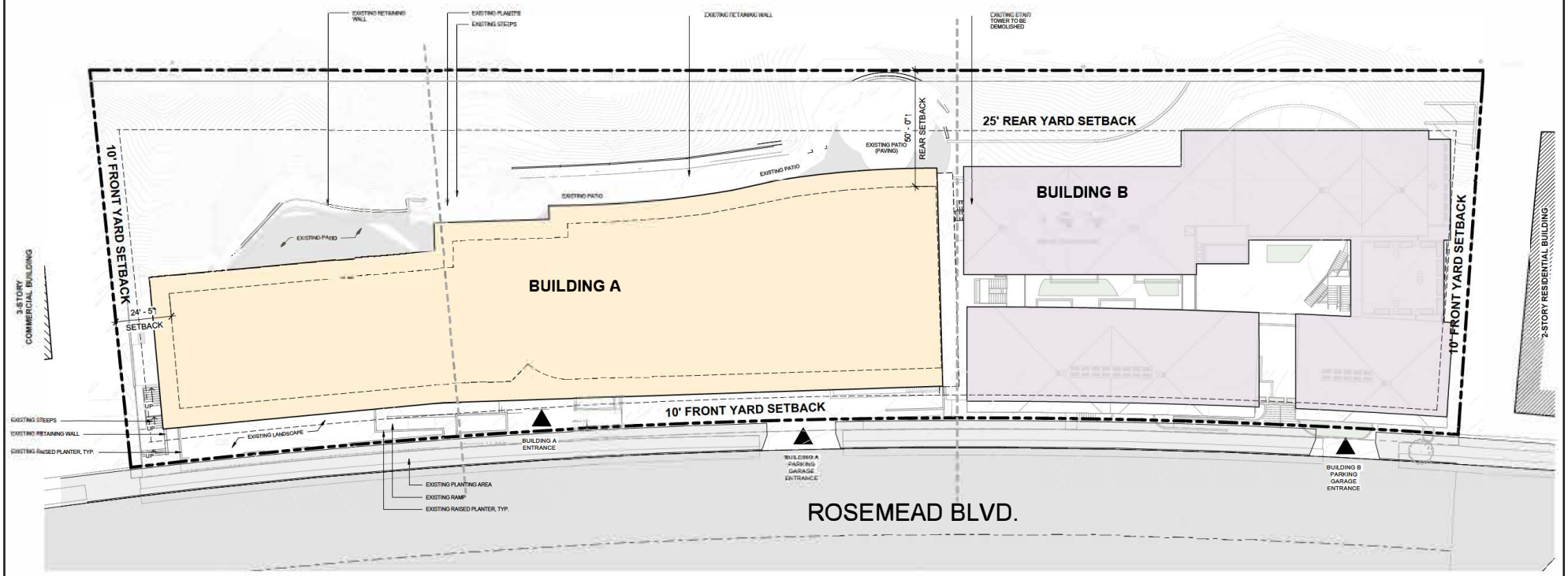
Table 1
Project Summary

	Maximum Allowable/Required	Project
Units	103 units + 103 bonus density units (Per PMC Section 17.22.060 + AB 1287)	133 units
Residential Building Square Footage	121,030 sf (Per PMC Section 17.22.060)	118,607 sf
Parking Square Footage	None	18,132 sf
FAR	1.99:1 (Per PMC Section 17.22.060 + AB 1287 density bonus)	1.29:1
Height	71 feet (with the affordable housing density bonus per PMC Chapter 17.22 & Chapter 17.42 Section 17.43.040)	71'
Vehicle Parking	None (per AB 2097)	55 spaces
Bicycle Parking	22 bicycle parking spaces (per PMC Chapter 17.46, Section 17.46.320)	22 spaces
Open Space	14,850 sf (per PMC Chapter 17.40 + PMC 3.23.010 open space reduction)	15,000 sf

Sources: Project application materials, Pasadena Municipal Code (PMC) 2026, and Impact Sciences 2026.

Access and Parking

As described above, the Project would provide a one level parking garage in each building for a 55 total parking spaces. Vehicular ingress/egress to the Project's parking garages would be provided via one driveway for Building A and one driveway for Building B along N. Rosemead Boulevard. To encourage and facilitate the use of public transportation and bicycle use by residents and visitors, the Project would also include 22 bicycle parking spaces.



SOURCE: Fry Architects, October 2024

FIGURE **2**

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Project Site Plan

1.4 PROJECT CONSTRUCTION SEQUENCING

For the purpose of analyzing impacts associated with construction activities, this analysis assumes a construction schedule of approximately 27 months beginning in 2026. This analysis assumes the Project will be fully operational in 2028. It should be noted that the construction assumptions identified herein are conceptual and are intended to identify worst-case daily impacts. If the Project is built out more slowly and at later dates than those assumed herein, the daily construction intensity would be reduced and associated daily impacts would be generally reduced. Construction activities associated with the Project would involve: (1) demolition, (2) site preparation/grading/foundation preparation, and (3) building construction (including painting and paving).

Demolition and removal of existing debris would occur for approximately two months. This phase would include the demolition of the two-story parking structure on site. Approximately 3,153 cubic yards of building demolition would be required.[2]

Site preparation, grading/excavation, and foundation preparation would occur for approximately one month and up to 500 cubic yards (cy) of soil may be exported.

Building construction would occur for approximately 12 months and would include the construction of the proposed structures, connection of utilities, and landscaping the Project Site.

Painting would occur for approximately 12 months with paving occurring concurrently during the final month.

The following maximum daily equipment by phase will be assumed:

- Demolition: 1 concrete/industrial saw, 1 excavator, 1 skid steer loader, 1 tractor/loader/backhoe
- Site preparation/grading/foundation preparation: 1 excavator, 1 roller, 1 tractor/loader/backhoe
- Building construction: 1 crane, 1 forklift
- Paving and painting: 1 cement and mortar mixer, 1 paver, 1 paving equipment, 2 rollers 1 tractor/loader/backhoes, 1 air compressor

[2] Debris volume estimated using the FEMA 329 General Building Formula (LxWxDx0.33/27), which accounts for air space reduction during demolition. The 3,153 cubic yards of demolition debris would generate approximately 1,577 tons, based on the standard Cal Recycle conversion factor of 0.5 tons per cubic yard for mixed construction and demolition debris.

2.0 ENVIRONMENTAL SETTING

2.1 FUNDAMENTALS OF NOISE & VIBRATION

Noise

Noise is usually defined as unwanted sound that is an undesirable byproduct of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, and/or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies. For example, the human ear is less sensitive to low and high frequencies than medium frequencies, which more closely correspond with human speech. In response to the sensitivity of the human ear to different frequencies, the A-weighted noise level (or scale), which corresponds better with people's subjective judgment of sound levels, has been developed. This A-weighted sound level, referenced in units of dB(A), is measured on a logarithmic scale such that a doubling of sound energy results in a 3 dB(A) increase in noise level. Typically, changes in a community noise level of less than 3 dB(A) are not noticed by the human ear.[3] Changes from 3 to 5 dB(A) may be noticed by some individuals who are sensitive to changes in noise. A greater than 5 dB(A) increase is readily noticeable, while the human ear perceives a 10 dB(A) increase in sound level to be a doubling of sound.

On the A-weighted scale, the range of human hearing extends from approximately 3 to 140 dB(A). **Table 2, A-Weighted Decibel Scale**, provides examples of A-weighted noise levels from common sources. Noise sources occur in two forms: (1) point sources, such as stationary equipment or individual motor vehicles; and (2) line sources, such as a roadway with a large number of point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6 dB(A) for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dB(A) at acoustically "soft" sites.[4] For example, if a noise source produces a noise level of 89 dB(A) at a reference distance of 50 feet, the noise level would be 83 dB(A) at a distance of 100 feet from the noise source, 77 dB(A) at a distance of 200 feet, and so on. Noise generated by a line source will decrease by approximately 3 dB(A) over hard surfaces and 4.5 dB(A) over soft surfaces for each doubling of distance.

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3 California Department of Transportation (Caltrans). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf

4 Federal Highway Administration, *Highway Noise Fundamentals*, (1980) 97. Examples of "hard" or reflective sites include asphalt, concrete, and hard and sparsely vegetated soils. Examples of acoustically "soft" or absorptive sites include soft, sand, plowed farmland, grass, crops, heavy ground cover, etc.

Table 2
A-Weighted Decibel Scale

Typical A-Weighted Sound Levels	Sound Level (dB(A), Leq)
Threshold of Pain	140
Jet Takeoff at 100 Meters	125
Jackhammer at 15 Meters	95
Heavy Diesel Truck at 15 Meters	85
Conversation at 1 Meter	60
Soft Whisper at 2 Meters	35

Source: United States Occupational Safety & Health Administration, Noise and Hearing Conservation Technical Manual, 1999.

Sound levels also can be attenuated by man-made or natural barriers (e.g., sound walls, berms, and ridges), as well as elevational differences. Noise is most audible when traveling by direct line-of-sight, an interrupted visual path between the noise source and noise receptor. Barriers, such as walls or buildings that break the line-of-sight between the source and the receiver, can greatly reduce noise levels from the source since sound can only reach the receiver by diffraction. However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced.

Solid walls and berms may reduce noise levels by 5 to 10 dB(A) depending on their height and distance relative to the noise source and the noise receptor.[5] Sound levels may also be attenuated 3 dB(A) by a first row of houses and 1.5 dB(A) for each additional row of houses.[6] The minimum noise attenuation provided by typical structures in California is provided in **Table 3, Building Noise Reduction Factors**.

5 Federal Highway Administration, *Highway Noise Mitigation*, (1980) 18.

6 California Department of Transportation (Caltrans). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf

Table 3
Building Noise Reduction Factors

Building Type	Window Condition	Noise Reduction Due to Exterior of the Structure (dB(A))
All	Open	10
Light Frame	Ordinary Sash (closed)	20
	Storm Windows	25
Masonry	Single Glazed	25
	Double Glazed	35

Source: Federal Highway Administration, Highway Traffic Noise: Analysis and Abatement Guidance. December 2011.

Sound Rating Scales

Various rating scales approximate the human subjective assessment to the "loudness" or "noisiness" of a sound. Noise metrics have been developed to account for additional parameters, such as duration and cumulative effect of multiple events. Noise metrics are categorized as single event metrics and cumulative metrics, as summarized below.

In order to simplify the measurement and computation of sound loudness levels, frequency weighted networks have obtained wide acceptance. The A-weighted scale, discussed above, has become the most prominent of these scales and is widely used in community noise analysis. Its advantages are that it has shown good correlation with community response and is easily measured. The metrics used in this analysis are all based upon the dB(A) scale.

Equivalent Noise Level

Equivalent Noise Level (Leq) is the sound level corresponding to a steady-state A-weighted sound level containing the same total energy as several single event noise exposure level events during a given sample period. Leq is the "acoustic energy" average noise level during the period of the sample. It is based on the observation that the potential for noise annoyance is dependent on the total acoustical energy content of the noise. The equivalent noise level is expressed in units of dB(A). Leq can be measured for any period, but is typically measured for 15 minutes, 1 hour, or 24 hours. Leq for a 1-hour period is used by the Federal Highway Administration (FHWA) for assessing highway noise impacts. Leq for 1 hour is referred to as the Hourly Noise Level (HNL) in the California Airport Noise Regulations and is used to develop Community

Noise Equivalent Level values for aircraft operations. Construction noise levels and ambient noise measurements in this section use the Leq scale.

Community Noise Equivalent Level

Community Noise Equivalent Level (CNEL) is a 24-hour, time-weighted energy average noise level based on the A-weighted decibel. It is a measure of the overall noise experienced during an entire day. The term "time-weighted" refers to the penalties attached to noise events occurring during certain sensitive periods. In the CNEL scale, 5 decibels (dB) are added to measured noise levels occurring between the hours of 7 P.M. and 10 P.M. For measured noise levels occurring between the hours of 10 P.M. and 7 A.M., 10 dB are added. These decibel adjustments are an attempt to account for the higher sensitivity to noise in the evening and nighttime hours and the expected lower ambient noise levels during these periods. Existing and projected future traffic noise levels in this section use the CNEL scale.

Day-Night Average Noise Level

The day-night average sound level (Ldn) is another average noise level over a 24-hour period. Noise levels occurring between the hours of 10 P.M. and 7 A.M. are increased by 10 dB. This noise is weighted to take into account the decrease in community background noise of 10 dB(A) during this period. Noise levels measured using the Ldn scale are typically similar to CNEL measurements.

Adverse Effects of Noise Exposure

Noise is known to have several adverse effects on humans, which has led to laws and standards being set to protect public health and safety, and to ensure compatibility between land uses and activities. Adverse effects of noise on people include hearing loss, communication interference, sleep interference, physiological responses, and annoyance. Public agencies have established quantitative thresholds to address potential human health effects associated with noise exposure. Prolonged exposure to high noise levels can result in hearing loss, with occupational standards establishing a limit of 90 dBA Leq over an 8-hour period to protect workers from permanent hearing damage.[7] At the community level, noise exposure has been shown to result in increased annoyance and sleep disturbance, which are recognized contributors to stress and reduced quality of life. Studies indicate that the percentage of individuals highly annoyed by noise increases from approximately 7 percent at 55 dBA Ldn to 23 percent at 70 dBA Ldn.[8] In addition, noise levels of 40 to 50 dBA may interfere with the ability to fall asleep, while noise levels of 70 dBA or

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7 Cal/OSHA, Title 8 Regulations, Subchapter 7. General Industry Safety Orders, Group 15. Occupational Noise, Article 105. Control of Noise Exposure, §5096. Exposure Limits for Noise, Table N-1 Permissible Noise Exposure.

8 EPA, Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise, October 1979, Revised July 1981.

higher can result in awakening.[9] Each of these potential noise impacts on people is briefly discussed in the following narrative.

Hearing Loss

Hearing loss is generally not a community noise concern, even near a major airport or a major freeway. The potential for noise-induced hearing loss is more commonly associated with occupational noise exposures in heavy industry, very noisy work environments with long-term exposure, or certain very loud recreational activities (e.g., target shooting and motorcycle or car racing). The Occupational Safety and Health Administration (OSHA) identifies a noise exposure limit of 90 dB(A) for 8 hours per day to protect from hearing loss (higher limits are allowed for shorter duration exposures). Noise levels in neighborhoods, even in very noisy neighborhoods, are not sufficiently loud enough to cause hearing loss.

Communication Interference

Communication interference is one of the primary concerns in environmental noise. Communication interference includes speech disturbance and intrusion with activities such as watching television. Noise can also interfere with communications such as within school classrooms. Normal conversational speech is in the range of 60 to 65 dB(A) and any noise in this range or louder may interfere with speech.

Sleep Interference

Noise can make it difficult to fall asleep, create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages, and cause awakening. Noise may even cause awakening that a person may or may not be able to recall.

Physiological Responses

Physiological responses are those measurable effects of noise on people that are realized as changes in pulse rate, blood pressure, and other physical changes. Studies to determine whether exposure to high noise levels can adversely affect human health have concluded that, while a relationship between noise and health effects seems plausible, there is no empirical evidence of the relationship.

Annoyance

Annoyance is an individual characteristic and can vary widely from person to person. Noise that one person considers tolerable can be unbearable to another of equal hearing capability. The level of annoyance

9 EPA, Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise, Page 6-2, October 1979, Revised July 1981

depends both on the characteristics of the noise (including loudness, frequency, time, and duration), and how much activity interference (such as speech interference and sleep interference) results from the noise. However, the level of annoyance is also a function of the attitude of the receiver. Attitudes may also be affected by the relationship between the person affected and the source of noise, and whether attempts have been made to abate the noise.

Vibration

Vibration consists of waves transmitted through solid material. Groundborne vibration propagates from a source through the ground to adjacent buildings by surface waves. Vibration may comprise a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating and is measured in hertz (Hz). Most environmental vibrations consist of a composite, or "spectrum" of many frequencies, and are generally classified as broadband or random vibrations. The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than one Hz to a high of about 200 Hz. Vibration is often measured in terms of the peak particle velocity (PPV) in inches per second (in/sec) when considering impacts on buildings or other structures, as PPV represents the maximum instantaneous peak of vibration that can stress buildings. Because it is a representation of acute vibration, PPV is often used to measure the temporary impacts of short-term construction activities that could instantaneously damage-built structures. Vibration is often also measured by the root mean squared (RMS) because it best correlates with human perception and response. Specifically, RMS represents "smoothed" vibration levels over an extended period of time and is often used to gauge the long-term chronic impact of a project's operation on the adjacent environment. RMS amplitude is the average of a signal's squared amplitude. It is most commonly measured in decibel notation (VdB).

Vibration energy attenuates as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. High frequency vibrations reduce much more rapidly than low frequencies, so that in the far-field from a source, the low frequencies tend to dominate. Soil properties also affect the propagation of vibration. When groundborne vibration interacts with a building, there is usually a ground-to-foundation coupling loss (i.e., the foundation of the structure does not move in sync with the ground vibration), but the vibration can also be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows or items on shelves, or the motion of building surfaces. At high levels, vibration can result in damage to structures.

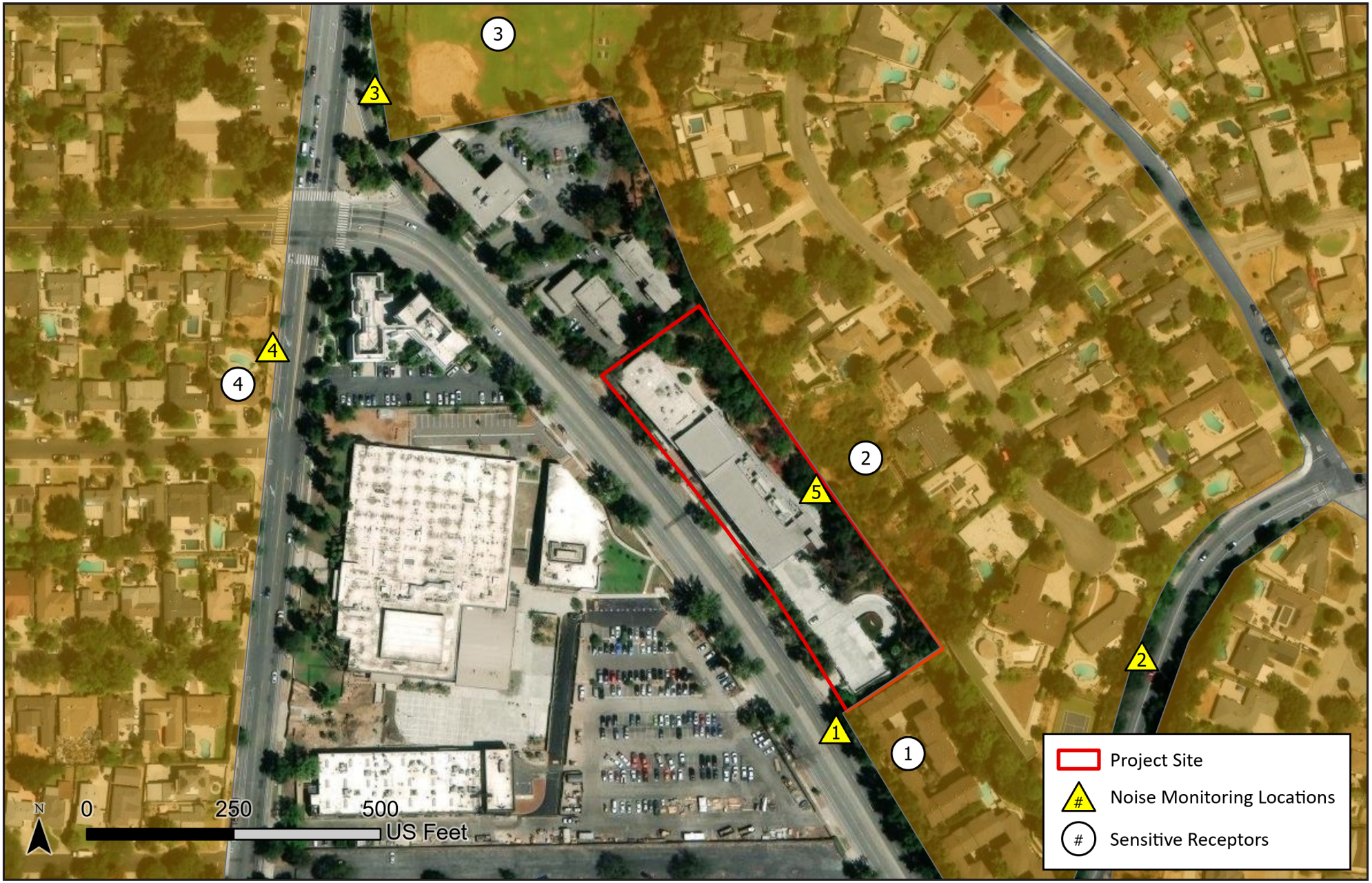
Manmade groundborne vibration is generally limited to areas within a few hundred feet of certain types of construction activities, especially pile driving. Road vehicles rarely create enough groundborne vibration to be perceptible to humans unless the road surface is poorly maintained and there are potholes or bumps.

If traffic induces perceptible vibration in buildings, such as window rattling or shaking of small loose items (typically caused by heavy trucks in passing), then it is most likely an effect of low-frequency airborne noise or ground characteristics. Human annoyance by vibration is related to the number and duration of events. The more events or the greater the duration, the more annoying it will be to humans.

2.2 NOISE SENSITIVE RECEPTORS

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as certain passive use parks, historic sites, cemeteries, and natural recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The closest noise-sensitive receptors to the Project Site are residences to the south along North Rosemead Boulevard (15 feet to the nearest structure), adjacent residences to the east along Rim Road (59 feet to the nearest structure), the Sierra Madre Villa Avenue Baseball Field and Church of Jesus Christ of Latter-day Saints[10] (361 feet), and residences across Sierra Madre Villa Avenue (474 feet).See **Figure 3, Noise Monitoring and Sensitive Receptor Location Map.**

10 While sports fields are generally not sensitive noise receptors, this analysis conservatively considers the park/open space component of this use as a noise sensitive receptor.



SOURCE: Esri, 2026

FIGURE 3

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Noise Monitoring and Sensitive Receptor Location Map

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2.3 EXISTING CONDITIONS

Measured Ambient Noise Levels

To establish baseline noise conditions, existing noise levels were monitored at five locations in the vicinity of the Project Site. The locations of where the noise measurements were taken are depicted in **Figure 3, Noise Monitoring and Sensitive Receptor Location Map**. The noise survey was conducted in January 2026 and February 2026 using the Larson Davis Sound Expert 821 (Type 1) sound level meter, which conforms to industry standards set forth in ANSI S1.4-1983 (R2006) – Specification for Sound Level Meters/Type 1. This instrument was calibrated and operated according to the manufacturer's written specifications. At the measurement sites, the microphone was placed at a height of approximately five feet above grade. The results of the measurements are summarized in **Table 4, Existing Noise Levels in the Vicinity of the Project Site**. As shown in **Table 4**, the daytime ambient noise levels ranged from 51.0 dB(A) Leq to 67.0 dB(A) Leq in the vicinity the Project Site. The daytime, evening and night noise measurements collected at Noise Monitoring Location 1 (presented in **Table 4)** were used to calculate 24-hour CNEL in the vicinity of the Project Site. The estimated 24-hour ambient noise level at the Project Site fronting Rosemead Boulevard (Noise Monitoring Location 1) is 71.9 dB(A) CNEL. See **Appendix A** to this report.

Table 4
Existing Noise Levels in the Vicinity of the Project Site

Noise Monitoring Locations	Primary Noise Sources	Noise Levels [dB(A)]		
		Leq	Lmin	Lmax
Daytime (7AM – 7 PM)				
1. Project Site	Vehicle Traffic, Neighborhood Activity	67.0	45.0	78.4
2. Residences to the southeast	Vehicle Traffic, Neighborhood Activity	59.3	32.5	84.0
3. Sierra Madre Villa Avenue Baseball Field	Vehicle Traffic, Neighborhood Activity	63.6	33.6	78.8
4. Residences along Sierra Madre Villa Avenue	Vehicle Traffic, Neighborhood Activity	66.6	48.8	81.6
5. Residences to the east	Wind, Project Site Mechanical Equipment	51.0	46.3	67.0
Evening (7PM -10PM)				
1. Project Site	Vehicle Traffic, Neighborhood Activity	64.2	48.8	79.5
Night (10PM – 7AM)				
1. Project Site	Vehicle Traffic	65.0	46.6	78.1

*Source: Impact Sciences, Inc., February 2026. See **Appendix A, Noise Data**. As shown therein, 15-minute Leq data was collected for all locations.*

Existing Groundborne Vibration Levels

The main sources of groundborne vibration near the Project Site are heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB at 50 feet, and these levels could reach 72 VdB where trucks and buses pass over bumps in the road. In terms of PPV levels, a heavy-duty vehicle traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 inch per second.

3.0 REGULATORY FRAMEWORK

3.1 REGULATORY FRAMEWORK

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding noise and vibration at the federal, state, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- Occupational Safety and Health Act of 1970
- Noise Control Act of 1972
- Federal Transit Administration Vibration Standards
- Office of Planning and Research Guidelines for Noise Compatible Land Use
- Los Angeles County Airport Land Use Commission Comprehensive Land Use Plan
- City of Pasadena General Plan
- Pasadena Municipal Code

The following documents and studies were also considered in the evaluation and determination of impacts for the Project:

- EPA – Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise
- Cal/OSHA – Title 8 Regulations, Subchapter 7. General Industry Safety Orders, Group 15, Occupational Noise, Article 105. Control of Noise Exposure, §5096.
- Caltrans – Traffic Noise Analysis Protocol, Chapter 3.2
- Caltrans – Technical Noise Supplement to the Traffic Noise Analysis Protocol
- Caltrans – Transportation and Construction Vibration Guidance Manual, Chapter 7.3 Evaluating Potential Vibration Impacts

Federal

Occupational Safety and Health Act of 1970. Under the Occupational Safety and Health Act of 1970 (29 U.S.C. §1919 et seq.), the Occupational Safety and Health Administration (OSHA) has adopted regulations designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise level exposure as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring noise to which

workers are exposed, ensuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.[11]

Noise Control Act of 1972. Under the authority of the Noise Control Act of 1972, the United States Environmental Protection Agency (U.S. EPA) established noise emission criteria and testing methods published in Parts 201 through 205 of Title 40 of the Code of Federal Regulations (CFR) that apply to some transportation equipment (e.g., interstate rail carriers, medium trucks, and heavy trucks) and construction equipment. In 1974, U.S. EPA issued guidance levels for the protection of public health and welfare in residential areas of an outdoor L_{dn} of 55 dBA and an indoor L_{dn} of 45 dBA. These guidance levels are not standards or regulations and were developed without consideration of technical or economic feasibility.

Federal Transit Administration Vibration Standards. There are no federal vibration standards or regulations adopted by any agency that are applicable to evaluating vibration impacts from activities associated with the Project. However, the Federal Transit Administration (FTA) has adopted vibration criteria for use in evaluating vibration impacts from construction activities. The vibration damage criteria adopted by the FTA are shown in **Table 5, Construction Vibration Damage Criteria.**

Table 5
Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA, Transit Noise and Vibration Impact Assessment Manual, 2018.

State

Office of Planning and Research Guidelines for Noise Compatible Land Use. The State of California has not adopted statewide standards for environmental noise, but the Governor's Office of Planning and Research (OPR) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The City has developed its own compatibility guidelines in the

11 United States Department of Labor. OSH Act of 1970. https://www.osha.gov/laws-regs/oshact/completeoshact. Accessed August 2025.

Noise Element of the General Plan based in part on OPR Guidelines, see **Table 6, Guidelines for Noise Compatible Land Use (CNEL)** later in this report. California Government Code Section 65302 requires each county and city in the State to prepare and adopt a comprehensive long-range general plan for its physical development, with Section 65302(f) requiring a noise element to be included in the general plan. The noise element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

Title 24, California Code of Regulations. The California Noise Insulation Standards of 1988 (California Code of Regulations Title 24, Section 3501 et seq.) require that interior noise levels from the exterior sources not exceed 45 dB(A) Ldn/community noise equivalent level (CNEL)[12] in any habitable room of a multi-residential use facility (e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses and other dwellings, except detached single-family dwellings) with doors and windows closed. Where exterior noise levels exceed 60 dB(A) CNEL/Ldn, an acoustical analysis is required to show that the building construction achieves an interior noise level of 45 dB(A) CNEL/Ldn or less.

Local

City of Pasadena General Plan

The City of Pasadena General Plan contains policies and programs to achieve and maintain noise levels compatible with various types of land uses. The Noise Element provides policy-level direction for the City to limit people's exposure to noise. The following policies are found in the Noise Element of the Pasadena General Plan:

Objective 2 **The City will work to reduce the effects of traffic-generated noise from major roadways on residential and other sensitive land uses.**

Policy 2a The City will encourage noise-compatible land uses along major roadways.

Policy 2b The City will encourage site planning and traffic control measures that minimize the effects of traffic noise in residential zones.

Policy 2e The City will work to reduce the effects of traffic-related noise in residential neighborhoods, including but not limited to neighborhoods adjacent to South Orange Grove Boulevard, Saint John Avenue, Pasadena

12 Measurements are based on Ldn or CNEL.

Avenue, California Boulevard, and other busy streets passing through residential neighborhoods.

Objective 7 **The City will minimize the effects of nuisance noise on sensitive land uses to the degree feasible.**

Policy 7b The City will encourage limitations on construction activities adjacent to sensitive noise receptors.

Policy 7c The City will encourage construction and landscaping activities that employ techniques to minimize noise.

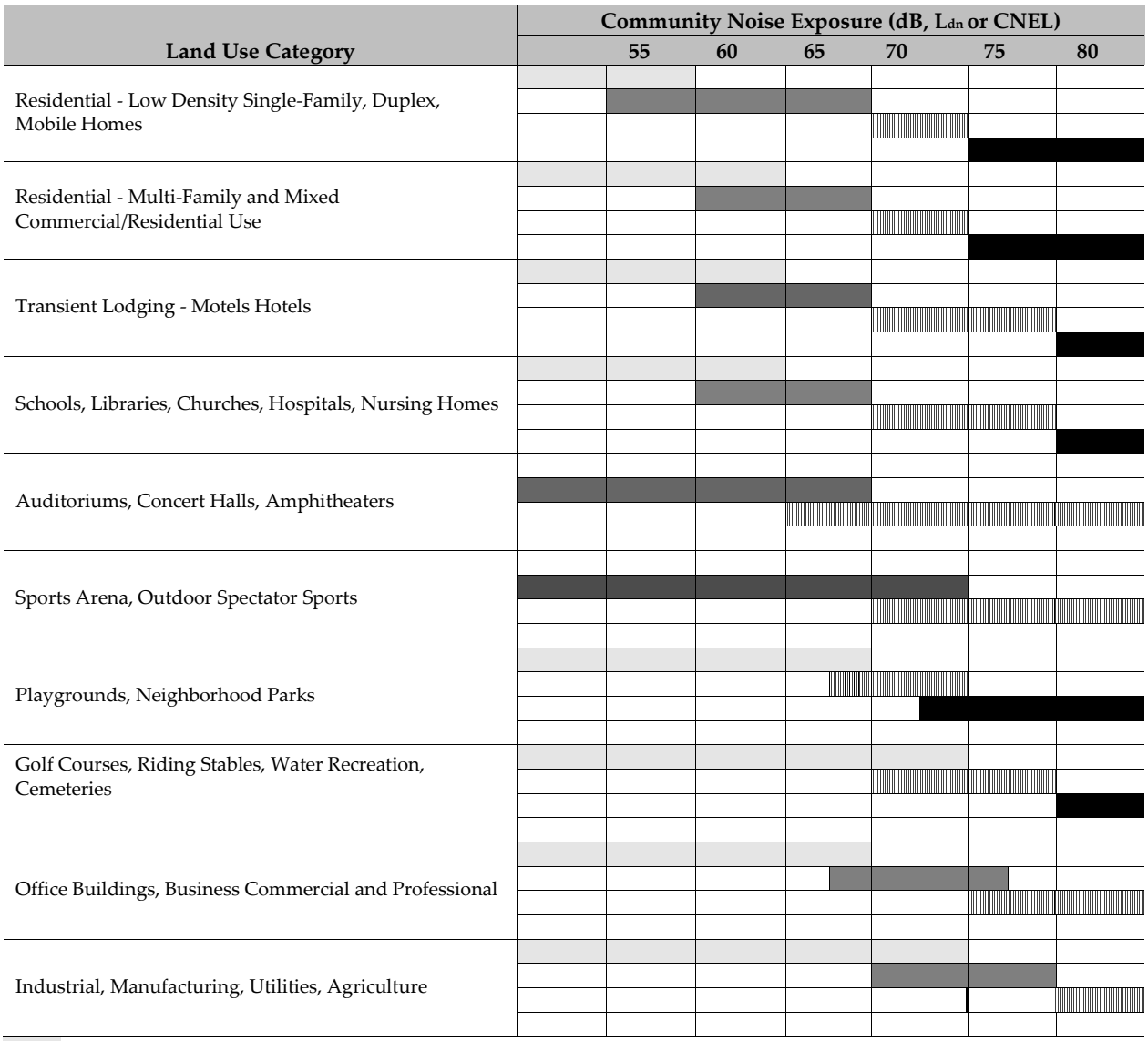
Policy 7d The City will enforce noise level restrictions contained in the City of Pasadena Noise Regulations (Chapter 9.36 of the Municipal Code), except during federal, State, or local emergencies (such as power generators required for energy emergencies).

City of Pasadena Municipal Code

The City has jurisdiction over noise regulation, as stated in the City's Municipal Code, Title 9, Chapter 36 Noise Restrictions (Noise Ordinance). The Noise Ordinance is intended to enforce the City's policy to prohibit "unnecessary, excessive, and annoying noises from all sources." The Noise Ordinance generally limits the generation of noise that exceeds the actual measured existing ambient noise level by 5 dB(A) at neighboring properties, with adjustments made for steady audible tones, repeated impulsive noise, and noise occurring for limited periods. Section 9.36.060 sets interior noise level standards for multifamily residential development at 60 dB(A) during daytime hours (7:00 AM to 10:00 PM) and 50 dB(A) during nighttime hours (10:00 PM to 7:00 AM).

The City's noise ordinance includes specific provisions regarding construction noise. Section 9.36.070 of the Municipal Code prohibits the operation of construction equipment and construction activity except from 7:00 AM to 7:00 PM Monday through Friday, and from 8:00 AM to 5:00 PM on Saturday in or within 500 feet of a residential district. Operation of construction equipment is prohibited on Sunday and on defined holidays. Section 9.36.080 of the Municipal Code prohibits the operation of powered construction equipment that generates a noise level of 85 dB(A) when measured at 100 feet.

Table 6
Land Use Compatibility for Community Noise Environments



Clearly 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.

Normally 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 system or air conditioning will normally suffice.

Conditionally Acceptable - If new construction or development proceeds, an analysis of the noise reduction requirements should be made and needed noise insulation features included in the design.

Normally Unacceptable - New construction or development should generally not be undertaken, unless it can be demonstrated that an interior level of 45 dBA can be achieved.

**Please note that these guidelines are general and may not apply to specific sites.*

Source: California General Plan Guidelines, 1998, as modified by the City of Pasadena General Plan Noise Element, 2002.

4.0 NOISE & VIBRATION ANALYSIS

4.1 THRESHOLDS OF SIGNIFICANCE

The impacts of the Project related to noise and vibration would be considered significant if they would exceed any of the following Thresholds of Significance, in accordance with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project Site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation of excessive ground-borne vibration or ground-borne 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, would the Project expose people residing or working in the Project area to excessive noise levels.

The *State CEQA Guidelines* do not provide a definition for "substantial increase" of noise and do not establish a numerical threshold of significance for potential noise or vibration impacts. Accordingly, the thresholds of significance used in this analysis are based on applicable regulatory standards, the City's General Plan Noise Element, and the Pasadena Municipal Code (PMC). These standards do not specify a daytime numerical threshold because ambient noise levels are naturally higher during the day due to sources such as traffic, maintenance, and construction activities. Daytime construction activities are temporary and periodic. This approach accounts for the urban environment of the City and recognizes that such activities are common and generally not expected to disturb the general public's sleep. Daytime construction noise levels are further reduced by existing building codes for certain types of structures. For example, the State has established noise insulation standards for new multi-family residential units, hotels, and motels through the California Noise Insulation Standards (Title 24, California Code of Regulations). These standards set an interior noise limit of 45 dBA CNEL in any habitable room and require an acoustical analysis demonstrating that dwelling units are designed to meet this standard where exterior noise levels exceed 60 dBA CNEL.

4.2 METHODOLOGY

Noise levels associated with project-related construction activities were calculated using the FHWA Roadway Construction Noise Model (RCNM). Noise levels were compared to the City's noise ordinance

which includes provisions regarding construction noise levels, which prohibits a noise level of 85 dB(A) when measured at 100 feet.

The Project's potential to result in significant noise impacts from on-site operational noise sources (i.e., mechanical equipment and parking activities) was assessed by considering the impact that they could produce given the nature of the source (i.e., loudness and whether noise would be produced during daytime or more-sensitive nighttime hours), distances to nearby sensitive receptors, surrounding ambient noise levels, the presence of similar noise sources in the vicinity, and maximum allowable noise levels permitted by the City's municipal code. *CEQA Guidelines* Section 21085 states: "for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment." Thus, noise generated by Project occupants and their guests is not further assessed in this report.

The *State CEQA Guidelines* do not define the levels at which noise would be considered substantial increases. Thus, for purposes of this analysis, the Project would normally have a significant impact on off-site roadway noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dB(A) if the total ambient noise levels without the Project exceed the City's General Plan exterior noise standards, or any 5 dB(A) or greater noise increase when total ambient noise levels without the Project are within the City's exterior noise standards.

Construction activities have the greatest potential to generate groundborne vibration affecting nearby receivers. Since groundborne vibration could cause physical damage to structures, vibration impacts were modeled based on FTA guidance and on the distance from the location of vibration-intensive construction activities to nearby structures.

4.3 IMPACT ANALYSIS

Impact NOI-1 **Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? *(Less than Significant).***

Construction Noise

Construction of the Project would require the use of heavy equipment for demolition, grading, building fabrication, paving and finishing. Construction activities could also involve the use of smaller power tools, generators, and other sources of noise. During each stage of construction, several types of equipment potentially could be operating concurrently, and noise levels would vary based on the amount of

equipment in operation and the location of the activity. The FHWA RCNM has compiled data regarding the noise-generating characteristics of specific types of construction equipment and typical construction activities.

With the use of the RCNM, as detailed in **Appendix A** to this report,[13] the construction noise levels forecasted for each phase of construction are presented in **Table 7, Estimated Exterior Construction Noise.** Noise levels would diminish notably with distance from the construction site at a rate of 6 dB(A) per doubling of distance (noise from stationary or point sources is reduced by about 6 dB(A) for every doubling of distance at acoustically hard locations). For example, a noise level of 86 dB(A) Leq measured at 50 feet from the noise source to the receptor would decline to 80 dB(A) Leq at 100 feet from the source to the receptor and fall by another 6 dB(A) Leq to 74 dB(A) Leq at 200 feet from the source to the receptor. These noise attenuation rates assume a flat and unobstructed distance between the noise generator and the receptor. Intervening structures and vegetation would further attenuate (reduce) the noise. Furthermore, it should be noted that increases in noise levels at sensitive receptors during construction would be intermittent and temporary and would not generate continuously high noise levels.

Table 7
Estimated Exterior Construction Noise

Construction Phase	Estimated Temporary Noise Levels at 100 Feet [dB(A) Leq]	Exceed Municipal Code Standards?
Demolition	81.0	No
Grading	76.2	No
Building Construction	76.9	No

*Source: Impact Sciences, Inc., March 2026. See **Appendix A** to this report. Building construction includes construction equipment anticipated for building fabrication, paving and architectural coatings.*

As noted above, Section 9.36.080 of the Pasadena Municipal Code requires that construction equipment noise not exceed 85 dB(A) when measured within a radius of 100 feet from such equipment. As shown in **Table 7**, construction noise levels would not exceed the standards set forth in the Pasadena Municipal Code. Furthermore, the Project would adhere to City regulations governing hours of construction, noise levels generated by construction and mechanical equipment, and the allowed level of ambient noise (Chapter 9.36 of the Pasadena Municipal Code). In accordance with these regulations, construction noise

13 Project construction noise levels were calculated based on the Project's anticipated mix of construction equipment with the FHWA RCNM Version 1.1.

would be limited to normal working hours (7 a.m. to 7 p.m. Monday through Friday, 8 a.m. to 5 p.m. on Saturday, in or within 500 feet of a residential area).

Construction noise generated by the Project would be generally consistent with noise levels and source types commonly associated with urban development and redevelopment activities in the City of Pasadena. Typical construction activities for residential, commercial, and infrastructure projects including home remodels, additions, and site improvements utilize similar equipment (e.g., excavators, loaders, compressors, and power tools) and generate comparable noise levels. As such, construction noise is a common and expected part of the existing noise environment in developed urban areas such as the Project Site. While these activities can result in temporary increases in noise levels, they are intermittent in nature and regulated by the City's Municipal Code. Therefore, project-related construction noise would not represent a new or unusual source of noise beyond what is typically experienced in the Project vicinity. As such, construction noise impacts would be ***less than significant***.

Operational Noise

Traffic Noise

As discussed previously, operational traffic noise level increases would be considered significant if the Project causes ambient noise levels measured at the property line of affected uses to increase by 3 dBA if the total ambient noise levels without the Project exceed the City's General Plan exterior noise standards as shown in **Table 6**, **Land Use Compatibility for Community Noise Environments**, or any 5 dBA or greater noise increase. Studies have shown that a 3 dB(A) increase in sound level pressure is barely detectable by the human ear. A 3 dB(A) increase in roadway noise levels requires an approximate doubling of roadway traffic volume, assuming that travel speeds and fleet mix remain constant.[14]

This traffic noise analysis relies on the data provided in the Project's Trip Generation Estimates (see **Appendix A** to this report). As shown therein, the Project would generate a maximum of 486 net daily trips. The closest roadway to the Project Site with a recorded average daily traffic volume is N. Rosemead Boulevard, located adjacent to the Project Site. According to City data, N. Rosemead Boulevard carries approximately 14,971 average daily trips.[15] Since it would take a doubling (i.e., a 100% increase) of roadway traffic volume to increase noise levels by 3 dBA, the addition of traffic volume from operation of the Project (486 daily trips) would not increase traffic to levels capable of producing a 3 dBA ambient noise

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14 California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, 2013,. Available online at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf, accessed March 6, 2026.

15 City of Pasadena, Rosemead Boulevard Traffic Count Data, available at: https://pasadena.public.ms2soft.com/tcds/tsearch.asp?mod=tcds , accessed March 4, 2026.

increase. As such, any noise increase due to vehicle trips would be imperceptible, and impacts would be ***less than significant***.

Parking Noise

Various noise events would occur periodically from the Project's parking garage. Such periodic events would include activation of car alarms, sounding of car horns, slamming of car doors, engine revs, and tire squeals. Automobile movements would comprise the most continuous noise source and would generate a noise level of approximately 65 dB(A) at a distance of 25 feet. Car alarm and horn noise events generate sound levels as high as 75 dB(A) at a reference distance of 25 feet, however these noise sources would be sporadic.

The Project would demolish an existing two-story parking garage containing 120 spaces and provide 55 parking spaces in a one-story garage at the ground level. Thus, the Project would generally reduce on-site parking noise sources and parking-related noise sources would not be visible from off-site locations due to the enclosed design. It should also be noted that the existing urban environment of the Project Site currently generates noise levels associated with parking and vehicular noise sources identified above. Although the Project would include on-site parking, the types of noise associated with parking would be similar or reduced compared to those currently occurring on site and in the vicinity of the Project Site. As such, noise impacts from the parking areas would be ***less than significant***.

Stationary Noise Sources

As part of the Project, new mechanical equipment, HVAC units, and exhaust fans could be installed on the roof or near the proposed structures. Although the operation of this equipment would generate noise, the design of these on-site HVAC units and exhaust fans would be required to comply with the regulations of the PMC. Specifically, PMC Section 9.36.090 provides regulations for noise from machinery, equipment, fans and air conditioning. As stated therein, it is unlawful to operate any machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient noise level by more than 5 decibels. As shown previously in **Table 4**, noise from mechanical equipment was observed and recorded during ambient noise measurements collected on the Project Site. A noise level of 51 dB(A) Leq was recorded at location 5, while mechanical equipment was operating on the Project Site at an approximate distance of 30 feet from the measurement. The Project includes the use of similar outdoor mechanical equipment, typical of a multi-family residential use (see **Appendix B, Mechanical Equipment)**. According to the engineering manual for the proposed mechanical equipment, outdoor equipment noise

levels would range between 47 and 56 dB(A).[16] Thus, noise from mechanical equipment would not exceed 56 dB(A) Leq at the nearest sensitive receptor. Furthermore, as shown in **Table 4,** ambient noise levels in the Project Site vicinity reach up to 67.0 dB(A) Leq. Based on an estimated noise level of 56 dB(A) Leq for the proposed HVAC equipment, noise levels from such equipment would generally not exceed ambient noise levels and would not have the potential to increase ambient noise levels at off-site sensitive receptors by greater than 5 dB(A). Furthermore, as the Project is an infill residential development and is surrounded by existing residential and commercial uses, mechanical and HVAC noise from the Project would be substantially similar to existing conditions in the Project area. As such, noise from stationary sources would be ***less than significant***.

Impact NOI-2 Would the project result in the generation of excessive groundborne vibration or groundborne noise levels? *(Less than Significant).*

There are no vibration standards or regulations adopted by any agency that are applicable to evaluating vibration impacts from activities associated with the Project. However, the FTA has published vibration criteria for use in evaluating vibration impacts from construction activities for FTA projects, which can be utilized as general guidance. The vibration damage criteria published by the FTA are shown previously in **Table 5.**

The vibration levels at nearby receptors are shown below in **Table 8, Vibration Levels at Off-Site Uses from Project Construction.**

[16] LG, *R32 Single-Zone Four-Way Cassette Engineering Manual,* available at: https://www.supplyhouse.com/product_files/LG-KUSXB091A-Engineering.pdf, accessed March 25, 2026. Reference noise levels were measured in an anechoic chamber under ISO Standard 3745.

Table 8
Vibration Levels at Off-Site Uses from Project Construction

Off-Site Receptors[a]	Distance to Project Site (ft.)	Receptor Significance Threshold PPV (in./sec)	Estimated PPV (in./sec)
1. Residential structures to the south of the Project Site	15 feet	0.20	0.19
2. Commercial structures to the north	24 feet	0.20	0.09
3. Residential structures to the east of the Project Site	59 feet	0.20	0.02

[a] *See **Figure 3**, **Noise Monitoring and Sensitive Receptor Location Map.***
*Source: Impact Sciences, Inc., March 2026. See **Appendix A** to this report.*

The vibration velocities predicted to occur at the nearest receptors to the Project Site (residential structures to the south) would be 0.19 in/sec PPV. The residences to the south were built in 1994, the commercial structures to the north were built in 1981, and the residential structures to the east were built in 1950.[17] For these reasons, this analysis conservatively applies the vibration damage criterion of 0.20 inch/sec PPV for "non-engineered timber and masonry buildings" to all nearby buildings pursuant to FTA guidance. As shown in **Table 8,** vibration levels at these receptors would not exceed the vibration damage criterion of 0.20 inch/sec PPV during construction activities at the Project Site. As such, construction vibration impacts associated with building damage would be less than significant.

Impact NOI-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? (No Impact).**

The Project Site is not in the vicinity of a private airstrip or airport land use plan. Likewise, the Project Site is not located within an airport land use plan or within two miles of a public airport or public use airport. The closest airport is the San Gabriel Valley Airport which is located 7.4 miles southeast of the Project Site. As such, the Project would not expose people residing or working in the project area to excessive airport-related noise levels. No impact would occur.

17 Los Angeles County Assessor Portal, LA County Parcels, 2026, available at: https://portal.assessor.lacounty.gov/mapsearch , accessed March 9, 2026.

5.0 REFERENCES

Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

California Department of Transportation (Caltrans), Technical Noise Supplement to the Traffic Noise Analysis Protocol., 2013 Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf

City of Pasadena, Rosemead Boulevard Traffic Count Data, available at: https://pasadena.public.ms2soft.com/tcds/tsearch.asp?mod=tcds , accessed March 4, 2026.

Federal Highway Administration, Highway Noise Fundamentals, (1980) 97.

Federal Highway Administration, Highway Noise Mitigation, (1980) 18

FHWA Noise Barrier Design Handbook, Table 4, July 14, 2011.

FHWA Noise Barrier Design Handbook, Terminology, July 14, 2011

Los Angeles County Assessor Portal, LA County Parcels, 2026, available at: https://portal.assessor.lacounty.gov/mapsearch , accessed March 9, 2026

United States Department of Labor. OSH Act of 1970. https://www.osha.gov/laws-regs/oshact/completeoshact . Accessed March 6, 2026.

APPENDIX A

Noise & Vibration Data

NOISE MONITORING FIELD REPORT

Project Name: 600 N Rosemead

Monitoring Location: Project Site

Date: 1/14/26 Site Number: 1 (day)

Measured By: Annalie Sarrieddine

Measurement Start Time: 12:28 pm

Measurement End Time: 12:43 pm

Total Measurement Time: 15 min.

Noise Meter Model: Larson Davis SoundExpert 821 Calibration: 94.0 (dBA)

Meter Setting: A-Weighted Sound Level (SLOW)

Session File Name: 0017C

Primary Noise Sources: Vehicle Traffic, Neighborhood Activity

Site Map

Data Summary

Noise Scale	Noise Level (dBA)
L_{eq}	67.0
L_{max}	78.4
L_{min}	45.0

Other Noise Sources During Monitoring

1. _____ Time: _____
2. _____ Time: _____
3. _____ Time: _____
4. _____ Time: _____
5. _____ Time: _____

Additional Notes:

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IMPACT SCIENCES

IMPACT SCIENCES

SoundExpert 821 Summary:

User: Annalie Sarrieddine

Location: 1 (daytime)

Job Description: 600 N Rosemead

Notes:

Meter General Information

	Model	Serial
Meter	SoundExpert 821	40371
Preamplifier	PRM821	
Microphone	377B02	
Unique File Id	00C:00009DB3:69678C01:0000017C	

Overall Measurement

Start Date & Time	2026-01-14 12:28:49
Stop Date & Time	2026-01-14 12:43:49
Run Time	00:15:00
Pre-Calibration	
Date/Time	2024-12-14 16:55:03
Calibrator Level (dB)	114.00
Meter Sensitivity (dB re 1V/Pa)	-25.47
Post-Calibration	
Date/Time	---
Calibrator Level (dB)	---
Meter Sensitivity (dB re 1V/Pa)	---
Sensitivity Delta	---
	A
Lweq (dB)	67.0
Lwpk (dB)	104.1
	2026-01-14 12:43:37
LwSmin (dB)	45.0
	2026-01-14 12:28:49
LwSmax (dB)	78.4
	2026-01-14 12:43:37
LwFmin (dB)	31.8
	2026-01-14 12:43:43
LwFmax (dB)	86.4
	2026-01-14 12:43:37
Lwlmin (dB)	48.0
	2026-01-14 12:36:52
Lwlmax (dB)	89.8
	2026-01-14 12:43:37
w = frequency weighting (A, C or Z)	
Community Noise (dB)	**LDN**
	67.0
	LDEN
	67.0
LCeq - LAeq (dB)	12.2
LAleq (dB)	70.9
Overload Count	0
Overload Duration	00:00:00
	A
Under Range Peak (dB)	50.0
Under Range Limit (dB)	24.0
Noise Floor (dB)	17.0

Ln Percentiles

LAS 5.0 (dB)	71.8
LAS 10.0 (dB)	70.8
LAS 33.3 (dB)	67.4
LAS 50.0 (dB)	65.0
LAS 66.6 (dB)	61.8
LAS 90.0 (dB)	54.4

Exceedances

	Count	Duration (s)
LAS > 85.0 dB	0	0
LAS > 95.0 dB	0	0
LApk > 135.0 dB	0	0
LApk > 137.0 dB	0	0
LApk > 140.0 dB	0	0

Sound Exposure

SELA (dB)	96.5
EA (Pa^2s)	1.8
EA,8 h (Pa^2s)	57.8
EA,40 h (Pa^2s)	288.8
EA (Pa^2h)	0.0
EA,8 h (Pa^2h)	0.0
EA,40 h (Pa^2h)	0.1

NOISE MONITORING FIELD REPORT

Project Name: 600 N Rosemead

Monitoring Location: Project Site

Date: 11/4/26 Site Number: 1 (assuming)

Measured By: Annalie Sarrieddine

Measurement Start Time: 9:40pm

Measurement End Time: 9:55pm

Total Measurement Time: 15 min.

Noise Meter Model: Larson Davis SoundExpert 821 Calibration: 94.0 (dBA)

Meter Setting: A-Weighted Sound Level (SLOW)

Session File Name: 0019C

Primary Noise Sources: Vehicle Traffic, Neighborhood Activity

Site Map

Data Summary

Noise Scale	Noise Level (dBA)
L_{eq}	64.2
L_{max}	79.5
L_{min}	48.8

Other Noise Sources During Monitoring

1. _____ Time: _____
2. _____ Time: _____
3. _____ Time: _____
4. _____ Time: _____
5. _____ Time: _____

Additional Notes:

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IMPACT SCIENCES

IMPACT SCIENCES

SoundExpert 821 Summary:

User: Annalie Sarrieddine

Location: 1 (Evening)

Job Description: 600 N Rosemead

Notes:

Meter General Information

	Model	Serial
Meter	SoundExpert 821	40371
Preamplifier	PRM821	
Microphone	377B02	
Unique File Id	00C:00009DB3:69680D3B:0000018C	

Overall Measurement

Start Date & Time	2026-01-14 21:40:11
Stop Date & Time	2026-01-14 21:55:11
Run Time	00:15:00
Pre-Calibration	
Date/Time	2024-12-14 16:55:03
Calibrator Level (dB)	114.00
Meter Sensitivity (dB re 1V/Pa)	-25.47
Post-Calibration	
Date/Time	---
Calibrator Level (dB)	---
Meter Sensitivity (dB re 1V/Pa)	---
Sensitivity Delta	---
	A
Lweq (dB)	64.2
Lwpk (dB)	102.2
	2026-01-14 21:42:04
LwSmin (dB)	48.8
	2026-01-14 21:40:13
LwSmax (dB)	79.5
	2026-01-14 21:46:24
LwFmin (dB)	47.8
	2026-01-14 21:40:12
LwFmax (dB)	83.6
	2026-01-14 21:41:05
Lwlmin (dB)	52.6
	2026-01-14 21:43:19
Lwlmax (dB)	85.1
	2026-01-14 21:42:04
w = frequency weighting (A, C or Z)	
Community Noise (dB)	**LDN**
	64.2
	LDEN
	69.2
LCeq - LAeq (dB)	4.1
LAleq (dB)	69.5
Overload Count	0
Overload Duration	00:00:00
	A
Under Range Peak (dB)	50.0
Under Range Limit (dB)	24.0
Noise Floor (dB)	17.0

Ln Percentiles

LAS 5.0 (dB)	70.6
LAS 10.0 (dB)	68.0
LAS 33.3 (dB)	60.9
LAS 50.0 (dB)	58.1
LAS 66.6 (dB)	56.1
LAS 90.0 (dB)	53.9

Exceedances

	Count	Duration (s)
LAS > 85.0 dB	0	0
LAS > 95.0 dB	0	0
LApk > 135.0 dB	0	0
LApk > 137.0 dB	0	0
LApk > 140.0 dB	0	0

Sound Exposure

SELA (dB)	93.7
EA (Pa^2s)	0.9
EA,8 h (Pa^2s)	30.2
EA,40 h (Pa^2s)	151.0
EA (Pa^2h)	0.0
EA,8 h (Pa^2h)	0.0
EA,40 h (Pa^2h)	0.0

NOISE MONITORING FIELD REPORT

Project Name: 1600 N Rosemead

Monitoring Location: Project Site

Date: 1/14/26 Site Number: 1 (midpoint)

Measured By: Annalie Sarrieddine

Measurement Start Time: 10:04pm

Measurement End Time: 10:19pm

Total Measurement Time: 15 min.

Noise Meter Model: Larson Davis SoundExpert 821 Calibration: 94.0 (dBA)

Meter Setting: A-Weighted Sound Level (SLOW)

Session File Name: 00190

Primary Noise Sources: Vehicle Traffic

Site Map

Data Summary

Noise Scale	Noise Level (dBA)
L_{eq}	65.0
L_{max}	78.1
L_{min}	46.6

Other Noise Sources During Monitoring

1. _____ Time: _____
2. _____ Time: _____
3. _____ Time: _____
4. _____ Time: _____
5. _____ Time: _____

Additional Notes:

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IMPACT SCIENCES

IMPACT SCIENCES

SoundExpert 821 Summary:

User: Annalie Sarrieddine

Location: 1(night)

Job Description: 600 N Rosemead

Notes:

Meter General Information

	Model	Serial
Meter	SoundExpert 821	40371
Preamplifier	PRM821	
Microphone	377B02	
Unique File Id	00C:00009DB3:696812EB:00000190	

Overall Measurement

Start Date & Time	2026-01-14 22:04:27
Stop Date & Time	2026-01-14 22:19:27
Run Time	00:15:00
Pre-Calibration	
Date/Time	2024-12-14 16:55:03
Calibrator Level (dB)	114.00
Meter Sensitivity (dB re 1V/Pa)	-25.47
Post-Calibration	
Date/Time	---
Calibrator Level (dB)	---
Meter Sensitivity (dB re 1V/Pa)	---
Sensitivity Delta	---
	A
Lweq (dB)	65.0
Lwpk (dB)	96.3
	2026-01-14 22:16:45
LwSmin (dB)	46.6
	2026-01-14 22:19:26
LwSmax (dB)	78.1
	2026-01-14 22:04:56
LwFmin (dB)	42.8
	2026-01-14 22:04:29
LwFmax (dB)	82.3
	2026-01-14 22:17:02
Lwlmin (dB)	51.2
	2026-01-14 22:11:19
Lwlmax (dB)	85.2
	2026-01-14 22:17:02
w = frequency weighting (A, C or Z)	
Community Noise (dB)	**LDN**
	75.0
	LDEN
	75.0
LCeq - LAeq (dB)	7.4
LAleq (dB)	71.2
Overload Count	0
Overload Duration	00:00:00
	A
Under Range Peak (dB)	50.0
Under Range Limit (dB)	24.0
Noise Floor (dB)	17.0

Ln Percentiles

LAS 5.0 (dB)	71.2
LAS 10.0 (dB)	69.1
LAS 33.3 (dB)	63.6
LAS 50.0 (dB)	60.8
LAS 66.6 (dB)	57.9
LAS 90.0 (dB)	53.3

Exceedances

	Count	Duration (s)
LAS > 85.0 dB	0	0
LAS > 95.0 dB	0	0
LApk > 135.0 dB	0	0
LApk > 137.0 dB	0	0
LApk > 140.0 dB	0	0

Sound Exposure

SELA (dB)	94.6
EA (Pa^2s)	1.1
EA,8 h (Pa^2s)	36.8
EA,40 h (Pa^2s)	184.0
EA (Pa^2h)	0.0
EA,8 h (Pa^2h)	0.0
EA,40 h (Pa^2h)	0.1

NOISE MONITORING FIELD REPORT

Project Name: 600 N Rosemead

Monitoring Location: Residence to the southeast

Date: 11/14/26 Site Number: 2

Measured By: Annalie Sarrieddine

Measurement Start Time: 12:53 PM

Measurement End Time: 1:08 PM

Total Measurement Time: 15 min.

Noise Meter Model: Larson Davis SoundExpert 821 Calibration: 94.0 (dBA)

Meter Setting: A-Weighted Sound Level (SLOW)

Session File Name: 00180

Primary Noise Sources: Vehicle Traffic, Neighborhood Activity

Site Map

Data Summary

Noise Scale	Noise Level (dBA)
L_{eq}	59.3
L_{max}	84.0
L_{min}	32.5

Other Noise Sources During Monitoring

1. _____ Time: _____
2. _____ Time: _____
3. _____ Time: _____
4. _____ Time: _____
5. _____ Time: _____

Additional Notes:

Neighborhood activity included brief gardening activity

IMPACT SCIENCES

IMPACT SCIENCES

SoundExpert 821 Summary:

User: Annalie Sarrieddine

Location: 2

Job Description: 600 N Rosemead

Notes:

Meter General Information

	Model	Serial
Meter	SoundExpert 821	40371
Preamplifier	PRM821	
Microphone	377B02	
Unique File Id	00C:00009DB3:696791DA:00000180	

Overall Measurement

Start Date & Time	2026-01-14 12:53:46
Stop Date & Time	2026-01-14 13:08:46
Run Time	00:15:00
Pre-Calibration	
Date/Time	2024-12-14 16:55:03
Calibrator Level (dB)	114.00
Meter Sensitivity (dB re 1V/Pa)	-25.47
Post-Calibration	
Date/Time	---
Calibrator Level (dB)	---
Meter Sensitivity (dB re 1V/Pa)	---
Sensitivity Delta	---
	A
L_{weq}	59.3
L_{wpk}	113.3
	2026-01-14 12:55:18
L_{wSmin}	33.6
	2026-01-14 12:58:40
L_{wSmax}	84.0
	2026-01-14 12:55:18
L_{wFmin}	32.5
	2026-01-14 12:58:38
L_{wFmax}	91.7
	2026-01-14 12:55:18
L_{wImin}	35.6
	2026-01-14 12:58:36
L_{wImax}	94.9
	2026-01-14 12:55:18
w = frequency weighting (A, C or Z)	
Community Noise (dB)	**LDN**
	59.3
	LDEN
	59.3
L_{Ceq} - L_{Aeq}	25.2
L_{AIeq}	69.9
Overload Count	0
Overload Duration	00:00:00
	A
Under Range Peak (dB)	50.0
Under Range Limit (dB)	24.0
Noise Floor (dB)	17.0

Ln Percentiles

5.0	63.8
10.0	61.0
33.3	52.9
50.0	46.6
66.6	41.9
90.0	36.5

Exceedances

	Count	Duration (s)
L_{AS} > 85.0 dB	0	0
L_{AS} > 95.0 dB	0	0
L_{Apk} > 135.0 dB	0	0
L_{Apk} > 137.0 dB	0	0
L_{Apk} > 140.0 dB	0	0

Sound Exposure

SEL A	88.8
E_A (Pa²s)	0.3
$E_{A,8\,h}$ (Pa²s)	9.8
$E_{A,40\,h}$ (Pa²s)	49.0
E_A (Pa²h)	0.0
$E_{A,8\,h}$ (Pa²h)	0.0
$E_{A,40\,h}$ (Pa²h)	0.0

NOISE MONITORING FIELD REPORT

Project Name: 600N Rosemead

Monitoring Location: Sierra Madre Villa Ave. Baseball Field

Date: 1/14/26 **Site Number:** 3

Measured By: Annalie Sarrieddine

Measurement Start Time: 1:12pm

Measurement End Time: 1:27pm

Total Measurement Time: 15 min.

Site Map

Noise Meter Model: Larson Davis SoundExpert 821 **Calibration:** 94.0 (dBA)

Meter Setting: A-Weighted Sound Level (SLOW)

Session File Name: 00184

Primary Noise Sources: Vehicle Traffic, Neighborhood Activity

Data Summary

Noise Scale	Noise Level (dBA)
L_{eq}	63.6
L_{max}	78.8
L_{min}	38.7

Other Noise Sources During Monitoring

1. _____ Time: _____
2. _____ Time: _____
3. _____ Time: _____
4. _____ Time: _____
5. _____ Time: _____

Additional Notes:

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IMPACT SCIENCES

IMPACT SCIENCES

SoundExpert 821 Summary:

User: Annalie Sarrieddine

Location: 3

Job Description: 600 N Rosemead

Notes:

Meter General Information

	Model	Serial
Meter	SoundExpert 821	40371
Preamplifier	PRM821	
Microphone	377B02	
Unique File Id	00C:00009DB3:69679655:00000184	

Overall Measurement

Start Date & Time	2026-01-14 13:12:53
Stop Date & Time	2026-01-14 13:27:53
Run Time	00:15:00
Pre-Calibration	
Date/Time	2024-12-14 16:55:03
Calibrator Level (dB)	114.00
Meter Sensitivity (dB re 1V/Pa)	-25.47
Post-Calibration	
Date/Time	---
Calibrator Level (dB)	---
Meter Sensitivity (dB re 1V/Pa)	---
Sensitivity Delta	---
	A
Lweq (dB)	63.6
Lwpk (dB)	100.1
	2026-01-14 13:17:02
LwSmin (dB)	38.7
	2026-01-14 13:12:53
LwSmax (dB)	78.8
	2026-01-14 13:20:08
LwFmin (dB)	33.6
	2026-01-14 13:17:01
LwFmax (dB)	81.6
	2026-01-14 13:20:07
Lwlmin (dB)	44.2
	2026-01-14 13:15:34
Lwlmax (dB)	84.8
	2026-01-14 13:17:02
w = frequency weighting (A, C or Z)	
Community Noise (dB)	**LDN**
	63.6
	LDEN
	63.6
LCeq - LAeq (dB)	10.1
LAleq (dB)	67.6
Overload Count	0
Overload Duration	00:00:00
	A
Under Range Peak (dB)	50.0
Under Range Limit (dB)	24.0
Noise Floor (dB)	17.0

Ln Percentiles

LAS 5.0 (dB)	69.3
LAS 10.0 (dB)	67.0
LAS 33.3 (dB)	62.2
LAS 50.0 (dB)	58.7
LAS 66.6 (dB)	54.9
LAS 90.0 (dB)	47.9

Exceedances

	Count	Duration (s)
LAS > 85.0 dB	0	0
LAS > 95.0 dB	0	0
LApk > 135.0 dB	0	0
LApk > 137.0 dB	0	0
LApk > 140.0 dB	0	0

Sound Exposure

SELA (dB)	93.1
EA (Pa^2s)	0.8
EA,8 h (Pa^2s)	26.3
EA,40 h (Pa^2s)	131.7
EA (Pa^2h)	0.0
EA,8 h (Pa^2h)	0.0
EA,40 h (Pa^2h)	0.0

NOISE MONITORING FIELD REPORT

Project Name: 600N Rosemead

Monitoring Location: Residences along Sherman Madre Ave

Date: 11/14/26 Site Number: 4

Measured By: Annalie Sarrieddine

Measurement Start Time: 1:30 pm

Measurement End Time: 1:45pm

Total Measurement Time: 15 min.

Noise Meter Model: Larson Davis SoundExpert 821 Calibration: 94.0 (dBA)

Meter Setting: A-Weighted Sound Level (SLOW)

Session File Name: 00188

Primary Noise Sources: Vehicle Traffic, Neighborhood Activity

Site Map

Data Summary

Noise Scale	Noise Level (dBA)
L_{eq}	66.6
L_{max}	81.6
L_{min}	48.8

Other Noise Sources During Monitoring

1. _____ Time: _____
2. _____ Time: _____
3. _____ Time: _____
4. _____ Time: _____
5. _____ Time: _____

Additional Notes:

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IMPACT SCIENCES

IMPACT SCIENCES

SoundExpert 821 Summary:

User: Annalie Sarrieddine

Location: 4

Job Description: 600 N Rosemead

Notes:

Meter General Information

	Model	Serial
Meter	SoundExpert 821	40371
Preamplifier	PRM821	
Microphone	377B02	
Unique File Id	00C:00009DB3:69679A6B:00000188	

Overall Measurement

Start Date & Time	2026-01-14 13:30:19
Stop Date & Time	2026-01-14 13:45:19
Run Time	00:15:00
Pre-Calibration	
Date/Time	2024-12-14 16:55:03
Calibrator Level (dB)	114.00
Meter Sensitivity (dB re 1V/Pa)	-25.47
Post-Calibration	
Date/Time	---
Calibrator Level (dB)	---
Meter Sensitivity (dB re 1V/Pa)	---
Sensitivity Delta	---
	A
L_{weq}	66.6
L_{wpk}	107.3
	2026-01-14 13:44:05
L_{wSmin}	48.8
	2026-01-14 13:43:30
L_{wSmax}	81.6
	2026-01-14 13:43:35
L_{wFmin}	47.2
	2026-01-14 13:43:28
L_{wFmax}	90.1
	2026-01-14 13:43:35
L_{wImin}	52.0
	2026-01-14 13:36:10
L_{wImax}	94.4
	2026-01-14 13:43:35
w = frequency weighting (A, C or Z)	
Community Noise (dB)	**LDN**
	66.6
	LDEN
	66.6
L_{Ceq} - L_{Aeq}	12.5
L_{AIeq}	72.3
Overload Count	0
Overload Duration	00:00:00
	A
Under Range Peak (dB)	50.0
Under Range Limit (dB)	24.0
Noise Floor (dB)	17.0

Ln Percentiles

5.0	73.1
10.0	70.9
33.3	64.5
50.0	61.8
66.6	58.9
90.0	54.4

Exceedances

	Count	Duration (s)
L_{AS} > 85.0 dB	0	0
L_{AS} > 95.0 dB	0	0
L_{Apk} > 135.0 dB	0	0
L_{Apk} > 137.0 dB	0	0
L_{Apk} > 140.0 dB	0	0

Sound Exposure

SEL A	96.2
E_A (Pa²s)	1.6
$E_{A,8\,h}$ (Pa²s)	52.8
$E_{A,40\,h}$ (Pa²s)	264.0
E_A (Pa²h)	0.0
$E_{A,8\,h}$ (Pa²h)	0.0
$E_{A,40\,h}$ (Pa²h)	0.1

NOISE MONITORING FIELD REPORT

Project Name: 600 N Rosemead

Monitoring Location: Residences to the East

Date: 2/27/26 Site Number: 5

Measured By: Annalie Sarrieddine

Measurement Start Time: 1:08 pm

Measurement End Time: 1:23 pm

Total Measurement Time: 15 min.

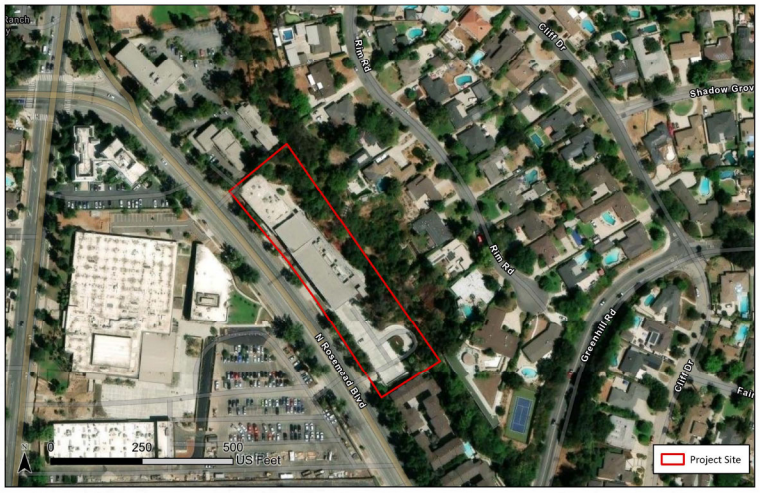
Noise Meter Model: Larson Davis SoundExpert 821 Calibration: 94.0 (dBA)

Meter Setting: A-Weighted Sound Level (SLOW)

Session File Name: 00194

Primary Noise Sources: Wind, Mechanical Equipment

Site Map



Data Summary

Noise Scale	Noise Level (dBA)
L_{eq}	51.0
L_{max}	67.0
L_{min}	46.3

Other Noise Sources During Monitoring

1. _____ Time: _____
2. _____ Time: _____
3. _____ Time: _____
4. _____ Time: _____
5. _____ Time: _____

Additional Notes:

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IMPACT SCIENCES

IMPACT SCIENCES

SoundExpert 821 Summary:

User: Annalie Sarrieddine

Location: 5

Job Description: 600 N Rosemead

Notes:

Meter General Information

	Model	Serial
Meter	SoundExpert 821	40371
Preamplifier	PRM821	
Microphone	377B02	
Unique File Id	00C:00009DB3:69A1975C:00000194	

Overall Measurement

Start Date & Time	2026-02-27 13:08:44
Stop Date & Time	2026-02-27 13:23:44
Run Time	00:15:00
Pre-Calibration	
Date/Time	2024-12-14 16:55:03
Calibrator Level (dB)	114.00
Meter Sensitivity (dB re 1V/Pa)	-25.47
Post-Calibration	
Date/Time	---
Calibrator Level (dB)	---
Meter Sensitivity (dB re 1V/Pa)	---
Sensitivity Delta	---
	A
L_{weq}	51.0
L_{wpk}	95.5
	2026-02-27 13:13:31
L_{wSmin}	46.3
	2026-02-27 13:21:02
L_{wSmax}	67.0
	2026-02-27 13:13:31
L_{wFmin}	45.7
	2026-02-27 13:21:02
L_{wFmax}	74.2
	2026-02-27 13:13:31
L_{wImin}	47.3
	2026-02-27 13:20:55
L_{wImax}	77.7
	2026-02-27 13:13:31
w = frequency weighting (A, C or Z)	
Community Noise (dB)	**LDN**
	51.0
	LDEN
	51.0
L_{Ceq} - L_{Aeq}	11.8
L_{AIeq}	57.1
Overload Count	0
Overload Duration	00:00:00
	A
Under Range Peak (dB)	50.0
Under Range Limit (dB)	24.0
Noise Floor (dB)	17.0

Ln Percentiles

5.0	55.8
10.0	53.5
33.3	49.5
50.0	48.8
66.6	48.2
90.0	47.3

Exceedances

	Count	Duration (s)
L_{AS} > 85.0 dB	0	0
L_{AS} > 95.0 dB	0	0
L_{Apk} > 135.0 dB	0	0
L_{Apk} > 137.0 dB	0	0
L_{Apk} > 140.0 dB	0	0

Sound Exposure

SEL A	80.5
E_A (Pa²s)	0.0
$E_{A,8\,h}$ (Pa²s)	1.4
$E_{A,40\,h}$ (Pa²s)	7.2
E_A (Pa²h)	0.0
$E_{A,8\,h}$ (Pa²h)	0.0
$E_{A,40\,h}$ (Pa²h)	0.0

Estimated Project Site Vicinity CNEL (Location 1)		
Hour of Day	**dBA Leq**	**With CNEL Penalty**
12:00 AM	65	75
1:00 AM	65	75
2:00 AM	65	75
3:00 AM	65	75
4:00 AM	65	75
5:00 AM	65	75
6:00 AM	65	75
7:00 AM	67	67
8:00 AM	67	67
9:00 AM	67	67
10:00 AM	67	67
11:00 AM	67	67
12:00 PM	67	67
1:00 PM	67	67
2:00 PM	67	67
3:00 PM	67	67
4:00 PM	67	67
5:00 PM	67	67
6:00 PM	67	67
7:00 PM	64.2	69.2
8:00 PM	64.2	69.2
9:00 PM	64.2	69.2
10:00 PM	65	75
11:00 PM	65	75
	Calculated CNEL:	**71.9**

Daytime Hours:	7:00 AM - 7:00 PM
Evening Hours:	7:00 PM - 10:00 PM
Nighttime Hours:	10:00 PM - 7:00 AM

Note: Calculation based on representative Leq measurements collected for daytime, evening and nighttime periods at Location 1. See noise monitoring data.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 3/9/2026
Case Descr Demolition

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
100 feet	Residential	62	62	62

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	100	0
Roller	No	20		80	100	0
Tractor	No	40	84		100	0
All Other Equipment > 5	No	50	85		100	0
Excavator	No	40		80.7	100	0

Results

	Calculated (dBA)	
Equipment	*Lmax	Leq
Concrete Saw	83.6	76.6
Roller	74	67
Tractor	78	74
All Other Equipment > 5	79	76
Excavator	74.7	70.7
Total	83.6	81

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/9/2026
Case Descriptio Grading

		---- Receptor #1 ----		
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
100 feet	Residential	62	62	62

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Roller	No	20		80	100	0
Tractor	No	40	84		100	0
Excavator	No	40		80.7	100	0

Results

		Calculated (dBA)	
Equipment		*Lmax	Leq
Roller		74	67
Tractor		78	74
Excavator		74.7	70.7
	Total	78	76.2

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 3/9/2026
Case Description: Building Construction

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
100 feet	Residential	62	62	62

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	100	0
All Other Equipment > 5 HP	No	50	85		100	0
Roller	No	20		80	100	0

Results

	Calculated (dBA)	
Equipment	*Lmax	Leq
Crane	74.5	66.6
All Other Equipment > 5 HP	79	76
Roller	74	67
Total	79	76.9

*Calculated Lmax is the Loudest value.

TABLE 1: Rosemead Family Apartments- Trip Generation

Land Use (ITE Code)	Size	Units	Trip Generation Rates							Trip Generation						
			AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total	
Proposed Project																
Affordable Housing (223) [1]	131	du	29%	71%	0.36	59%	41%	0.46	4.81	14	34	48	36	25	61	630
Multifamily Housing (Mid-Rise) (221) [1]	2	du	23%	77%	0.38	64%	36%	0.38	4.46	1	1	2	1	1	2	9
Transit Oriented Development Adjustment [2]										-1	-3	-4	-3	-2	-5	-63
Existing Land Use Adjustment [3]										-7	-2	-9	0	-4	-4	-90
Project Total Net Trips										**7**	**30**	**37**	**34**	**20**	**54**	**486**

1 = Based on ITE Trip Generation, 12th Edition

2 = 10% TOD adjustment applied. Outside of TOD area, but adjacent to transit with less than 30-minute headways during peak periods (Rte P32/P33/P40/M268)

3=The existing land use is operational and traffic volume at driveways was collected during the AM and PM peak hours. Assume 10% K Factor for Daily trips

Residential structures to the south of the Project Site

Ref= Reference vibration level (PPV)

RefD= Reference distance for Reference vibration level (Feet)

Vibration PPV		
Ref=	0.089	Based on type of equipment
RefD=	25	
D=	15	Distance from equipment to sensitive receptor
Equip=	0.19150	
Annoyance VdB		
Ref=	87	Based on type of equipment
RefD=	25	
D=	100	Distance from equipment to sensitive receptor
Equip=	69	

Peak construction vibration based on utilizing a large bulldozer or caisson drilling.

Source: FTA Tranist Noise and Vibration Impact Assessment, September 2018.

Commercial structures to the north

Ref= Reference vibration level (PPV)
RefD= Reference distance for Reference vibration level (Feet)

Vibration PPV		
Ref=	0.089	Based on type of equipment
RefD=	25	
D=	24	Distance from equipment to sensitive receptor
Equip=	0.09462	
Annoyance VdB		
Ref=	87	Based on type of equipment
RefD=	25	
D=	100	Distance from equipment to sensitive receptor
Equip=	69	

Peak construction vibration based on utilizing a large bulldozer or caisson drilling.
Source: FTA Tranist Noise and Vibration Impact Assessment, September 2018.

			Residential structures to the east of the Project Site
Ref=	Reference vibration level (PPV)		
RefD=	Reference distance for Reference vibration level (Feet)		
	Vibration PPV		
	Ref=	0.089	Based on type of equipment
	RefD=	25	
	D=	59	Distance from equipment to sensitive receptor
	Equip=	0.02455	
	Annoyance VdB		
	Ref=	87	Based on type of equipment
	RefD=	25	
	D=	100	Distance from equipment to sensitive receptor
	Equip=	69	

Peak construction vibration based on utilizing a large bulldozer or caisson drilling.

Source: FTA Tranist Noise and Vibration Impact Assessment, September 2018.

APPENDIX B

Mechanical Equipment

BUILDING A - SPLIT SYSTEM INDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	COOLING CAPACITY		HEATING CAPACITY BTUH	BLOWER			ELECTRICAL DATA				SERVICE	WEIGHT (LBS)	REMARKS
						NOMINAL BTUH	SENSIBLE BTUH		CFM	ESP. (IN. WC)	POWER	V	PH	MCA	MOCP			
FC-1	50	LG	KNUJB181A	1.5	R-32	18,000	13,500	20,000	525	0.24	-	208/230	1	-	-	STUDIO/1-BEDROOM	61.5	PROVIDE CONDENSATE OVERFLOW SWITCH AND TITLE 24 COMPLIANT PROGRAMMABLE THERMOSTAT. OUTDOOR UNITS POWERS INDOOR UNIT. SEE PLUMBING DRAWINGS FOR PRIMARY CONDENSATE PIPING. PROVIDE 2" MERV 13 FILTERS. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE REFRIGERANT LEAK DETECTION ACCESSORY WITH CONTROLS TO PROVIDE AIR CIRCULATION, IN ACCORDANCE WITH UL 60335-2-40.
FC-2	1	LG	KNUJB241A	2.0	R-32	23,000	17,250	27,000	700	0.24	-	208/230	1	-	-	2-BEDROOM	64.2	
FC-3	5	LG	KNUJB301A	2.5	R-32	29,000	21,750	34,000	875	0.24	-	208/230	1	-	-	COMMUNITY ROOM	85.3	
FC-4	1	LG	KNUJB121A	1.0	R-32	12,000	9,000	15,000	350	0.24	-	208/230	1	-	-	LEASING OFFICE	61.7	
FC-5	1	LG	ZRNU483M3AA	4.0	R-32	48,100	36,075	54,200	1,400	0.79	-	208/230	1	-	-	MAIN LOBBY	93.7	
FC-6	1	LG	KNUDB181A	1.5	R-32	18,000	13,500	20,000	525	-	-	208/230	1	-	-	GYM	30.9	PROVIDE CONDENSATE OVERFLOW SWITCH AND TITLE 24 COMPLIANT PROGRAMMABLE THERMOSTAT. OUTDOOR UNITS POWERS INDOOR UNIT. SEE PLUMBING DRAWINGS FOR PRIMARY CONDENSATE PIPING. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE REFRIGERANT LEAK DETECTION ACCESSORY WITH CONTROLS TO PROVIDE AIR CIRCULATION, IN ACCORDANCE WITH UL 60335-2-40.
FC-7	1	LG	KNUDB091A	0.75	R-32	9,000	6,750	11,000	265	-	-	208/230	1	-	-	SERVERY	28.4	

BUILDING A - SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	NOMINAL CAPACITY				ELECTRICAL DATA				REFRIGERANT LINES		WEIGHT (LBS)	VIBRATION ISOLATORS	FAN COIL UNIT	REMARKS
						COOLING BTUH	SEER2/EER2	HEATING BTUH	HSPF2	V	PH	MCA	MOCP	TOTAL PIPE LENGTH (FT)	VERTICAL LIFT (FT)				
CU-1	50	LG	KUSXB181A	1.5	R-32	18,000	17.5/12.4	20,000	9.2	208/230	1	16.0	25.0	164.0	98.4	136.0	SPRING ISOLATOR	FC-1	PROVIDE VIBRATION SPRING ISOLATOR AND REFRIGERANT PORT LOCKING CAP. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. REFRIGERANT PIPING SIZING AND OTHER CONSIDERATIONS SHALL BE PER MANUFACTURER'S RECOMMENDATION.
CU-2	1	LG	KUSXB241A	2.0	R-32	23,000	17.0/11.8	27,000	9.5	208/230	1	16.0	25.0	164.0	98.4	136.0	SPRING ISOLATOR	FC-2	
CU-3	5	LG	KUSXB301A	2.5	R-32	29,000	18.5/11.7	34,000	9.4	208/230	1	19.1	30.0	164.0	98.4	141.1	SPRING ISOLATOR	FC-3	
CU-4	1	LG	KUSXB121A	1.0	R-32	12,000	16.4/12.0	15,000	10.5	208/230	1	13.4	15.0	65.6	49.2	75.0	SPRING ISOLATOR	FC-4	
CU-5	1	LG	ZRUMU48GSS0	4.0	R-32	48,000	17.0/12.20	54,000	10.0	208/230	1	31.0	40.0	984.0	164.	257.0	SPRING ISOLATOR	FC-5	
CU-6	1	LG	KUSXB181A	1.5	R-32	18,000	20.5/13.0	20,000	9.5	208/230	1	16.0	25.0	164.0	98.4	136.0	SPRING ISOLATOR	FC-6	
CU-7	1	LG	KUSXB091A	0.75	R-32	9,000	22.2/13.9	11,000	10.0	208/230	1	13.4	15.0	65.6	49.2	75.0	SPRING ISOLATOR	FC-7	

BUILDING A - VRF SYSTEM INDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	COOLING CAPACITY		HEATING CAPACITY BTUH	BLOWER			ELECTRICAL DATA			SERVICE	WEIGHT (LBS)	REMARKS
						NOMINAL BTUH	SENSIBLE BTUH		CFM	ESP. (IN. WC)	POWER	V	PH	FLA			
FC-8	4	LG	ZRNU093TRAA	0.75	R-32	9,600	7,200	10,900	265	-	-	208/230	1	0.25	OFFICES	29.1	PROVIDE CONDENSATE OVERFLOW SWITCH AND TITLE 24 COMPLIANT PROGRAMMABLE THERMOSTAT. SEE PLUMBING DRAWINGS FOR PRIMARY CONDENSATE PIPING. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE REFRIGERANT LEAK DETECTION ACCESSORY WITH CONTROLS TO PROVIDE AIR CIRCULATION, IN ACCORDANCE WITH UL 60335-2-40.
FC-9	2	LG	ZRNU123TRAA	1.0	R-32	12,300	9,225	13,600	350	-	-	208/230	1	0.25	CONFERENCE ROOM, BREAK ROOM	29.1	

BUILDING A - VRF SYSTEM OUTDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	NOMINAL CAPACITY				ELECTRICAL DATA				REFRIGERANT LINES		WEIGHT (LBS)	VIBRATION ISOLATORS	FAN COIL UNIT	REMARKS
						COOLING BTUH	SEER2/EER2	HEATING BTUH	HSPF2	V	PH	MCA	MOCP	TOTAL PIPE LENGTH (FT)	VERTICAL LIFT (FT)				
CU-8	1	LG	ZRUM060GSS0	5.0	R-32	60,000	23.0/13.0	67,000	10.0	208/230	1	32.9	40.0	984.0	164.0	267.0	SPRING ISOLATOR	FC-8, FC-9	PROVIDE VIBRATION SPRING ISOLATOR AND REFRIGERANT PORT LOCKING CAP. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. REFRIGERANT PIPING SIZING AND OTHER CONSIDERATIONS SHALL BE PER MANUFACTURER'S RECOMMENDATION.

BUILDING A - FAN SCHEDULE

MARK	QTY.	MAKE	MODEL	FAN TYPE	TOTAL CFM	ESP (IN)	MAX. RPM	MOTOR DATA				SERVICE	WEIGHT (LBS)	REMARKS
								POWER	AMPS	V	PH			
EF-1	51	PANASONIC	FV-0511VKS2	DIRECT DRIVE	30-110	0.1	920	9.9 W	0.1	120	1	RESIDENTIAL BATHROOMS	11.9	ENERGY STAR COMPLIANT FAN. PROVIDE WITH BACKDRAFT DAMPER. PROVIDE TWO-SPEED FAN WITH TIMER AND HUMIDITY SENSOR. FAN SHALL BE CAPABLE OF HIGH/LOW SETTING. FAN SHALL RUN CONTINUOUSLY AT LOW SETTING OF 30 CFM AND SWITCH TO HIGH SPEED TO MAINTAIN RELATIVE HUMIDITY AT 60% OR WHEN MANUALLY SWITCHED ON. PROVIDE DEDICATED FAN SWITCH.
EF-2	51	BROAN	BCSEK130	DIRECT DRIVE	100-240	0.1	1,656	78.0 W	0.65	120	1	RESIDENTIAL KITCHEN	17.4	30" EXHAUST HOOD WITH HVI CERTIFIED FAN. PROVIDE BACKDRAFT DAMPER.
EF-3	2	PANASONIC	FV-0511VQ1	DIRECT DRIVE	80	0.1	821	5.9 W	0.11	120	1	NON-RESIDENTIAL RESTROOMS	11.0	ENERGY STAR COMPLIANT FAN. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. INTERLOCK WITH LIGHTSWITCH.
EF-4	2	AIRKING	F130D	DIRECT DRIVE	130	0.2	-	26 W	0.5	115	1	PART 1 - LEVEL 2 & 3 CORRIDORS	-	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. FAN TO RUN CONTINUOUSLY.
EF-5	2	AIRKING	F130D	DIRECT DRIVE	50	0.2	-	26 W	0.5	115	1	2/F & 3/F LAUNDRY	-	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. FAN TO RUN CONTINUOUSLY. INTERLOCK WITH SF-4.
EF-6	2	GREENHECK	SQ-90	DIRECT DRIVE	300	0.31	1,300	1/25 HP	-	115	1	PART 2 - LEVEL 2 & 3 CORRIDORS	35.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. FAN TO RUN CONTINUOUSLY.
EF-7	1	GREENHECK	AX-63-190-0625	DIRECT DRIVE	6,800	1.53	1,770	5 HP	16.7	208	3	GARAGE	259	FAN TO RUN CONTINUOUSLY. INTERLOCK WITH CO SENSORS AND CONTROL SYSTEM. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE HARDWARE CLOTH AT INLET.
EF-8	1	GREENHECK	G-070-VG	DIRECT DRIVE	120	0.25	1,226	1/6 HP	1.5	208	1	2/F & 3/F TRASH ROOM	36.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. FAN TO RUN CONTINUOUSLY. INTERLOCK WITH SF-4.
SF-1	2	AIRKING	F130D	DIRECT DRIVE	130	0.2	-	26 W	0.5	115	1	PART 1 - LEVEL 2 & 3 CORRIDORS	-	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. INTERLOCK WITH LIGHTSWITCH.
SF-2	1	GREENHECK	USF-06	DIRECT DRIVE	600	0.5	1,715	1/4 HP	-	115	1	PART 2 - LEVEL 2 & 3 CORRIDORS	-	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. INTERLOCK WITH LIGHTSWITCH.
SF-3	1	GREENHECK	SQ-120-VG	DIRECT DRIVE	650	0.56	1,080	1/2 HP	3.8	208	1	MAIN LOBBY 200A	110.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. INTERLOCK WITH LIGHTSWITCH.
SF-4	1	GREENHECK	USF-10	DIRECT DRIVE	120	0.5	1,119	1 HP	-	206	3	2/F & 3/F TRASH ROOM	156.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. FAN TO RUN CONTINUOUSLY. INTERLOCK WITH EF-8.
OF-1	51	AIRKING	F130D	DIRECT DRIVE	40-130	0.2	-	26 W	0.5	115	1	RESIDENTIAL UNITS	-	DISCONNECT SWITCH BY ELECTRICAL. PROVIDE BACKDRAFT DAMPER. PROVIDE 2" MERV 13 FILTER. FAN SHALL RUN CONTINUOUSLY.
OF-2	1	GREENHECK	SQ-7-M1-VG	DIRECT DRIVE	830	1.23	3,451	1/2 HP	6.6	115	1	SERVERY, GYM, LEASING, OFFICES, COMMUNITY, CONFERENCE & BREAK ROOMS		DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. FAN TO RUN CONTINUOUSLY DURING OCCUPIED HOURS.
JF-1, JF-2 & JF-3	2	SYSTEM AIR	IV50-EC	DIRECT DRIVE	3,517	N/A	1,400	1.67 KW	11.3	208	1	GARAGE	162.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. FAN TO RUN CONTINUOUSLY.

BUILDING A - AIR DISTRIBUTION SCHEDULE

TYPE	QTY.	MAKE	MODEL	CFM RANGE	USE	TYPE	SIZE (IN)	MAX PD (IN)	MAX NC	REMARKS
S-1	104	PRICE	620	0-350	SA	LOUVERED SUPPLY GRILLE	12"X12"	0.024	15	NECK SIZE PER PLAN. PROVIDE O.B.D. ALL AIR RETURNS TO SUPPORT 2" FILTERS
S-2	5	PRICE	SPD	0-225	SA	LOUVERED SUPPLY DIFFUSER	24"X24"	0.057	15	
S-3	20	PRICE	620	0-350	SA	LOUVERED SUPPLY GRILLE	12"X10"	0.016	15	
S-4	2	PRICE	620	0-60	SA	LOUVERED SUPPLY GRILLE	8"X8"	0.006	15	
R-1	51	PRICE	630FF	0-700	RA	LOUVERED RETURN GRILLE	24"X12"	0.044	20	
R-2	6	PRICE	630FF	0-875	RA	LOUVERED RETURN DIFFUSER	24"X24"	0.050	17	
R-3	2	PRICE	630FF	0-875	RA	LOUVERED RETURN GRILLE	28"X14"	0.044	20	
M-1	2	PRICE	520	0-130	MA	LOUVERED SUPPLY DIFFUSER	10"X10"	0.014	15	
M-2	2	PRICE	520	0-300	MA	LOUVERED SUPPLY GRILLE	14"X14"	0.014	15	
M-3	1	PRICE	520	0-650	MA	LOUVERED SUPPLY GRILLE	14"X14"	0.019	17	
E-1	6	PRICE	80	0-130	EA	EGG CRATE GRILLE	8"X8"	0.013	15	
E-2	2	PRICE	80	0-300	EA	EGG CRATE GRILLE	14"X14"	0.013	15	
OA-1	51	PRICE	620	0-50	OA	LOUVERED SUPPLY DIFFUSER	8"X8"	0.014	15	

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NOT FOR CONSTRUCTION

PROJECT NAME:
600 N. ROSEMEAD AVE

PROJECT ADDRESSES:
600 N. ROSEMEAD AVE, PASADENA CA 91107

PROJECT NUMBER 294-25-002

CLIENT NAME: ELYSIAN HOUSING

CLIENT ADDRESS: Client Address

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DRAWN BY	JTORAL
DESIGNED BY	ECRISTOBAL
CHECKED BY	BLIM
APPROVED BY	PBREEN

DRAWING TITLE:
MECHANICAL SCHEDULES - BLDG. A

DESIGN DEVELOPMENT

Date	02/17/2026
Drawn by	SEE QA/QC STAMP
Checked by	SEE QA/QC STAMP

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Scale NONE

H:\PROJECTS\294 FSY ARCHITECTS\25-001 - 1ST & TOWNSEND APARTMENTS\01 - CAD\MECHANICAL\M2.01 MECHANICAL GROUND FLOOR PLAN.DWG
FILE NAME:
RHECHANOVA
BREEN DESIGN GROUP_STB
LAST SAVED:
PLOT STYLE:
ROEL HECHANOVA
1:1
BY:
PLOT SCALE:
10/3/2024 10:10 PM
ARCH FULL BLEED D (24.00 X 36.00 INCHES)
DATE PLOTTED:
ORIGINAL SIZE:

BUILDING B - SPLIT SYSTEM INDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	COOLING CAPACITY		HEATING CAPACITY BTUH	BLOWER			ELECTRICAL DATA				SERVICE	WEIGHT (LBS)	REMARKS
						NOMINAL BTUH	SENSIBLE BTUH		CFM	ESP. (IN. WC)	POWER	V	PH	MCA	MOCP			
FC-1	15	LG	KNUJB181A	1.5	R-32	18,000	13,500	20,000	525	0.24	-	208/230	1	-	-	STUDIO/1-BEDROOM	61.5	PROVIDE CONDENSATE OVERFLOW SWITCH AND TITLE 24 COMPLIANT PROGRAMMABLE THERMOSTAT. OUTDOOR UNITS POWERS INDOOR UNIT. SEE PLUMBING DRAWINGS FOR PRIMARY CONDENSATE PIPING. PROVIDE 2" MERV 13 FILTERS. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE REFRIGERANT LEAK DETECTION ACCESSORY WITH CONTROLS TO PROVIDE AIR CIRCULATION, IN ACCORDANCE WITH UL 60335-2-40. FOR FC-4, SET THERMOSTAT TO COOLING MODE ONLY.
FC-2	67	LG	KNUJB241A	2.0	R-32	23,000	17,250	27,000	700	0.24	-	208/230	1	-	-	2-BEDROOM/3-BEDROOM	64.2	
FC-3	1	LG	KNSLB481A	4.0	R-32	45,500	34,125	50,000	1,400	0.40	-	208/230	1	-	-	COMMUNITY ROOM	146.0	
FC-4	3	LG	KNUJB241A	2.0	R-32	23,000	17,250	-	700	0.24	-	208/230	1	-	-	MPOE, E.C.R., ELECTRICAL ROOM	64.2	

BUILDING B - SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	NOMINAL CAPACITY				ELECTRICAL DATA				REFRIGERANT LINES		WEIGHT (LBS)	VIBRATION ISOLATORS	FAN COIL UNIT	REMARKS
						COOLING BTUH	SEER2/EER2	HEATING BTUH	HSPF2	V	PH	MCA	MOCP	TOTAL PIPE LENGTH (FT)	VERTICAL LIFT (FT)				
CU-1	15	LG	KUSXB181A	1.5	R-32	18,000	17.5/12.4	20,000	9.2	208/230	1	16.0	25.0	164.0	98.4	136.0	SPRING ISOLATOR	FC-1	PROVIDE VIBRATION SPRING ISOLATOR AND REFRIGERANT PORT LOCKING CAP. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. REFRIGERANT PIPING SIZING AND OTHER CONSIDERATIONS SHALL BE PER MANUFACTURER'S RECOMMENDATION.
CU-2	67	LG	KUSXB241A	2.0	R-32	23,000	17.0/11.8	27,000	9.5	208/230	1	16.0	25.0	164.0	98.4	136.0	SPRING ISOLATOR	FC-2	
CU-3	1	LG	KUSXB481A	4.0	R-32	45,500	18.0/11.7	50,000	9.4	208/230	1	32.0	40.0	246.0	98.4	190.2	SPRING ISOLATOR	FC-3	
CU-4	3	LG	KUSXB241A	2.0	R-32	23,000	17.0/11.8	-	-	208/230	1	16.0	25.0	164.0	98.4	136.0	SPRING ISOLATOR	FC-4	

BUILDING B - VRF SYSTEM INDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	COOLING CAPACITY		HEATING CAPACITY BTUH	BLOWER			ELECTRICAL DATA			SERVICE	WEIGHT (LBS)	REMARKS
						NOMINAL BTUH	SENSIBLE BTUH		CFM	ESP. (IN. WC)	POWER	V	PH	FLA			
FC-5	1	LG	ZRNU093TRAA	0.75	R-32	9,600	7,200	10,900	265	-	-	208/230	1	0.25	MAIL ROOM	29.1	PROVIDE CONDENSATE OVERFLOW SWITCH AND TITLE 24 COMPLIANT PROGRAMMABLE THERMOSTAT. SEE PLUMBING DRAWINGS FOR PRIMARY CONDENSATE PIPING. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE REFRIGERANT LEAK DETECTION ACCESSORY WITH CONTROLS TO PROVIDE AIR CIRCULATION, IN ACCORDANCE WITH UL 60335-2-40.
FC-6	1	LG	ZRNU123TRAA	1.0	R-32	12,300	9,225	13,600	350	-	-	208/230	1	0.25	LEASING OFFICE	29.1	

BUILDING B - VRF SYSTEM OUTDOOR UNIT SCHEDULE

MARK	QTY.	MAKE	MODEL	TONS	REFRIGERANT TYPE	NOMINAL CAPACITY				ELECTRICAL DATA				REFRIGERANT LINES		WEIGHT (LBS)	VIBRATION ISOLATORS	FAN COIL UNIT	REMARKS
						COOLING BTUH	SEER2/EER2	HEATING BTUH	HSPF2	V	PH	MCA	MOCP	TOTAL PIPE LENGTH (FT)	VERTICAL LIFT (FT)				
CU-5	1	LG	ZRUN024GSS0	2.0	R-32	24,000	20.05/14.80	27,000	10.20	208/230	1	26.4	30.0	984.0	164.0	148.0	SPRING ISOLATOR	FC-4, FC-5	PROVIDE VIBRATION SPRING ISOLATOR AND REFRIGERANT PORT LOCKING CAP. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. REFRIGERANT PIPING SIZING AND OTHER CONSIDERATIONS SHALL BE PER MANUFACTURER'S RECOMMENDATION.

BUILDING B - FAN SCHEDULE

MARK	QTY.	MAKE	MODEL	FAN TYPE	TOTAL CFM	ESP (IN)	MAX. RPM	MOTOR DATA				SERVICE	WEIGHT (LBS)	REMARKS
								POWER	AMPS	V	PH			
EF-1	116	PANASONIC	FV-0511VKS2	DIRECT DRIVE	30-110	0.1	920	9.9 W	0.1	120	1	RESIDENTIAL BATHROOMS	11.9	ENERGY STAR COMPLIANT FAN. PROVIDE WITH BACKDRAFT DAMPER. PROVIDE TWO-SPEED FAN WITH TIMER AND HUMIDITY SENSOR. FAN SHALL BE CAPABLE OF HIGH/LOW SETTING. FAN SHALL RUN CONTINUOUSLY AT LOW SETTING OF 40 CFM (FOR 1-BED), 60 CFM (FOR 2-BED), & 80 CFM (FOR 3-BED) AND SWITCH TO HIGH SPEED TO MAINTAIN RELATIVE HUMIDITY AT 60% OR WHEN MANUALLY SWITCHED ON. PROVIDE DEDICATED FAN SWITCH.
EF-2	83	BROAN	BCSEK130	DIRECT DRIVE	100-240	0.1	1,656	78.0 W	0.65	120	1	RESIDENTIAL KITCHEN	17.4	30" EXHAUST HOOD WITH HVI CERTIFIED FAN. PROVIDE BACKDRAFT DAMPER.
EF-3	5	GREENHECK	SP-B80	DIRECT DRIVE	60	0.26	900	18.0 W	0.16	115	1	1/F - S/F TRASH ROOMS	9.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. FAN TO RUN CONTINUOUSLY.
EF-4	1	GREENHECK	SP-A250	DIRECT DRIVE	250	0.25	1,000	63.0 W	0.56	115	1	BASEMENT TRASH ROOM	24.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. FAN TO RUN CONTINUOUSLY.
EF-5	1	PANASONIC	FV-0511VQ1	DIRECT DRIVE	80	0.1	821	5.9 W	0.11	120	1	NON-RESIDENTIAL RESTROOMS	11.0	ENERGY STAR COMPLIANT FAN. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. INTERLOCK WITH LIGHTSWITCH.
EF-6	1	GREENHECK	SP-A125	DIRECT DRIVE	110	0.25	1,100	17 W	0.18	115	1	LAUNDRY ROOM	17.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTSWITCH.
SF-1	1	GREENHECK	SQ-90-VG	DIRECT DRIVE	250	0.25	1,115	1/6 HP	2.8	115	1	BASEMENT TRASH ROOM	34.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. FAN TO RUN CONTINUOUSLY.
OF-1	82	AIRKING	F130D	DIRECT DRIVE	40-130	0.2	-	26 W	0.5	115	1	RESIDENTIAL UNITS	-	DISCONNECT SWITCH BY ELECTRICAL. PROVIDE BACKDRAFT DAMPER. PROVIDE 2" MERV 13 FILTER. FAN SHALL RUN CONTINUOUSLY.
OF-2	1	AIRKING	F130D	DIRECT DRIVE	80	0.2	-	26 W	0.5	115	1	LEASING OFFICE, MAIL ROOM	-	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. PROVIDE WITH BACKDRAFT DAMPER. FAN TO RUN CONTINUOUSLY DURING OCCUPIED HOURS.
JF-1 JF-2	2	ZOO FANS	JVEC-SP	DIRECT DRIVE	3,475	N/A	1,800	3 HP	-	480	3	GARAGE	210.0	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. FAN TO RUN CONTINUOUSLY.

BUILDING B - AIR DISTRIBUTION SCHEDULE

TYPE	QTY.	MAKE	MODEL	CFM RANGE	USE	TYPE	SIZE (IN)	MAX PD (IN)	MAX NC	REMARKS
S-1	298	PRICE	620	0-350	SA	LOUVERED SUPPLY GRILLE	12"X12"	0.024	15	NECK SIZE PER PLAN. PROVIDE O.B.D. ALL AIR RETURNS TO SUPPORT 2" FILTERS
S-2	5	PRICE	RCD	0-280	SA	ROUND CONE DIFFUSER	10"Ø	0.044	15	
R-1	82	PRICE	630FF	0-700	RA	LOUVERED RETURN GRILLE	24"X12"	0.044	20	
R-2	1	PRICE	630FF	0-1,400	RA	LOUVERED RETURN GRILLE	28"X20"	0.044	20	
M-1	1	PRICE	520	0-100	MA	LOUVERED SUPPLY DIFFUSER	8"X8"	0.014	15	
OA-1	82	PRICE	620	0-50	OA	LOUVERED SUPPLY DIFFUSER	8"X8"	0.014	15	

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MAIL@FSYARCHITECTS.COM

NOT FOR CONSTRUCTION

PROJECT NAME:
600 N. ROSEMEAD AVE

PROJECT ADDRESSES:
600 N. ROSEMEAD AVE, PASADENA CA 91107

PROJECT NUMBER 294-25-002

CLIENT NAME: ELYSIAN HOUSING

CLIENT ADDRESS: Client Address

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DRAWN BY	LCARMELOTES
DESIGNED BY	ECRISTOBAL
CHECKED BY	BLIM
APPROVED BY	PBREEN

DRAWING TITLE:
MECHANICAL SCHEDULES - BLDG. B

DESIGN DEVELOPMENT

Date	02/17/2026
Drawn by	SEE QA/QC STAMP
Checked by	SEE QA/QC STAMP

BB-M0.02

Scale NONE

FILE NAME: H:\PROJECTS\294 FSY ARCHITECTS\25-001 - 1ST & TOWNSEND APARTMENTS\01 - CAD\MECHANICAL\M2.01 MECHANICAL GROUND FLOOR PLAN.DWG

RHECHANOVA
BREEN DESIGN GROUP_STB

LAST SAVED:
PLOT STYLE:

ROEL HECHANOVA
1:1

BY:
PLOT SCALE:

10/3/2024 10:10 PM
ARCH FULL BLEED D (24.00 X 36.00 INCHES)

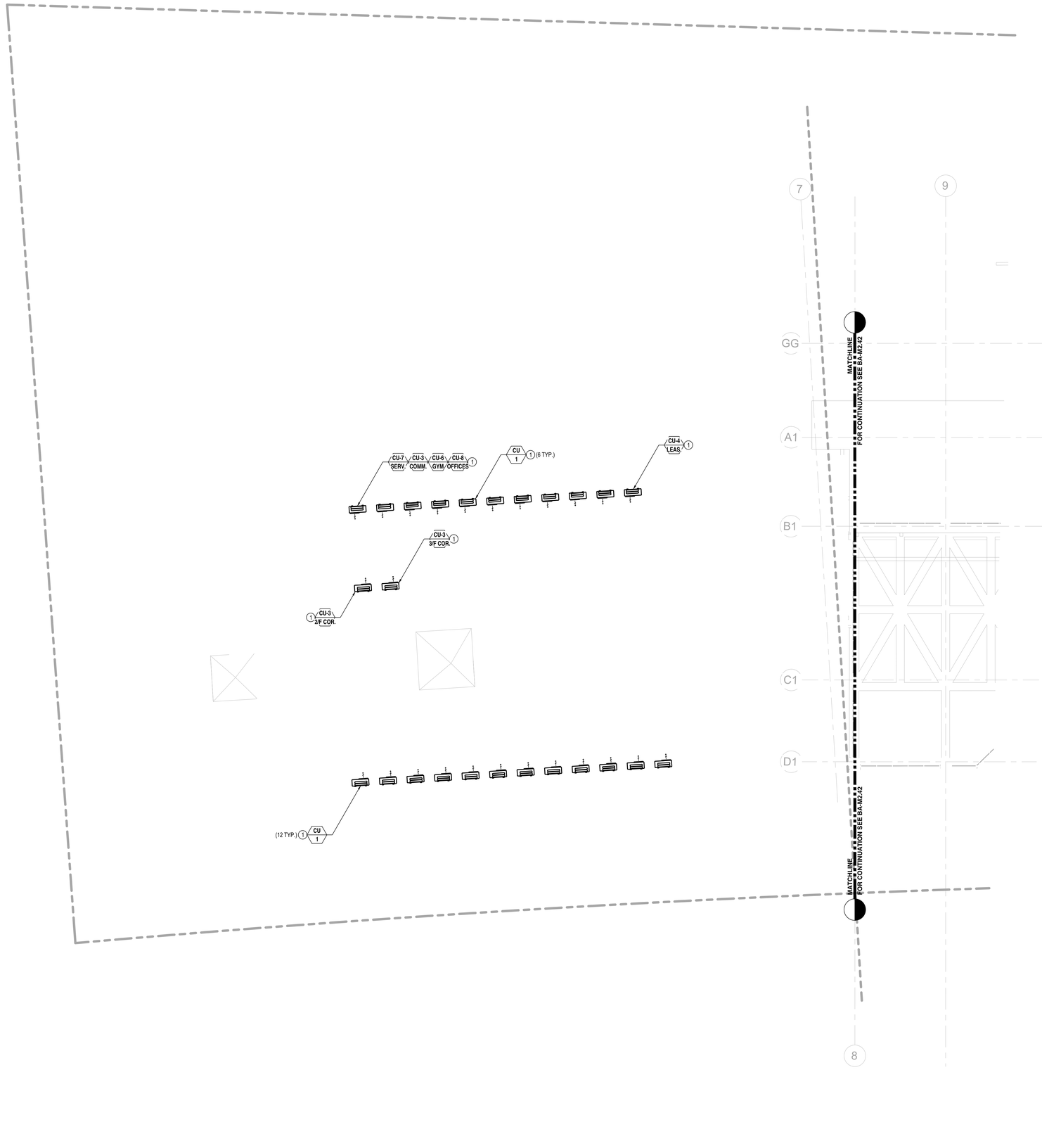
DATE PLOTTED:
ORIGINAL SIZE:

GENERAL NOTES

1. ALL CONDENSERS MUST BE PROPERLY LABELED AFTER INSTALLATION TO SHOW WHICH SPACE IT IS SERVING.

REFERENCE NOTES

1. CONDENSING UNIT ON EQUIPMENT PAD.



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MAIL@FSYARCHITECTS.COM

NOT FOR CONSTRUCTION

PROJECT NAME:
600 N. ROSEMEAD AVE

PROJECT ADDRESSES:
600 N. ROSEMEAD AVE, PASADENA CA 91107

PROJECT NUMBER 294-25-002

CLIENT NAME: ELYSIAN HOUSING

CLIENT ADDRESS: Client Address

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TORRANCE, CA 90503
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DRAWN BY	JTORAL
DESIGNED BY	ECRISTOBAL
CHECKED BY	BLIM
APPROVED BY	PBREEN

KEY PLAN

DRAWING TITLE:
MECHANICAL BLDG. A (PART1) - ROOF PLAN

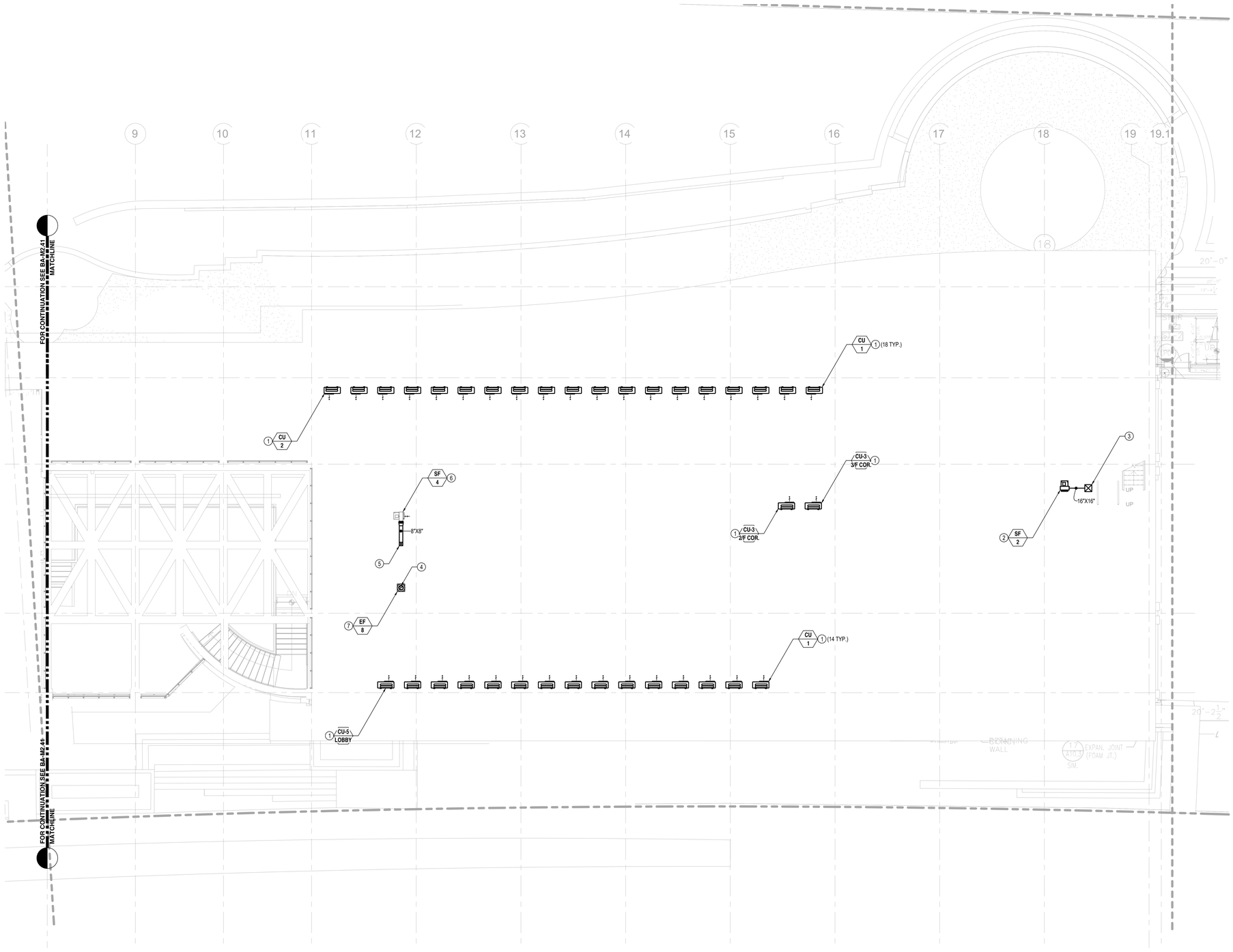
DESIGN DEVELOPMENT	
Date	02/17/2026
Drawn by	SEE QA/QC STAMP
Checked by	SEE QA/QC STAMP

BA-M2.41

Scale 1/8" = 1'-0"

N

DATE PLOTTED: 10/3/2024 10:10 PM
ORIGINAL SIZE: ARCH FULL BLEED D (24.00 X 36.00 INCHES)
BY: ROEL.HECHANOVA
PLOT SCALE: 1:1
LAST SAVED: RHECHANOVA
PLOT STYLE: BREEN DESIGN GROUP.STB
FILE NAME: H:\PROJECTS\294 FSY ARCHITECTS\2S-001 - 1ST & TOWNSEND APARTMENTS\01 - CAD\MECHANICAL\M2.01 MECHANICAL GROUND FLOOR PLAN.DWG



GENERAL NOTES

1. ALL CONDENSERS MUST BE PROPERLY LABELED AFTER INSTALLATION TO SHOW WHICH SPACE IT IS SERVING.

REFERENCE NOTES

1. CONDENSING UNIT ON EQUIPMENT PAD.
2. ROOF MOUNTED UTILITY SUPPLY FAN.
3. 16"X16" MAKE-UP AIR DUCT FROM CORRIDORS BELOW.
4. 8"X8" EXHAUST AIR DUCT SERVING TRASH ROOMS BELOW. PROVIDE ROOF CAP. ENSURE TERMINATION TO BE AT LEAST 10'-0" FROM BUILDING OPENINGS.
5. 8"X8" SUPPLY AIR DUCT SERVING TRASH ROOMS BELOW. PROVIDE ROOF CAP. ENSURE TERMINATION TO BE AT LEAST 10'-0" FROM BUILDING OPENINGS.
6. ROOF MOUNTED UTILITY SUPPLY FAN SERVING TRASH ROOM BELOW. EXHAUST TERMINATION TO MAINTAIN A MINIMUM DISTANCE OF 10'-0" FROM OR 3'-0" ABOVE AIR INTAKES.
7. ROOF MOUNTED CENTRIFUGAL EXHAUST FAN MOUNTED ON FACTORY ROOF CURB.

FSY ARCHITECTS
2902 KNOX AVE., 2ND FLOOR
LOS ANGELES, CA 90039
TEL : 323.255.4343
FAX : 323.255.4848
WWW.FSYARCHITECTS.COM
MAIL@FSYARCHITECTS.COM

NOT FOR CONSTRUCTION

PROJECT NAME:
600 N. ROSEMEAD AVE

PROJECT ADDRESSES:
600 N. ROSEMEAD AVE, PASADENA CA 91107

PROJECT NUMBER 294-25-002

CLIENT NAME:
ELYSIAN HOUSING

CLIENT ADDRESS:
Client Address

BREEN DESIGN GROUP
3825 DEL AMO BOULEVARD
TORRANCE, CA 90503
PH: 310 464 8404
WWW.BREENDESIGN.COM

DRAWN BY	JTORAL
DESIGNED BY	ECRISTOBAL
CHECKED BY	BLIM
APPROVED BY	PBREEN

KEY PLAN

DRAWING TITLE:
MECHANICAL BLDG. A (PART 2) - ROOF PLAN

DESIGN DEVELOPMENT

Date	02/17/2026
Drawn by	SEE QA/QC STAMP
Checked by	SEE QA/QC STAMP

BA-M2.42

Scale 1/8" = 1'-0"

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BY: ROEL HECHANOVA
PLOT SCALE: 1:1
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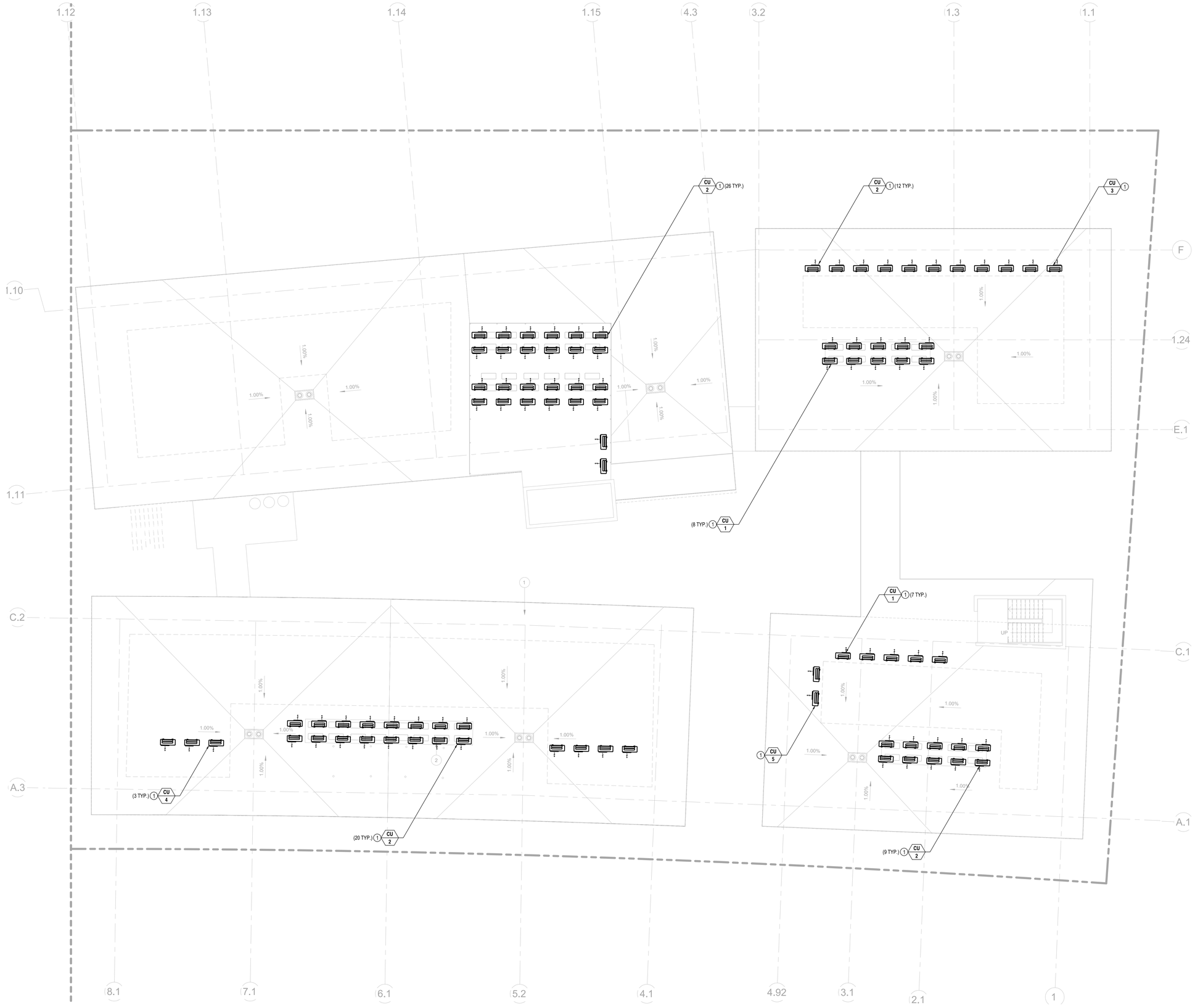
PLOT STYLE: BREEN DESIGN GROUP STB
FILE NAME: H:\PROJECTS\294 FSY ARCHITECTS\2S-001 - 1ST & TOWNSEND APARTMENTS\01 - CAD\MECHANICAL\M2.01 MECHANICAL GROUND FLOOR PLAN.DWG

GENERAL NOTES

1. ALL CONDENSERS MUST BE PROPERLY LABELED AFTER INSTALLATION TO SHOW WHICH SPACE IT IS SERVING.

REFERENCE NOTES

1. CONDENSING UNIT ON EQUIPMENT PAD.



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WWW.FSYARCHITECTS.COM
MAIL@FSYARCHITECTS.COM

NOT FOR CONSTRUCTION

PROJECT NAME:
600 N. ROSEMEAD AVE

PROJECT ADDRESSES:
600 N. ROSEMEAD AVE, PASADENA CA 91107

PROJECT NUMBER 294-25-002

CLIENT NAME: ELYSIAN HOUSING

CLIENT ADDRESS: Client Address

BREEN DESIGN GROUP
3825 DEL AMO BOULEVARD
TORRANCE, CA 90503
PH: 310 464 8404
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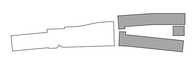
REGISTERED PROFESSIONAL ENGINEER
PAUL A. BREEN
NO. M-30533
EXP. 06-30-26
MECHANICAL
STATE OF CALIFORNIA

DRAWN BY	JTORAL
DESIGNED BY	ECRISTOBAL
CHECKED BY	BLIM
APPROVED BY	PBREEN

KEY PLAN



DRAWING TITLE:
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DESIGN DEVELOPMENT

Date	02/17/2026
Drawn by	SEE QA/QC STAMP
Checked by	SEE QA/QC STAMP

BB-M2.51

Scale 1/8" = 1'-0"

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FILE NAME: H:\PROJECTS\294 FSY ARCHITECTS\2S-001 - 1ST & TOWNSEND APARTMENTS\01 - CAD\MECHANICAL\M2.01 MECHANICAL GROUND FLOOR PLAN.DWG

BY: RHECHANOVIA

LAST SAVED: BREEN DESIGN GROUP STB

PLOT STYLE:

PLOT SCALE: 1:1

DATE PLOTTED: 10/3/2024 10:10 PM

ORIGINAL SIZE: ARCH FULL BLEED D (24.00 X 36.00 INCHES)

600 North Rosemead Boulevard Project

Air Quality Technical Report

April 2026

Prepared for:

City of Pasadena
Planning and Development Department
175 North Garfield Avenue
Pasadena, CA 91101

Prepared by:

Impact Sciences, Inc.
811 W. 7th Street, Suite 200
Los Angeles, CA 90017
Contact: Brett Pomeroy, Associate Principal

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF TABLES (Continued)

1.0 INTRODUCTION

This Air Quality Technical Report evaluates air quality impacts associated with the proposed 600 North Rosemead Boulevard Project (Project) in the City of Pasadena (City). This report has been prepared by Impact Sciences, Inc., to support the City of Pasadena's (lead agency's) environmental review of the Project being conducted pursuant to the California Environmental Quality Act (CEQA). This analysis considers both the temporary air quality impacts from Project construction and long-term impacts associated with operation of the Project.

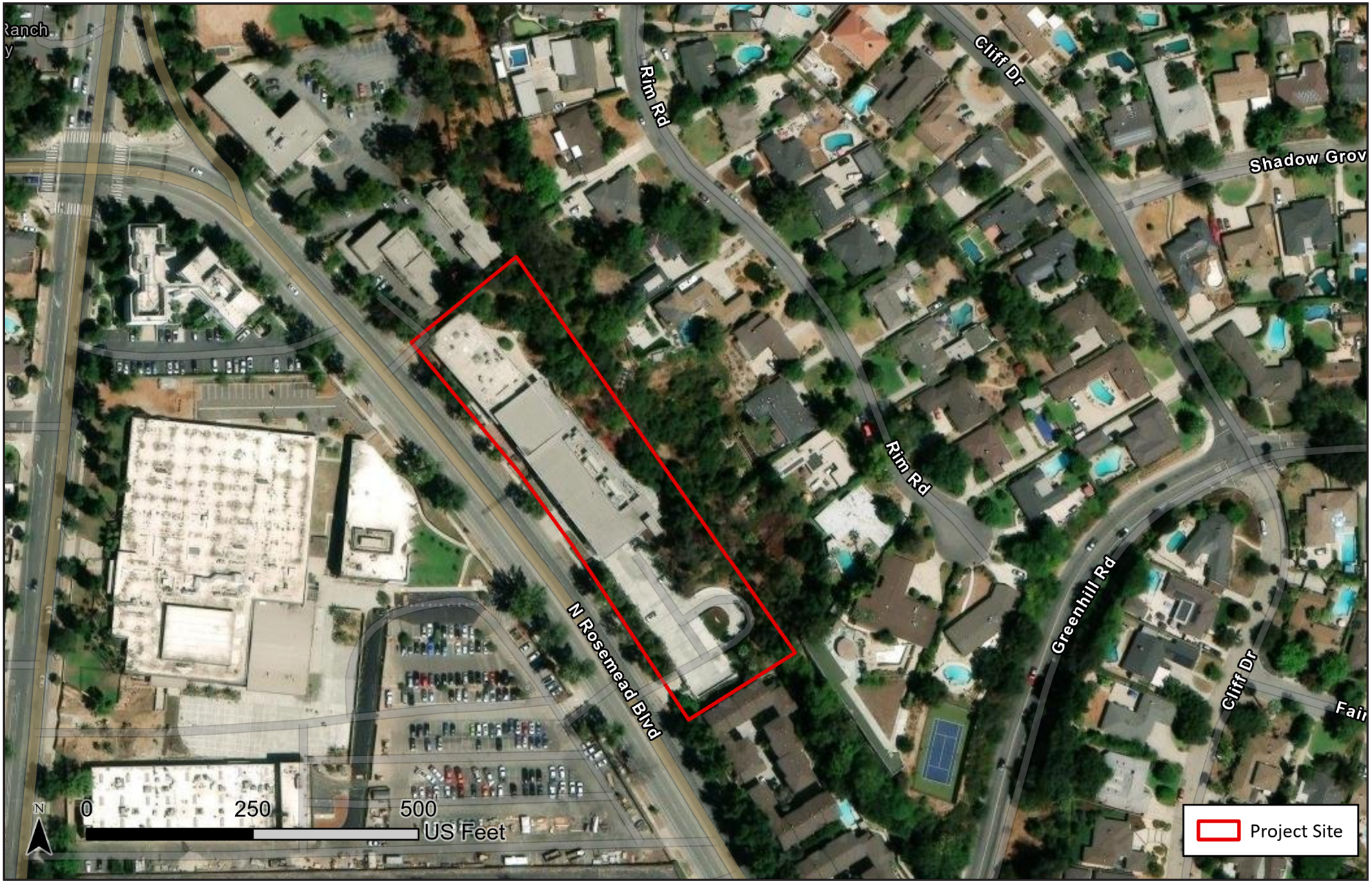
1.1 PROJECT LOCATION

The Project Site is located at 600 N. Rosemead Boulevard (APN: 5757-006-060) and is currently developed with a two-story office building and two-story parking structure. Surrounding uses include multi-family residential buildings at the adjacent property to the south, commercial uses to the north and west (across N. Rosemead Boulevard), and low-density residential uses to the east of the Project Site. See **Figure 1, Aerial Photograph of the Project Site**, which illustrates the location of the Project Site.

1.2 EXISTING CONDITIONS

The Project Site is within the East Pasadena Specific Plan area (EPSP). The City's *General Plan* designates the Project Site as ESPS Subarea 2 Commercial Office and is zoned EPSP-D2-CO-D-2. The EPSP-D2-CO-D-2 zone permits multi-family residential land uses subject to compliance with all development standards. Pursuant to Pasadena Municipal Code § 17.32.050, multi-family residential uses are permitted in this district, and the East Pasadena Specific Plan requires that such development comply with applicable multi-family (RM) development standards. The Project applies high density residential (RM-48) zone standards which allow for 0-48 dwelling units per acre, characterized by higher density multi-family complexes in neighborhoods with densities of up to 48 dwelling units per acre and two to three story buildings.[1]

[1] City of Pasadena, *Land Use Element*, amended January 2016 and May 2022. Available online at: https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Land-Use-Element-2022-05-25.pdf?v=1752250820103, accessed January 10, 2026.



SOURCE: Esri, 2026

FIGURE 1

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Aerial Photograph of the Project Site

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1.3 PROJECT CHARACTERISTICS

The Project would demolish the existing two-story parking structure, convert and expand the existing two-story, 42,518-square-foot office building into a 60,650 sf, 51-unit affordable housing building (Building A), and construct a new five-story, 76,089-square-foot building (Building B) with 82 affordable units for a total of 133 units. Each building would include one level of at grade parking. The Project would provide a total of 55 parking spaces and would include 22 on-site bicycle parking spaces. The Project would have an approximate floor area ratio ("FAR") of 1.29:1 and a maximum height of 71'. The Project would also provide approximately 15,000 sf of open space area within the Project Site and adjacent street frontages (see **Figure 2, Project Site Plan**). **Table 1, Project Summary**, below, summarizes the Project's development envelope.

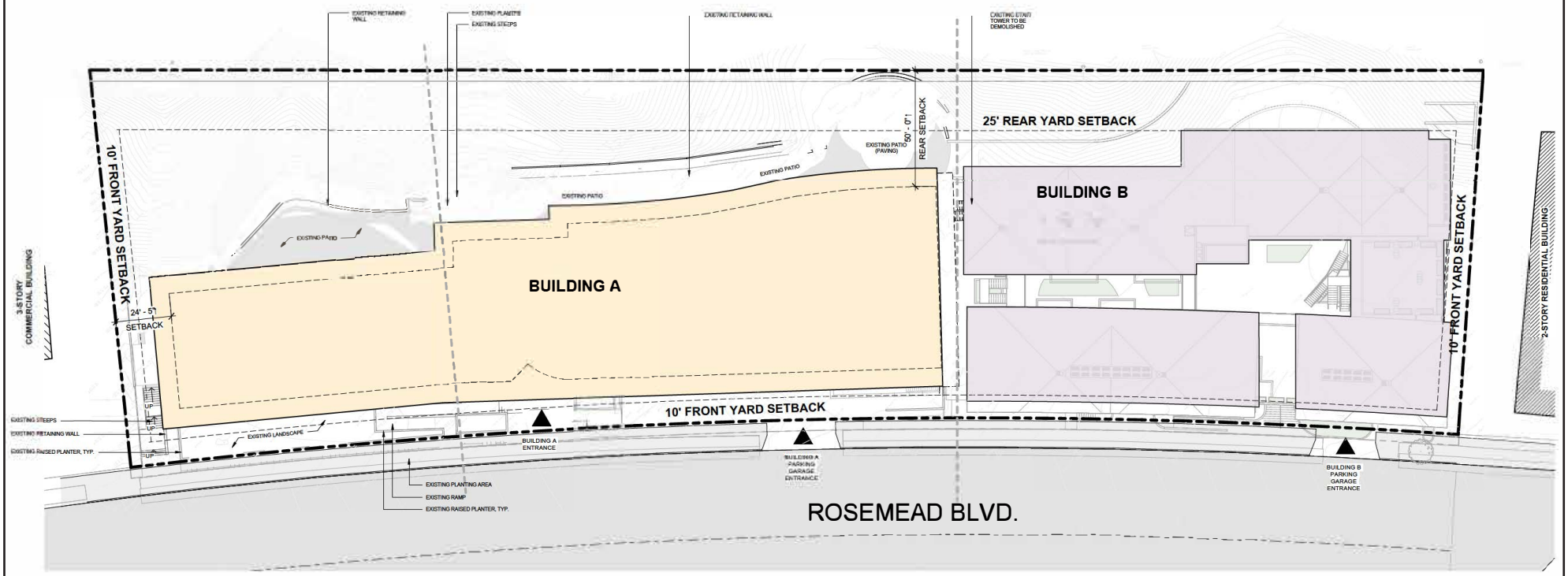
Table 1
Project Summary

	Maximum Allowable/Required	Project
Units	103 units + 103 bonus density units (Per PMC Section 17.22.060 + AB 1287)	133 units
Residential Building Square Footage	121,030 sf (Per PMC Section 17.22.060)	118,607 sf
Parking Square Footage	None	18,132 sf
FAR	1.99:1 (Per PMC Section 17.22.060 + AB 1287 density bonus)	1.29:1
Height	71 feet (with the affordable housing density bonus per PMC Chapter 17.22 & Chapter 17.42 Section 17.43.040)	71'
Vehicle Parking	None (per AB 2097)	55 spaces
Bicycle Parking	22 bicycle parking spaces (per PMC Chapter 17.46, Section 17.46.320)	22 spaces
Open Space	14,850 sf (per PMC Chapter 17.40 + PMC 3.23.010 open space reduction)	15,000 sf

Sources: Project application materials, Pasadena Municipal Code (PMC) 2026, and Impact Sciences 2026.

Access and Parking

As described above, the Project would provide a one level parking garage in each building for a 55 total parking spaces. Vehicular ingress/egress to the Project's parking garages would be provided via one driveway for Building A and one driveway for Building B along N. Rosemead Boulevard. To encourage and facilitate the use of public transportation and bicycle use by residents and visitors, the Project would also include 22 bicycle parking spaces.



SOURCE: Fry Architects, October 2024

FIGURE **2**

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Project Site Plan

1.4 PROJECT CONSTRUCTION SEQUENCING

For the purpose of analyzing impacts associated with construction activities, this analysis assumes a construction schedule of approximately 27 months beginning in 2026. This analysis assumes the Project will be fully operational in 2028. It should be noted that the construction assumptions identified herein are conceptual and are intended to identify worst-case daily impacts. If the Project is built out more slowly and at later dates than those assumed herein, the daily construction intensity would be reduced and associated daily impacts would be generally reduced. Construction activities associated with the Project would involve: (1) demolition, (2) site preparation/grading/foundation preparation, and (3) building construction (including painting and paving).

Demolition and removal of existing debris would occur for approximately two months. This phase would include the demolition of the two-story parking structure on site. Approximately 3,153 cubic yards of building demolition would be required.[2]

Site preparation, grading/excavation, and foundation preparation would occur for approximately one month and up to 500 cubic yards (cy) of soil may be exported.

Building construction would occur for approximately 12 months and would include the construction of the proposed structures, connection of utilities, and landscaping the Project Site.

Painting would occur for approximately 12 months with paving occurring concurrently during the final month.

The following maximum daily equipment by phase will be assumed:

- Demolition: 1 concrete/industrial saw, 1 excavator, 1 skid steer loader, 1 tractor/loader/backhoe
- Site preparation/grading/foundation preparation: 1 excavator, 1 roller, 1 tractor/loader/backhoe
- Building construction: 1 crane, 1 forklift
- Paving and painting: 1 cement and mortar mixer, 1 paver, 1 paving equipment, 2 rollers, 1 tractor/loader/backhoe, 1 air compressor

[2] Debris volume estimated using the FEMA 329 General Building Formula (LxWxDx0.33/27), which accounts for air space reduction during demolition. The 3,153 cubic yards of demolition debris would generate approximately 1,577 tons, based on the standard Cal Recycle conversion factor of 0.5 tons per cubic yard for mixed construction and demolition debris.

2.0 ENVIRONMENTAL SETTING

2.1 AIR QUALITY SETTING

South Coast Air Basin

The Project Site is located within the Los Angeles County portion of the South Coast Air Basin (Basin). The Basin includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is primarily influenced by meteorological conditions and a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, and industry. The South Coast Air Quality Management District (SCAQMD) divides the Basin into source receptor areas (SRAs) in which monitoring stations operate to monitor the various concentrations of air pollutants in the region. As shown in **Figure 3, Source Receptor Area Location Map**, the Project Site is located within SRA 8, which covers the West San Gabriel Valley area.

Air Pollutants of Concern

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards for outdoor concentrations. The federal and state standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons such as children, pregnant women, and the elderly, from illness or discomfort. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter (PM2.5), particulate matter ten microns or less in diameter (PM10), and lead (Pb). Note that reactive organic gases (ROGs), which are also known as reactive organic compounds (ROCs) or volatile organic compounds (VOCs), and nitrogen oxides (NOx) are not classified as criteria pollutants. However, ROGs and NOx are widely emitted from land development projects and participate in photochemical reactions in the atmosphere to form O_3; therefore, NOx and ROGs are relevant to the Proposed Project and are of concern in the Basin. As such, they are listed below along with the criteria pollutants. Sources and health effects commonly associated with criteria pollutants are summarized in **Table 2, Criteria Pollutants Summary of Common Sources and Effects**.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 Copley Drive, Diamond Bar, CA 91765-4182
Information: 1-800-CUT-SMOG (1-800-288-7664)
Internet: http://www.aqmd.gov

Air Quality Reporting

Since 1977, the South Coast Air Quality Management District has served as the local government agency responsible for measuring, reporting and taking steps to improve air quality.

To inform the AQMD's 15 million residents about air quality conditions, the AQMD issues an air quality forecast each day and reports current air quality conditions for each numbered Monitoring Area and General Forecast Area depicted here.

This air quality information is transmitted to the public through newspapers, television, radio and pager services, through faxes to schools, through recorded messages on the AQMD's toll-free Smog Update telephone line, 1-800-CUT-SMOG, and on the AQMD's Internet Website http://www.aqmd.gov.

Newspapers, television and radio stations typically will report air quality information using the General Forecast Areas, shown in color below, which are larger groupings of the more specific Air Monitoring Areas.

The 1-800-CUT-SMOG (1-800-288-7664) line also provides smog forecast and current smog level information by ZIP code.

The AQMD's Internet Website provides both forecasts as well as smog levels for that day and the previous day. Forecasts for the next day normally are posted by noon.

General Forecast Areas & Air Monitoring Areas

Coastal
- Northwest Los Angeles County Coastal 2
- Southwest Los Angeles County Coastal 3
- South Los Angeles County Coastal 4
- North Orange County Coastal 18
- Central Orange County Coastal 20

Metropolitan
- Central Los Angeles County 1
- Southeast Los Angeles County 5
- South Central Los Angeles County 12
- North Orange County 16

San Fernando Valley
- West San Fernando Valley 6
- East San Fernando Valley 7
- Santa Clarita Valley 13

San Gabriel Valley
- West San Gabriel Valley 8
- East San Gabriel Valley 9
- Pomona/Walnut Valley 10
- South San Gabriel Valley 11

Inland Orange County
- Central Orange County 17
- Saddleback Valley 19
- Capistrano Valley 21

Riverside Valley
- Corona/Norco Area 22
- Metropolitan Riverside 23

San Bernardino Valley
- Northwest San Bernardino Valley 32
- Southwest San Bernardino Valley 33
- Central San Bernardino Valley 34
- East San Bernardino Valley 35

Hemet/Elsinore Area
- Perris Valley 24
- Lake Elsinore 25
- Hemet/San Jacinto Valley 28

Temecula/Anza Area
- Temecula Valley 26
- Anza Area 27

San Gabriel Mountains 15

San Bernardino Mountains
- West San Bernardino Mountains 36
- Central San Bernardino Mountains 37

Big Bear Lake 38

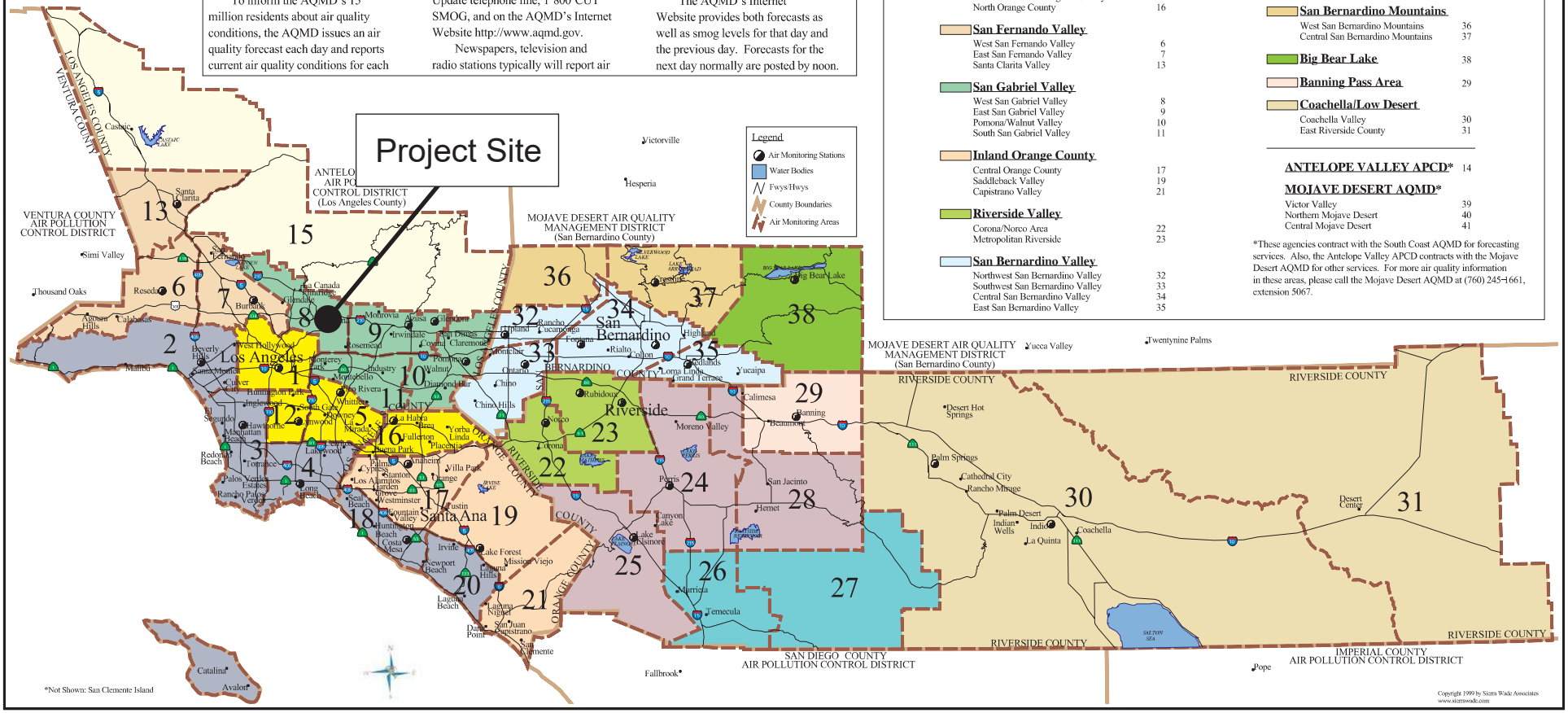
Banning Pass Area 29

Coachella/Low Desert
- Coachella Valley 30
- East Riverside County 31

ANTELOPE VALLEY APCD* 14

MOJAVE DESERT AQMD*
- Victor Valley 39
- Northern Mojave Desert 40
- Central Mojave Desert 41

*These agencies contract with the South Coast AQMD for forecasting services. Also, the Antelope Valley APCD contracts with the Mojave Desert AQMD for other services. For more air quality information in these areas, please call the Mojave Desert AQMD at (760) 245-1661, extension 5067.



SOURCE: SCAQMD, 2026

FIGURE 3

Source Receptor Area Location Map

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Table 2
Criteria Pollutants Summary of Common Sources and Effects

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuels 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 moto vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NOx) in the presence of sunlight. VOCs are also commonly referred to as reactive organic gases (ROGs). Common sources of these precursor pollutants include 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. Damages rubber, some textiles, and dyes.
Particulate Matter (PM10 & PM2.5)	Produced by 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; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from ore. 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.

Source: California Air Resources Board, Common Air Pollutants, available online at: https://ww2.arb.ca.gov/resources/common-air-pollutants, accessed March 3, 2026.

2.2 AMBIENT AIR QUALITY

Criteria Air Pollutant Monitoring Data

Ambient air quality in Pasadena can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends and projections are documented by measurements made by the SCAQMD, the air pollution regulatory agency

in the Basin. The SCAQMD maintains air quality monitoring stations which process ambient air quality measurements throughout the Basin.

The purpose of the monitoring station is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). Ozone and particulate matter (PM10 and PM2.5) are pollutants of particular concern in the Basin. The monitoring station located closest to the Project Site and most representative of air quality is SCAQMD Station No. 088 located in Pasadena. Ambient emission concentrations vary due to localized variations in emissions sources and climate and should be considered "generally" representative of ambient concentrations near the Project Site. See **Table 3, Air Monitoring Station Ambient Pollutant Concentrations**.

Table 3
Air Monitoring Station Ambient Pollutant Concentrations

Pollutant	Standards[1]	Year		
		2022	2023	2024
Carbon Monoxide (CO)				
Maximum 1-hour concentration monitored (ppm)		1.6	1.3	1.4
Maximum 8-hour concentration monitored (ppm)	9 ppm	1.3	1.0	1.1
Number of days exceeding state 1-hour standard	20 ppm	0	0	0
Number of days exceeding federal 1-hour standard	35 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hour concentration monitored (ppm)		0.143	0.109	0.143
Maximum 8-hour concentration monitored (ppm)		0.102	0.090	0.099
Number of days exceeding state 1-hour standard	0.09 ppm	12	24	21
Number of days exceeding federal/state 8-hour standard	0.070 ppm	23	34	42
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration monitored (ppm)		0.066	0.049	0.062
Annual average concentration monitored (ppm)		0.013	0.011	0.013
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
Fine Particulate Matter (PM2.5)				
Maximum 24-hour concentration monitored (µg/m³)		22.10	22.20	51.30
Annual average concentration monitored (µg/m³)		9.11	8.74	10.89
Number of samples exceeding federal standard	35 µg/m³	0	0	2

Source: South Coast Air Quality Management District. Historical Data By Year. Available at: https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year, accessed October 2025.
NA = not available
[1] *Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m³), or annual arithmetic mean (aam).*
[2] *The 8-hour federal O_3 standard was revised from 0.075 ppm to 0.070 ppm in 2015. The statistics shown are based on the 2015 standard of 0.070 ppm.*

The attainment status for the Basin region is included in **Table 4, Attainment Status of Criteria Pollutants in the South Coast Air Basin**. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Basin region is designated as a nonattainment area for federal ozone, PM2.5, and lead standards and is designated as nonattainment for state ozone, PM10, and PM2.5 standards.

Table 4
Attainment Status of Criteria Pollutants in the South Coast Air Basin

Air Pollutant	CAAQS	NAAQS
Ozone (1-Hour)	Nonattainment	Nonattainment (Extreme)
Ozone (8-Hour)	Nonattainment	Nonattainment (Extreme)
Carbon Monoxide (1-Hour and 8-Hour)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (1-Hour)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (Annual)	Attainment	Attainment (Maintenance)
Sulfur Dioxide (1-Hour)	n/a	Unclassified/Attainment
Sulfur Dioxide (24-Hour)	n/a	Unclassified/Attainment
PM2.5 (24-Hour)	n/a	Nonattainment (Serious)
PM2.5 (Annual)	Nonattainment	Pending
PM10 (24-Hour)	Nonattainment	Attainment (Maintenance)
PM10 (Annual)	Nonattainment	n/a
Lead (Pb)	n/a	Nonattainment (Partial)

Source: Southern California Air Quality Management District (SCAQMD), National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin, available at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf, accessed March 3, 2026.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes, such as petroleum refining and chrome-plating operations; commercial operations, such as gasoline stations and dry cleaners; and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

To date, the California Air Resources Board (CARB) has designated 244 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds.[3]

CARB identified diesel particulate matter (DPM) as a TAC. 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 particulates 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. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiovascular diseases.[4]

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3 California Air Resources Board, "CARB Identified Toxic Air Contaminants." Available online at: https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants, accessed March 4, 2026.

4 California Air Resources Board, "Sensitive Receptor Assessment." Available online at: https://ww2.arb.ca.gov/capp-resource-center/community-assessment/sensitive-receptor-assessment, accessed March 4, 2026.

Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Children are considered more susceptible to health effects of air pollution due to their immature immune systems and developing organs.[5] As such, schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. The closest air quality sensitive receptors to the Project Site are the adjacent residences to the south along North Rosemead Boulevard (15 feet to the nearest structure), adjacent residences to the east along Rim Road (59 feet to the nearest structure), the Sierra Madre Villa Avenue Baseball Field (361 feet), and residences across Sierra Madre Villa Avenue (474 feet).

5 Office of Environmental Health Hazard Assessment and The American Lung Association of California, "Air Pollution and Children's Health." Available online at: https://oehha.ca.gov/air/air-pollution-and-childrens-health-fact-sheet-oehha-and-american-lung-association, accessed March 4, 2026.

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (U.S. EPA) to establish NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide is an air pollutant covered by the CAA.. On February 12, 2026, EPA finalized a rule rescinding the Endangerment Finding for greenhouse gas emissions from motor vehicles under Section 202(a) of the CAA and repealed associated federal greenhouse gas emission standards for light-, medium-, and heavy-duty vehicles. No NAAQS have been established for carbon dioxide. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The U.S. EPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for nonattainment or attainment designations. **Table 4** lists the federal attainment status of the Basin for the criteria pollutants.

National Emissions Standards for Hazardous Air Pollutants Program

Under federal law, 187 substances are currently listed as hazardous air pollutants (HAPs). Major sources of specific HAPs are subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) program. The U.S. EPA is establishing regulatory schemes for specific source categories and requires implementation of the Maximum Achievable Control Technologies (MACT) for major sources of HAPs in each source category. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and is aimed at HAPs that are a problem is California. The state has formally identified 244 substances as TACs and is adopting appropriate control measures for each. Once adopted at the state level, each air district will be required to adopt a measure that is equally or more stringent.

National Ambient Air Quality Standards

The federal CAA required the U.S. EPA to establish NAAQS. The NAAQS set primary standards and secondary standards for specific air pollutants**.** Primary standards define limits for the intention of protecting public health, which include sensitive populations such as asthmatics, children, and the elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings. A summary of the federal ambient air quality standards is shown in **Table 5, National Ambient Air Quality Standards**.

Table 5
National Ambient Air Quality Standards

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon monoxide		Primary	8 hours	9 ppm
			1 hour	35 ppm
Lead		Primary and secondary	Rolling 3-month average	0.15 μg/m^3
Nitrogen dioxide		Primary	1 hour	100 ppb
		Primary and secondary	Annual	53 ppb
Ozone		Primary and secondary	8 hours	0.070 ppm
Particulate Matter	PM2.5	Primary	Annual	9 μg/m^3
		Secondary	Annual	15 μg/m^3
		Primary and secondary	24 hours	35 μg/m^3
	PM10	Primary and secondary	24 hours	150 μg/m^3
Sulfur dioxide		Primary	1 hour	75 ppb
		Secondary	Annual	10 ppb

Source: United States Environmental Protection Agency. December 2024. NAAQS Table. Available online at: https://www.epa.gov/criteria-air-pollutants/naaqs-table

3.2 STATE

California Clean Air Act of 1988

The California CAA of 1988 (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency (Cal EPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. The CCAA, amended in 1992, requires all air quality management districts (AQMDs) in the state to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants and has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-

reducing particles, for which there are no national standards. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California Ambient Air Quality Standards

The federal CAA permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards. The state standards for ambient air quality are summarized in **Table 6, California Ambient Air Quality Standards**.

Table 6
California Ambient Air Quality Standards

Pollutant		Averaging Time	Level
Carbon monoxide		8 hours	9 ppm
		1 hour	20 ppm
Lead		30-day average	1.5 μg/m³
Nitrogen dioxide		1 hour	0.180 ppm
		Annual	0.030 ppm
Ozone		8 hours	0.070 ppm
		1 hour	0.09 ppm
Particulate matter	PM2.5	Annual	12 μg/m³
	PM10	24 hours	50 μg/m³
		Annual	20 μg/m³
Sulfur dioxide		1 hour	0.25 ppm
		24 hours	0.04 ppm
Sulfates		24 hours	25 μg/m³
Hydrogen sulfide		1 hour	0.03 ppm
Vinyl chloride		24 hours	0.01 ppm

Source: California Air Resources Board. July 2025. Table of Ambient Air Quality Standards. Available online at: https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported

by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the EPA for approval and publication in the Federal Register. The 2022 Air Quality Management Plan (2022 AQMP) is the SIP for the Basin. The AQMP identifies the control measures that will be implemented to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially decreased the population's exposure to unhealthful levels of pollutants, even while population growth has occurred in the SCAB.

On December 2, 2022, the SCAQMD Governing Board approved the 2022 AQMP that lays a path for improving air quality and meeting federal air pollution standards by 2037. The AQMP aims to, among other goals, reduce almost 70 percent of smog forming emissions by 2037 beyond existing regulations, require zero-emission technologies across all sectors, and lay out specific actions needed from the federal government to reduce emissions from ships, trains, aircraft, and other sources primarily under federal regulatory authority. The 2022 AQMP also focuses on communities disproportionately impacted by air pollution with a dedicated chapter on environmental justice.[6]

The future air quality levels forecast in the 2022 AQMP are based on the most recent assumptions provided by both CARB and the Southern California Association of Governments (SCAG) for motor vehicle emissions and demographic updates and includes updated transportation conformity budgets.[7] For example, future growth projections were based on demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for their 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).[8] Although a more recent RTP/SCS has been adopted by the SCAG (Connect SoCal 2024), the 2020-2045 RTP/SCS was utilized in the formation of the AQMP. The 2022 AQMP also assumes that development projects will include strategies (mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations, which are designed to address air quality

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6 South Coast Air Quality Management District, *South Coast AQMD Finalizes Most Ambitious Strategy to Cut Pollution*, 2022. Available online at: http://www.aqmd.gov/docs/default-source/news-archive/2022/aqmp-adopted-dec2-2022.pdf, accessed March 4, 2026.

7 *Ibid.*

8 *Ibid.* The RTP/SCS is available online at: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 .

impacts and pollution control measures. The 2022 AQMP acknowledges that the most significant air quality challenge in the Basin is to reduce NOX emissions sufficiently to meet the upcoming ozone standard deadlines. The 2022 AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's 2020-2045 RTP/SCS emission inventory methodologies for various source categories and growth forecasts. The 2022 AQMP includes integrated strategies and measures to meet the NAAQS.

California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

The California Air Toxics Program is supplemented by the Air Toxics "Hot Spots" program, which became law (Assembly Bill [AB] 2588, Statutes of 1987) in 1987. In 1992, the AB 2588 program was amended by Senate Bill 1731 to require facilities that pose a significant health risk to the community to perform a risk reduction audit and reduce their emissions through implementation of a risk management plan. Under this program, which is required under the Air Toxics "Hot Spots" Information and Assessment Act (Section 44363 of the California Health and Safety Code), facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks when present.

Typically, land development projects generate diesel emissions from construction vehicles during the construction phase, as well as some diesel emissions from small trucks during the operational phase. Diesel exhaust is mainly composed of particulate matter and gases, which contain potential cancer-causing substances. Emissions from diesel engines currently include over 40 substances that are listed by the U.S. EPA as hazardous air pollutants and by CARB as TACs. On August 27, 1998, CARB identified particulate matter in diesel exhaust as a TAC, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.[9]

In March 2015, the Office of Environmental Health Hazard Assessment (OEHHA) adopted *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* in accordance with the Health and Safety Code, Section 44300. The *2015 OEHHA Final Guidance Manual* incorporates the scientific basis from three earlier developed Technical Support Documents to assess risk from exposure to facility emissions. The *2015 OEHHA Final Guidance Manual* has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty in getting air permits. Regardless of the

9 Diesel exhaust is included within pollutants subject to the hotspot program. Please refer to OEHHA's Air Toxics Hot Spot Program Risk Assessment Guidelines. https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

change in calculation methodology, actual emissions and cancer risk within South Coast Air Basin has declined by more than 50 percent since 2005.

The CARB provides a computer program, the Hot Spots Analysis and Reporting Program (HARP), to assist in a coherent and consistent preparation of a Health Risk Assessment (HRA). HARP2, an update to HARP, was released in March 2015. HARP2 has a more refined risk characterization in HRA and CEQA documents and incorporates the *2015 OEHHA Final Guidance Manual.*

3.3 REGIONAL

South Coast Air Quality Management District

The SCAQMD is the air pollution control district for Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is ensuring that the Basin region meets attainment for the federal and state standards. The SCAQMD is responsible for preparing an air quality management plan in order to meet federal attainment status. 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, and conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

SCAQMD Rules and Regulations

The following is a list of noteworthy 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 PM10 emissions from any transportation, handling,

construction, or storage activity that has the potential to generate fugitive dust. PM10 suppression techniques are summarized below.

- 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.
- All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.
- All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
- 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-uses 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 445 (Wood-Burning Devices)** – The purpose of this rule is to reduce the emission of particulate matter from wood-burning devices and establish contingency measures for applicable ozone standards for the reduction of volatile organic compounds.

  The rule requires that any new residential or commercial development that begins construction on or after March 9, 2009, only install gaseous-fueled fireplaces and stoves.[10]

Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Ventura, Orange, Riverside, San Bernardino, and Imperial Counties. SCAG develops long-range regional transportation plans including sustainable communities' strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations and a portion of the South Coast Air Quality management plans. As required by federal and state law, SCAG develops plans pertaining to transportation, growth management,

10 SCAQMD, *Rule 445 – Wood Burning Devices Local Government, Builder, Contractor, Architect Answers to Frequently Asked Questions (FAQs),* October 2019. Available online at: http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-445/detailed-rule-445-information.pdf., accessed March 4, 2026.

hazardous waste management, housing, and air quality. SCAG data are used in the preparation of air quality forecasts and the conformity analysis included in the AQMP.

To implement SB 375 and reduce greenhouse gas (GHG) emissions by correlating land use and transportation planning, SCAG adopted the RTP/SCS on April 4, 2024.[11] The Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies and strategies for achieving the region's shared goals of health, prosperity, accessibility, and connectedness through 2050, with a particular focus on system management, revitalization, and reuse, such as infill development and repurposing underutilized properties. The vision for the region incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality, and encouraging growth in walkable, mixed-use communities with ready access to transit infrastructure and employment. More and varied housing types and employment opportunities would be located in and near job centers, transit stations and walkable neighborhoods where goods and services are easily accessible via shorter trips. To support shorter trips, people would have the choice of using neighborhood bike networks, car share or micro-mobility services like shared bicycles or scooters. For longer commutes, people would have expanded regional transit services and more employer incentives to carpool or vanpool. Other longer trips would be supported by on-demand services such as micro transit, carshare, and citywide partnerships with ride hailing services. For those that choose to drive, hotspots of congestion would be less difficult to navigate due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network. The RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.[12]

The RTP/SCS states that the SCAG region is home to about 18.8 million people and currently includes approximately 6.0 million homes and 9 million jobs.[13] The integrated growth forecast projects that, by 2050, these figures will increase by 2 million people, with nearly 1.6 million more housing units and 1.3 million more jobs.[14] The RTP/SCS overall land use pattern reinforces the trend of focusing on new housing and employment in the region's Priority Development Areas (PDAs). PDAs account for 8.2 percent of the region's total land area, but implementation of SCAG's recommended growth strategies will help these areas accommodate 66 percent of forecasted household growth and 54 percent of forecasted employment

11 SCAG, *Connect SoCal 2024 RTP/SCS*, April 4, 2024. Available online at: https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf, accessed March 4, 2026.

12 SCAG, *Final Connect SoCal 2024,* Chapter 3: The Plan, p. 74, accessed March 4, 2026.

13 SCAG, *Final Connect SoCal 2024*, Chapter 2: Our Region Today, p. 24, accessed March 4, 2026.

14 SCAG, *Final Connect SoCal 2024*, Chapter 1: Executive Summary, p. 4, accessed March 4, 2026.

growth between 2019 and 2050. The Project Site is located within a PDA. [15] PDAs are areas within the SCAG region where future growth can be located to help the region reach Plan goals; PDAs in the Connect SoCal 2024 include Neighborhood Mobility Areas, Transit Priority Areas (TPAs), Livable Corridors, and Spheres of Influence (in unincorporated areas only). PDAs follow the principles of center-focused placemaking, providing locations where many Connect SoCal strategies can be fully realized. This more compact form of regional development, if fully realized, can reduce travel distances, increase mobility options, improve access to workplaces and conserve the region's resource areas.

15 SCAG, *Connect SoCal 2024 RTP/SCS*, April 4, 2024. Available online at: https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf, accessed March 4, 2026.

4.0 AIR QUALITY ANALYSIS

4.1 THRESHOLDS AND METHODOLOGY

Thresholds of Significance

The impact analysis provided below is based on the application of the following *California Environmental Quality Act (CEQA) Guidelines* Appendix G, which indicates that a Project would have a significant impact on air quality if it would:

1. Conflict with or obstruct implementation of any applicable air quality plan.

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

3. Expose sensitive receptors to substantial pollutant concentrations.

4. Result in other emissions (such as those leading to odors), adversely affecting a substantial number of people.

Consistency with the Applicable AQMP

The SCAQMD has adopted criteria for consistency with regional plans and the regional AQMP in its *CEQA Air Quality Handbook*. Specifically, the indicators of consistency are: 1) whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations; and 2) whether the project would exceed the assumptions utilized in preparing the AQMP.

Violation of Standards or Substantial Contribution to Air Quality Violations

As the agency principally responsible for comprehensive air pollution control in the Basin, the SCAQMD recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the *CEQA Air Quality Handbook*. These thresholds were developed by the SCAQMD to provide quantifiable levels to which projects can be compared. The most current significance thresholds, shown in **Table 7, South Coast AQMD Air Quality Significance Thresholds**, are used in this analysis.

Table 7
South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	**Operation [c]**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and Greenhouse Gas (GHG) Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (Project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO_2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants [d]		
NO_2 1-hour average annual arithmetic mean	South coast AQMD is in attainment; Project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	10.4 μg/m^3 (construction) [e] & 2.5 μg/m^3 (operation) 1.0 μg/m3	
PM2.5 24-hour average	10.4 μg/m^3 (construction) [e] & 2.5 μg/m^3 (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal - 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 μg/m^3 (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; Project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Ambient Air Quality Standards for Criteria Pollutants [d] (continued)		
Lead 30-day Average Rolling 3-month average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal)	

[a] *Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)*

[b] *Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).*

[c] *For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.*

[d] *Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.*

[e] *Ambient air quality threshold based on South Coast AQMD Rule 403.*

Cumulatively Considerable Increase of Criteria Pollutants

The SCAQMD's *CEQA Air Quality Handbook* identifies several methods to determine the cumulative significance of land use projects (i.e., whether the contribution of a project is cumulatively considerable). However, the SCAQMD no longer recommends the use of these methodologies. Instead, the SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.[16] The SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

The SCAQMD currently recommends that impacts to sensitive receptors be considered significant when a project generates localized pollutant concentrations of NO_2, CO, PM10, or PM2.5 at sensitive receptors near a project site that exceed the localized pollutant concentration thresholds listed above or when a project's traffic causes CO concentrations at sensitive receptors located near congested intersections to exceed the national or state ambient air quality standards. The roadway CO thresholds would also apply to the contribution of emissions associated with cumulative development. Additionally, the SCAQMD recommends impacts to sensitive receptors be considered significant if a project exceeds the TAC thresholds detailed in **Table 7** above.

In addition, the SCAQMD has established localized significance thresholds in the form of ambient air quality standards for criteria pollutants. To minimize the need for detailed air quality modeling to assess localized impacts, SCAQMD developed mass-based localized significance screening criteria that are the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. These screening criteria, are found in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD.[17] The screening criteria 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 standards, and are developed based on the ambient concentrations of that pollutant for each SRA.

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16 SCQMD, *White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions*, SCAQMD Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.

17 SCAQMD, *Final Localized Significance Threshold Methodology*, June 2003, Revised July 2008. Available online at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=8e641d61_2, accessed March 4, 2026.

Exposure to Objectionable Odors

A significant impact may occur if objectionable odors occur that would adversely impact sensitive receptors. Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills.

Methodology

This analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the Project. Air pollutant emissions associated with the Project would result from Project operations and from Project-related traffic volumes. Construction activities would also generate air pollutant emissions at the Project Site and on roadways resulting from construction-related traffic. The net increase in Project Site emissions generated by these activities and other secondary sources have been quantitatively estimated and compared to thresholds of significance recommended by the SCAQMD (see **Project Impacts** subsection, below).

Construction Emissions

The regional construction emissions associated with the Project were calculated using the California Emissions Estimator Model (CalEEMod).[18] CalEEMod was developed in collaboration with the air districts of California as a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects.

Construction activities associated with demolition, grading and building construction would generate pollutant emissions. Specifically, these construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. These construction emissions were compared to the thresholds established by the SCAQMD.

In addition to the SCAQMD's regional significance thresholds, the SCAQMD has established localized significance criteria in the form of ambient air quality standards for criteria pollutants. For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours. Thus, according to the SCAQMD, the localized significance thresholds (LSTs) for PM10 and PM2.5, which are based on a

18 California Air Pollution Control Officers Association, CalEEMod. Available online at: caleemod.com.

24-hour averaging period, would be appropriate to evaluate the localized air quality impacts of a project on nearby sensitive receptors. Additionally, since a sensitive receptor is considered to be present onsite for 24 hours, LSTs based on shorter averaging times, such as the one-hour NO_2 or the one-hour and eight-hour CO ambient air quality standards, would also apply when evaluating localized air quality impacts on sensitive receptors. However, LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, are applied to receptors such as industrial or commercial facilities since it is reasonable to assume that workers at these sites could be present for periods of one to eight hours.[19] Therefore, this analysis evaluates localized air quality impacts from construction activities associated with the Project on sensitive receptors for NO_2, CO, PM10, and PM2.5, and on "non-sensitive" receptors (e.g., industrial or commercial facilities) for NO_2 and CO.

Operational Emissions

Operational emissions associated with the Project were also calculated using CalEEMod. Operational emissions associated with the Project would comprise mobile source emissions, energy demand, and other area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the Project Site associated with operation of the Project. Area source emissions are generated by natural gas consumption for space and water heating, landscape maintenance equipment, application of architectural coatings, and consumer products. To determine if a regional air quality impact would occur, the increase in emissions is compared with the SCAQMD's recommended regional thresholds for operational emissions.

As discussed above, the SCAQMD has developed LSTs that are based on the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. However, because the LST methodology is applicable to projects where emission sources occupy a fixed location, LST methodology would typically not apply to the operational phase of the Project because emissions are primarily generated by mobile sources traveling on local roadways over potentially large distances or areas. LSTs would apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site. For example, the LST methodology applies to operational projects such as warehouse/transfer facilities.[20] As the Project would consist of a residential care facility, an operational analysis against the LST methodology is not directly applicable.

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19 California Air Pollution Control Officers Association, *CalEEMod.* Available online at: caleemod.com

20 SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, February 2005, page 1-3.

4.2 PROJECT IMPACTS

AQ Impact 1 **Would implementation of the Proposed Project conflict with or obstruct implementation of any applicable air quality plan? *(Less than Significant).***

As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP 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 with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

Drafted by the SCAQMD, the 2022 AQMP[21] was developed in effort with CARB, SCAG, and the U.S. EPA to establish a program of rules and regulations to reduce air pollutant emissions to achieve CAAQS and NAAQS. The AQMP's pollutant control strategies are based on SCAG's 2020-2045 RTP/SCS. Although SCAG has adopted the Connect SoCal 2024 RTP/SCS, the SCAQMD has not released an updated AQMP that utilizes data from the most recently adopted RTP/SCS. The SCAQMD has incorporated demographic growth forecasts from the 2020-2045 RTP/SCS into the 2022 AQMP.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's *1993 CEQA Air Quality Handboo*k, and include the following:

- **Consistency Criterion No. 1**: The Proposed Project will not result in an increase in the frequency or severity of an existing air quality violation, 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 Proposed Project will not exceed the assumptions in the AQMP or increments based on the years of the Project build-out phase.

With respect to the first criterion, area air quality planning, including the AQMP, assumes that there will be emissions from new growth, but that such emissions may not impede the attainment and may actually contribute to the attainment of applicable air quality standards within the Basin. As discussed herein (see **AQ Impact 2** and **AQ Impact 3**), the Project would not result in construction air quality emissions that exceed the SCAQMD thresholds of significance. Construction-related emissions would be temporary in

21 SCAQMD, *Air Quality Management Plan*, December 2022. Available online at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan, accessed March 4, 2026.

nature, lasting only for the duration of the construction period, and would not have a long-term impact on the region's ability to meet state and federal air quality standards. Furthermore, the Project is required to comply with applicable SCAQMD rules and regulations for new or modified sources. For example, the Project must comply with SCAQMD Rule 403 for the control of fugitive dust during construction. By meeting SCAQMD rules and regulations, project construction activities would be consistent with the goals and objectives of the AQMP to improve air quality in the Basin. Also discussed herein (see **AQ Impact 2** and **AQ Impact 3**), the Project would not result in operational air quality emissions that exceed the SCAQMD thresholds of significance. And, as discussed in more detail below, projects, land uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP. Thus, the Project would be consistent with the first criterion.

With respect to the second criterion, the AQMP was prepared to achieve national and state air pollution standards within the region. A project that is considered to be consistent with the AQMP would not interfere with attainment of AQMP goals because the growth from the Project is included in the regional projections used to formulate the AQMP. Therefore, projects, land uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP (i.e., the RTP/SCS) would not jeopardize attainment of the air quality levels identified in the AQMP. The City's General Plan designates the Project Site as ESPS Subarea 2 Commercial Office and is zoned EPSP-D2-CO-D-2. The Project is consistent with this designation as the EPSP-D2-CO-D-2 zone permits multi-family residential land uses subject to compliance with all development standards. The Project proposes a total of 133 residential units within two buildings over one level of parking. According to the City's Housing Element, in 2020 the City had an average household size of 2.44 persons per household.[22] Utilizing this value, the Project could accommodate up to 324 residents. Conservatively assuming that all 324 Project-generated residents relocate from outside of the City, potential population growth associated with the Project would represent less than one percent of the City's 2020 population of 138,699 persons. Population growth impacts are also assessed based on a project's consistency with adopted plans that have addressed growth management from a local and regional standpoint. SCAG growth forecasts estimate the City's population to reach 145,200 persons by 2050, representing a total increase of 358 persons.[23] The Project's potential maximum increase of 325 persons would represent 90 percent of the City's projected population increase between 2020 and 2050. As previously mentioned, this is conservatively assuming that all Project-generated residents relocate from

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22 City of Pasadena, 2021-2029 General Plan Housing Element, July 18, 2022. Available online at: https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/2021-2029-Pasadena-Housing-Element.pdf?v=1755116357598, accessed March 4, 2026.

23 SCAG, Connect SoCal 2024 Local Data Growth Forecast Data. Available online at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fscag.ca.gov%2Fsites%2Fdefault%2Ffiles%2F2024-05%2Fscag2024-frtp-sed.xlsx&wdOrigin=BROWSELINK, accessed March 4, 2026.

outside of the City, when more than likely the Project would be accommodating existing Pasadena residents. Additionally, the Project would contribute to the City's SCAG Regional Housing Needs Assessment (RHNA) goal of developing a total of 9,429 dwelling units during the 6th-cycle planning period from 2021-2029.[24] Thus, the Project is also consistent with the second criterion. As the Project is consistent with Criterion Nos. 1 and 2, it would not conflict with or obstruct implementation of any applicable air quality plan, and this impact is less than significant.

AQ Impact 2 **Would implementation of the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard? *(Less than Significant).***

A project may have a significant impact if project-related emissions would result in a cumulatively considerable net increase for a criteria pollutant for which the region in nonattainment under applicable federal or state ambient air quality standards. The cumulative analysis of air quality impacts follows the SCAQMD's guidance such that construction or operational project emissions will be considered cumulatively considerable if project-specific emissions exceed an applicable SCAQMD recommended daily threshold.

Regional Construction Significance Analysis

For purposes of this analysis, it is estimated that the Project would be constructed in approximately 27 months with construction beginning in 2026 and the Project being operational in 2028. While construction may begin at a later date and/or take place over a longer period, these assumptions represent the earliest and fastest build-out potential resulting in a worst-case daily impact scenario for purposes of this analysis. Construction activities associated with the Project would involve: (1) demolition, (2) site preparation/grading/foundation preparation, (3) building construction, and (4) paving and architectural coatings. The demolition phase includes the demolition of the two-story parking structure on site, resulting in approximately 3,153 cubic yards of demolition debris. Grading and site preparation of the Project Site would require the export of approximately 500 cubic yards of soil.

The analysis of regional daily construction emissions has been prepared utilizing the CalEEMod computer model recommended by the SCAQMD. Predicted maximum daily construction-generated emissions for the Project are summarized in **Table 8, Construction-Related Criteria Pollutant and Precursor Emissions**

[24] City of Pasadena, 2021-2029 General Plan Housing Element, July 18, 2022. Available online at: https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/2021-2029-Pasadena-Housing-Element.pdf?v=1755116357598, accessed March 4, 2026.

– Maximum Pounds per Day. These calculations assume that appropriate dust control measures would be implemented as part of the Project during each phase of development, as specified by SCAQMD Rule 403 (Fugitive Dust). Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes; applying soil binders to uncovered areas; reestablishing ground cover as quickly as possible; utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site; and maintaining effective cover over exposed areas. In addition, these calculations assume construction activities would be consistent with SCAQMD Rule 1113 (Architectural Coatings), which regulates the amount of VOC per liter of coating. As shown in **Table 8**, the peak daily emissions generated during the construction of the Project would not exceed any of the regional emission thresholds recommended by the SCAQMD. Therefore, Project construction would not result in a cumulatively considerable increase of any criteria air pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. Impacts in this regard would be less than significant.

Table 8
Construction-Related Criteria Pollutant and Precursor Emissions – Maximum Pounds per Day

Construction Year	ROG	NOx	CO	SO_2	PM10	PM2.5
2026	0.99	9.11	14.85	0.03	1.73	0.56
2027	4.01	6.56	14.62	0.02	1.99	0.62
2028	3.93	6.80	12.21	0.01	0.76	0.33
Regional Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Exceed?	*No*	*No*	*No*	*No*	*No*	*No*

*Source: Impact Sciences March 2026. See **Appendix A** to this report. Emissions shown are the highest daily from either summer or winter season.*
Note: Project emissions account for the reductions from SCAQMD Rule 403 (Fugitive Dust).

Regional Operational Significance Analysis

Project-generated emissions would be associated with motor vehicle use, energy use, and area sources, such as the use of landscape maintenance equipment, consumer cleaning products, and architectural coatings associated with the operation of the Project. The operational emissions from the Project were calculated with CalEEMod and the operational emissions were compared against SCAQMD regional thresholds to determine Project significance. This report evaluates emissions from the Project without accounting for a reduction in emissions from existing on-site uses. As such, this represents a conservative analysis. Long-term operational emissions attributable to the Project are summarized in **Table 9, Long-**

Term Operational Emissions – Maximum Pounds per Day. As shown, the operational emissions generated by the Project would not exceed the regional thresholds of significance set by the SCAQMD.

Table 9
Long-Term Operational Emissions – Maximum Pounds per Day

Source	ROG	NOx	CO	SO_2	PM10	PM2.5
Mobile Source	1.45	1.02	12.16	0.03	2.90	0.75
Area Source	3.54	0.08	8.35	<0.01	<0.01	<0.01
Energy Use	0.02	0.37	0.16	<0.01	0.03	0.03
Total	*5.01*	*1.47*	*20.67*	*0.03*	*2.93*	*0.78*
Regional Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceed?	*No*	*No*	*No*	*No*	*No*	*No*

*Source: Impact Sciences, March 2026. See **Appendix A** to this report.*

As shown in **Table 8** and **Table 9**, the Project's construction and operational emissions would not exceed the SCAQMD's thresholds for any criteria air pollutants. Thus, the Project would also not result in a cumulatively considerable increase of any criteria air pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. These impacts are less than significant.

Air Quality Health Impacts

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 national and state ambient air quality standards have been set at levels to protect human health with a determined margin of safety.[25] As discussed previously, the Basin is in state non-attainment for PM2.5, PM10, and Ozone (O_3) and federal non-attainment for PM2.5 and O_3. Therefore, an increase in emissions of particulate matter or ozone precursors (ROG and NOx) has the potential to push the region further from reaching attainment status and, as a result, are the pollutants of greatest concern in the region. As noted in **Table 8** and **Table 9** above, the Project would emit criteria air pollutants during construction and operation**.** However, the Project emissions would not exceed SCAQMD thresholds for ozone precursors (ROG and NOx), PM2.5, PM10, or any other criteria air pollutants, and would not result in a cumulatively significant impact for which the region is in non-attainment. Thus, with respect to the Project's increase in criteria pollutant emissions, the Project would not have the potential cause significant air quality health impacts.

25 SCAQMD, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 6, 2005.

With respect to the Project's potential TAC and DPM impacts upon sensitive receptors, please refer to the discussion under **AQ Impact 3**.

AQ Impact 3 **Would implementation of the Proposed Project expose sensitive receptors to substantial air pollutant concentrations? (*Less than Significant).***

Localized Construction Significance Analysis

As detailed in the methodology section of this report, the SCAQMD has developed screening criteria for the LST for construction areas that are one, two, and five acres in size to simplify the evaluation of localized emissions. LST screening criteria represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the applicable federal or State ambient air quality standard. LST screening criteria are provided for each source receptor area (SRA) and various distances from the source of emissions. The closest air quality sensitive receptors are the adjacent residences along North Rosemead Boulevard.

In the case of this analysis, the Project Site is located within SRA 8 – West San Gabriel Valley with receptors located within 25 meters.[26] The Project Site is 2.15 acres and therefore LST screening criteria for a two-acre site in SRA 8 with sensitive receptors located within 25 meters were utilized to address the potential localized NOx, CO, PM10, and PM2.5 impacts. As shown in **Table 10, Localized Significance of Construction Emissions – Maximum Pounds per Day**, the Project would not exceed any of the mass rate screening criteria identified for localized thresholds of significance during construction. Therefore, the Project's construction would not expose sensitive receptors to substantial air pollutant concentrations, and these impacts would be less than significant.

26 As discussed previously under 'Methodology,' LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, are applied to receptors such as industrial or commercial facilities since it is reasonable to assume that workers at these sites could be present for periods of one to eight hours. Therefore, this analysis evaluates localized air quality impacts from construction activities associated with the Project on sensitive receptors for NO_2, CO, PM10, and PM2.5, and on "non-sensitive" receptors (e.g., industrial or commercial facilities) for NO_2 and CO.

Table 10
Localized Significance of Construction Emissions – Maximum Pounds per Day

Construction Phase	NOx	CO	PM10	PM2.5
Demolition	6.56	9.09	0.66	0.25
Grading	8.76	13.75	0.31	0.28
Building Construction	11.72	15.72	0.45	0.41
SCAQMD Localized Significance Mass Rate Screening Criteria	*98.0*	*812.00*	*6.00*	*4.00*
Exceed?	***No***	***No***	***No***	***No***

*Source: Impact Sciences, March 2026. See **Appendix A** to this report.*
Notes: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust. As the proposed construction area is approximately 2.15 acres, analysis applied LST screening criteria for a two-acre site with a receptor distance of 25 meters (82 feet) in SCAQMD's SRA 8. The building construction emission total includes architectural coating and paving emissions.

Localized Operational Significance Analysis

As discussed previously, because the LST methodology is applicable to projects where emission sources occupy a fixed location, LST methodology would typically not apply to the operational phase of a residential project because emissions for these projects are primarily generated by mobile sources traveling on local roadways over generally large distances or areas. LSTs would apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site. For example, the LST methodology applies to operational projects such as warehouse/transfer facilities.[27] As the Project would not include warehouse or transfer facilities, an operational analysis against the LST methodology is not directly applicable to the Project. Nevertheless, **Table 11, Localized Significance of On-Site Operational Emissions – Maximum Pounds per Day**, has been included to illustrate the potential on-site emissions during Project operation. As shown in **Table 11**, the Project would not exceed any of the identified localized thresholds of significance. Therefore, the Project's operation would not expose sensitive receptors to substantial air pollutant concentrations, and these impacts would be less than significant.

27 SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, February 2005, page 1-3.

Table 11
Localized Significance of On-Site Operational Emissions – Maximum Pounds per Day

Emissions Source	NOx	CO	PM10	PM2.5
Area Sources	0.08	8.35	<0.01	<0.01
Energy Demand	0.37	0.16	0.03	0.03
Total On-Site Emissions	*0.45*	*8.51*	*0.03*	*0.03*
SCAQMD Localized Significance Mass Rate Screening Criteria	*98.00*	*812.00*	*2.00*	*1.00*
Exceed?	***No***	***No***	***No***	***No***

Source: Impact Science, March 2026. See **Appendix A** *to this report.*

The Project would not result in potentially significant CO "hot spots" and a Project-specific CO hotspots analysis is not required to reach this conclusion. It has long been recognized that CO exceedances ("hot spots") are caused by vehicular emissions, primarily when idling at intersections. Vehicle emissions standards have become increasingly more stringent in the last twenty years. With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations for the Project vicinity have historically met state and federal attainment status for the air quality standards. Based on the measured concentrations provided previously in **Table 3,** CO concentrations in SRA 8 are substantially below the California one-hour or eight-hour CO standards of 20 or 9.0 ppm, respectively. Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. Therefore, the Project would not have the potential to cause or contribute to an exceedance of the California one-hour or eight-hour CO standards of 20 or 9.0 ppm, respectively. Impacts with respect to localized CO concentrations would be less than significant.

Diesel Particulate Matter

Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required for demolition, grading and excavation, building construction, and other construction activities. 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.

In March 2015, OEHHA adopted revised guidelines that update previous guidance by incorporating advances in risk assessment with consideration of infants and children using Age Sensitivity Factors (ASF). The intent of the OEHHA 2015 guidance is to provide HRA procedures for use in the Air Toxics Hot Spots

Program or for the permitting of existing, new, or modified stationary sources. As the Project is not part of the Air Toxics Hot Spots Program and is considered an urban infill residential development consisting primarily of mobile and area sources (i.e., non-stationary sources), the OEHHA 2015 guidance is not directly applicable.

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 methodology for conducting health risk assessments is associated with long term exposure periods (9, 30, and 70 years). Therefore, short-term construction activities such as the Project would not be expected to generate a significant health risk. Furthermore, the proposed construction area is approximately 2.15 acres. Generally, construction for projects contained in a site of such size represent less than significant health risks due to limitations of the off-road diesel equipment able to operate. When compared to larger sites, smaller sites such as the Project would generally result in reduced DPM emissions, reduced dust-generating ground-disturbance, and reduced duration of construction activities. Furthermore, construction would be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than five (5) minutes, which would further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions.[28] For these reasons, DPM generated by construction activities would not expose sensitive receptors to substantial amounts of air toxics and these impacts would be less than significant.

AQ Impact 4 **Would the Proposed Project include sources that could create other emissions (such as those leading to odors) adversely affecting a substantial number of people? (*Less than Significant).***

The SCAQMD *CEQA Air Quality Handbook* (1993) 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.

Construction activities associated with the Project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon Project completion. In addition, the Project would be required to comply with the California Code of Regulations, Title 13, sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no

28 California Air Resources Board, *Frequently Asked Questions Regulation for In-Use Off-Road Diesel-Fueled (Off-Road Regulation)*, 2014. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/faq/fleetaverage.pdf, accessed August 1, 2025

more than five minutes. This would reduce the detectable odors from heavy-duty equipment exhaust. The Project would also be required to comply with the SCAQMD Rule 1113 – Architectural Coating, which would minimize odor impacts from ROG emissions during architectural coating. Any odor impacts to existing adjacent land uses would be short-term and not substantial. As such, the Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant.

5.0 REFERENCES

California Air Pollution Control Officers Association, *CalEEMod.* Available online at: caleemod.com

California Air Resources Board, "CARB Identified Toxic Air Contaminants." Available online at: https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants, accessed March 4, 2026.

California Air Resources Board, "Sensitive Receptor Assessment." Available online at: https://ww2.arb.ca.gov/capp-resource-center/community-assessment/sensitive-receptor-assessment, accessed March 4, 2026.

California Air Resources Board, *Frequently Asked Questions Regulation for In-Use Off-Road Diesel-Fueled (Off-Road Regulation)*, 2014. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/faq/fleetaverage.pdf, accessed March 4, 2026

City of Pasadena, Central District Specific Plan, 2023, available at: https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/Central-District-Specific-Plan-2023.pdf?v=1743003354773 , accessed March 4, 2026.

Office of Environmental Health Hazard Assessment and The American Lung Association of California, "Air Pollution and Children's Health." Available online at: https://oehha.ca.gov/air/air-pollution-and-childrens-health-fact-sheet-oehha-and-american-lung-association, accessed March 4, 2026.

SCAG, *Connect SoCal 2024 RTP/SCS*, April 4, 2024. Available online at: https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf, accessed March 4, 2026.

SCAQMD, *Air Quality Management Plan*, December 2022. Available online at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan, accessed March 4, 2026.

SCAQMD, *Final Localized Significance Threshold Methodology*, June 2003, Revised July 2008. Available online at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=8e641d61_2, accessed March 4, 2026.

SCAQMD, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 6, 2005.

SCAQMD, *Rule 445 – Wood Burning Devices Local Government, Builder, Contractor, Architect Answers to Frequently Asked Questions (FAQs),* October 2019. Available online at: http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-445/detailed-rule-445-information.pdf., accessed March 4, 2026.

SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, February 2005, page 1-3.

SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, February 2005, page 1-3.

SCQMD, *White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions*, SCAQMD Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.

South Coast Air Quality Management District, *South Coast AQMD Finalizes Most Ambitious Strategy to Cut Pollution*, 2022. Available online at: http://www.aqmd.gov/docs/default-source/news-archive/2022/aqmp-adopted-dec2-2022.pdf, accessed March 4, 2026.


IMPACT
SCIENCES

APPENDIX A

Air Quality Data

600 N Rosemead Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	600 N Rosemead
Construction Start Date	7/1/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50000
Precipitation (days)	24.4000
Location	34.15702192545486, -118.07953653068421
County	Los Angeles-South Coast
City	Pasadena
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4936
EDFZ	7
Electric Utility	Pasadena Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.41

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	133.000	Dwelling Unit	2.15000	118,607	15,000.0	—	394.000	—

Enclosed Parking Structure	133.000	Space	1.19700	18,132.0	0.00000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.21096	4.01148	9.10636	14.8465	0.02868	0.31367	1.76853	1.98954	0.28878	0.42070	0.62434	—	3,631.29	3,631.29	0.15113	0.14323	6.50771	3,684.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.08818	3.92576	6.81587	11.8694	0.01609	0.22838	1.49829	1.72667	0.20770	0.35736	0.56422	—	3,187.70	3,187.70	0.13637	0.13621	0.16058	3,231.86
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.06223	1.95600	3.52332	7.24337	0.00942	0.11696	0.91460	1.03156	0.10777	0.21745	0.32521	—	1,883.28	1,883.28	0.05464	0.07588	1.47710	1,908.74
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.37636	0.35697	0.64301	1.32192	0.00172	0.02134	0.16692	0.18826	0.01967	0.03968	0.05935	—	311.799	311.799	0.00905	0.01256	0.24455	316.014

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.19469	0.99598	9.10636	14.8465	0.02868	0.31367	1.49829	1.72667	0.28878	0.35736	0.56422	—	3,359.48	3,359.48	0.14134	0.13621	6.18717	3,383.37
2027	4.21096	4.01148	6.56319	14.6162	0.01782	0.22101	1.76853	1.98954	0.20364	0.42070	0.62434	—	3,631.29	3,631.29	0.15113	0.14323	6.50771	3,684.26
2028	4.08907	3.92666	6.79659	12.2129	0.01468	0.22576	0.53166	0.75743	0.20770	0.12462	0.33232	—	2,014.67	2,014.67	0.06557	0.03132	1.51353	2,027.15
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.10776	0.93156	6.11639	11.7848	0.01609	0.22838	1.49829	1.72667	0.20687	0.35736	0.56422	—	3,187.70	3,187.70	0.13637	0.13621	0.16058	3,231.86
2027	3.14322	3.10916	5.77224	11.3074	0.01609	0.20196	1.49829	1.70025	0.18612	0.35736	0.54347	—	3,151.95	3,151.95	0.09421	0.13235	0.14653	3,193.89
2028	4.08818	3.92576	6.81587	11.8694	0.01468	0.22576	0.53166	0.75743	0.20770	0.12462	0.33232	—	1,987.13	1,987.13	0.06647	0.03132	0.03914	1,998.16
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.39749	0.33227	2.48281	4.25724	0.00740	0.08330	0.36921	0.45251	0.07608	0.08328	0.15937	—	1,100.01	1,100.01	0.04678	0.03562	0.57476	1,112.36
2027	2.06223	1.95600	3.52332	7.24337	0.00942	0.11696	0.91460	1.03156	0.10777	0.21745	0.32521	—	1,883.28	1,883.28	0.05464	0.07588	1.47710	1,908.74
2028	0.82304	0.80664	0.60519	1.16754	0.00127	0.01756	0.08147	0.09903	0.01616	0.01908	0.03523	—	200.698	200.698	0.00589	0.00398	0.10193	202.135
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.07254	0.06064	0.45311	0.77695	0.00135	0.01520	0.06738	0.08258	0.01389	0.01520	0.02908	—	182.118	182.118	0.00774	0.00590	0.09516	184.165
2027	0.37636	0.35697	0.64301	1.32192	0.00172	0.02134	0.16692	0.18826	0.01967	0.03968	0.05935	—	311.799	311.799	0.00905	0.01256	0.24455	316.014
2028	0.15020	0.14721	0.11045	0.21308	0.00023	0.00320	0.01487	0.01807	0.00295	0.00348	0.00643	—	33.2278	33.2278	0.00098	0.00066	0.01688	33.4657

2.2.2. Onsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.11344	0.93560	8.76111	13.7493	0.02722	0.31102	0.46931	0.66318	0.28614	0.07107	0.28615	—	2,947.16	2,947.16	0.11955	0.02391	0.00000	2,957.28
2027	3.67736	3.55511	5.56939	6.89593	0.01395	0.21715	0.00000	0.21715	0.19977	0.00000	0.19977	—	1,457.20	1,457.20	0.05911	0.01182	0.00000	1,462.20

2028	3.93080	3.78767	6.65804	9.91858	0.01468	0.22576	0.00000	0.22576	0.20770	0.00000	0.20770	—	1,483.80	1,483.80	0.06019	0.01204	0.00000	1,488.89
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.64018	0.53793	5.04849	5.79459	0.01223	0.22065	0.00000	0.22065	0.20300	0.00000	0.20300	—	1,323.72	1,323.72	0.05370	0.01074	0.00000	1,328.26
2027	3.06095	3.03715	4.73823	5.77054	0.01223	0.19810	0.00000	0.19810	0.18225	0.00000	0.18225	—	1,323.69	1,323.69	0.05369	0.01074	0.00000	1,328.23
2028	3.93080	3.78767	6.65804	9.91858	0.01468	0.22576	0.00000	0.22576	0.20770	0.00000	0.20770	—	1,483.80	1,483.80	0.06019	0.01204	0.00000	1,488.89
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.29837	0.25036	2.21434	2.94217	0.00644	0.08142	0.05658	0.13800	0.07491	0.00857	0.08348	—	685.169	685.169	0.02779	0.00556	0.00000	687.520
2027	1.78492	1.72100	2.92663	3.61806	0.00735	0.11489	0.00000	0.11489	0.10570	0.00000	0.10570	—	770.665	770.665	0.03126	0.00625	0.00000	773.310
2028	0.79868	0.78528	0.58076	0.85002	0.00127	0.01756	0.00000	0.01756	0.01616	0.00000	0.01616	—	121.185	121.185	0.00492	0.00098	0.00000	121.601
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.05445	0.04569	0.40412	0.53695	0.00117	0.01486	0.01033	0.02519	0.01367	0.00156	0.01523	—	113.437	113.437	0.00460	0.00092	0.00000	113.827
2027	0.32575	0.31408	0.53411	0.66030	0.00134	0.02097	0.00000	0.02097	0.01929	0.00000	0.01929	—	127.592	127.592	0.00518	0.00104	0.00000	128.030
2028	0.14576	0.14331	0.10599	0.15513	0.00023	0.00320	0.00000	0.00320	0.00295	0.00000	0.00295	—	20.0636	20.0636	0.00081	0.00016	0.00000	20.1324

2.2.3. Offsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.46833	0.39667	0.99199	6.96226	0.00387	0.00773	1.49829	1.50602	0.00387	0.35736	0.36122	—	1,936.52	1,936.52	0.08040	0.12547	6.18717	1,982.11
2027	0.53360	0.45638	0.99380	7.72030	0.00387	0.00387	1.76853	1.77239	0.00387	0.42070	0.42457	—	2,174.10	2,174.10	0.09202	0.13141	6.50771	2,222.06
2028	0.15827	0.13899	0.13855	2.29429	0.00000	0.00000	0.53166	0.53166	0.00000	0.12462	0.12462	—	530.868	530.868	0.00538	0.01928	1.51353	538.262
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.46757	0.39363	1.06790	5.99023	0.00387	0.00773	1.49829	1.50602	0.00387	0.35736	0.36122	—	1,863.98	1,863.98	0.08268	0.12547	0.16058	1,903.60
2027	0.44509	0.37540	1.03401	5.53682	0.00387	0.00387	1.49829	1.50215	0.00387	0.35736	0.36122	—	1,828.27	1,828.27	0.04052	0.12161	0.14653	1,865.67

2028	0.15738	0.13810	0.15782	1.95084	0.00000	0.00000	0.53166	0.53166	0.00000	0.12462	0.12462	—	503.330	503.330	0.00628	0.01928	0.03914	509.272
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.09911	0.08191	0.26846	1.31507	0.00096	0.00188	0.31263	0.31451	0.00117	0.07472	0.07589	—	414.837	414.837	0.01899	0.03006	0.57476	424.844
2027	0.27732	0.23500	0.59669	3.62532	0.00207	0.00207	0.91460	0.91667	0.00207	0.21745	0.21951	—	1,112.62	1,112.62	0.02338	0.06963	1.47710	1,135.43
2028	0.02436	0.02136	0.02443	0.31752	0.00000	0.00000	0.08147	0.08147	0.00000	0.01908	0.01908	—	79.5129	79.5129	0.00098	0.00300	0.10193	80.5336
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.01809	0.01495	0.04899	0.24000	0.00018	0.00034	0.05706	0.05740	0.00021	0.01364	0.01385	—	68.6809	68.6809	0.00314	0.00498	0.09516	70.3378
2027	0.05061	0.04289	0.10890	0.66162	0.00038	0.00038	0.16692	0.16729	0.00038	0.03968	0.04006	—	184.207	184.207	0.00387	0.01153	0.24455	187.984
2028	0.00445	0.00390	0.00446	0.05795	0.00000	0.00000	0.01487	0.01487	0.00000	0.00348	0.00348	—	13.1643	13.1643	0.00016	0.00050	0.01688	13.3333

2.3. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.23024	5.01647	1.46738	20.6643	0.03283	0.05309	2.87649	2.92958	0.05063	0.73060	0.78123	62.5468	5,223.43	5,285.98	6.51534	0.15008	9.36570	5,502.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.38060	4.21282	1.48420	11.3834	0.03119	0.04817	2.87649	2.92466	0.04692	0.73060	0.77752	62.5468	5,072.36	5,134.91	6.52040	0.15583	1.07027	5,345.42
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.94083	4.74061	1.54725	17.3865	0.03179	0.05154	2.83158	2.88311	0.04946	0.71938	0.76884	62.5468	5,122.79	5,185.34	6.52001	0.15628	4.52670	5,399.44
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.90170	0.86516	0.28237	3.17304	0.00580	0.00941	0.51676	0.52617	0.00903	0.13129	0.14031	10.3553	848.137	858.492	1.07946	0.02587	0.74945	893.939

2.4. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.59877	1.45450	1.01632	12.1582	0.03008	0.01800	2.87649	2.89449	0.01675	0.73060	0.74736	—	3,076.46	3,076.46	0.14352	0.11943	8.51623	3,124.15
Area	3.58782	3.54014	0.07809	8.34740	0.00037	0.00493	—	0.00493	0.00372	—	0.00372	—	23.4173	23.4173	0.00098	0.00020	—	23.4999
Energy	0.04365	0.02182	0.37297	0.15871	0.00238	0.03016	—	0.03016	0.03016	—	0.03016	—	2,024.71	2,024.71	0.09172	0.00693	—	2,029.07
Water	—	—	—	—	—	—	—	—	—	—	—	9.49958	98.8443	108.344	0.97725	0.02353	—	139.787
Waste	—	—	—	—	—	—	—	—	—	—	—	53.0472	0.00000	53.0472	5.30188	0.00000	—	185.594
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84946	0.84946
Total	5.23024	5.01647	1.46738	20.6643	0.03283	0.05309	2.87649	2.92958	0.05063	0.73060	0.78123	62.5468	5,223.43	5,285.98	6.51534	0.15008	9.36570	5,502.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.58399	1.43804	1.11123	11.2247	0.02881	0.01801	2.87649	2.89450	0.01676	0.73060	0.74737	—	2,948.80	2,948.80	0.14956	0.12537	0.22081	2,990.12
Area	2.75296	2.75296	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.04365	0.02182	0.37297	0.15871	0.00238	0.03016	—	0.03016	0.03016	—	0.03016	—	2,024.71	2,024.71	0.09172	0.00693	—	2,029.07
Water	—	—	—	—	—	—	—	—	—	—	—	9.49958	98.8443	108.344	0.97725	0.02353	—	139.787
Waste	—	—	—	—	—	—	—	—	—	—	—	53.0472	0.00000	53.0472	5.30188	0.00000	—	185.594
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84946	0.84946
Total	4.38060	4.21282	1.48420	11.3834	0.03119	0.04817	2.87649	2.92466	0.04692	0.73060	0.77752	62.5468	5,072.36	5,134.91	6.52040	0.15583	1.07027	5,345.42
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.57240	1.42666	1.12080	11.5104	0.02915	0.01800	2.83158	2.84958	0.01676	0.71938	0.73613	—	2,983.20	2,983.20	0.14850	0.12569	3.67724	3,028.04
Area	3.32479	3.29212	0.05349	5.71739	0.00026	0.00338	—	0.00338	0.00255	—	0.00255	—	16.0392	16.0392	0.00067	0.00013	—	16.0958
Energy	0.04365	0.02182	0.37297	0.15871	0.00238	0.03016	—	0.03016	0.03016	—	0.03016	—	2,024.71	2,024.71	0.09172	0.00693	—	2,029.07
Water	—	—	—	—	—	—	—	—	—	—	—	9.49958	98.8443	108.344	0.97725	0.02353	—	139.787
Waste	—	—	—	—	—	—	—	—	—	—	—	53.0472	0.00000	53.0472	5.30188	0.00000	—	185.594

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84946	0.84946
Total	4.94083	4.74061	1.54725	17.3865	0.03179	0.05154	2.83158	2.88311	0.04946	0.71938	0.76884	62.5468	5,122.79	5,185.34	6.52001	0.15628	4.52670	5,399.44
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.28696	0.26037	0.20455	2.10065	0.00532	0.00329	0.51676	0.52005	0.00306	0.13129	0.13434	—	493.902	493.902	0.02459	0.02081	0.60881	501.327
Area	0.60677	0.60081	0.00976	1.04342	0.00005	0.00062	—	0.00062	0.00047	—	0.00047	—	2.65547	2.65547	0.00011	0.00002	—	2.66485
Energy	0.00797	0.00398	0.06807	0.02896	0.00043	0.00550	—	0.00550	0.00550	—	0.00550	—	335.214	335.214	0.01518	0.00115	—	335.936
Water	—	—	—	—	—	—	—	—	—	—	—	1.57276	16.3648	17.9376	0.16179	0.00390	—	23.1433
Waste	—	—	—	—	—	—	—	—	—	—	—	8.78257	0.00000	8.78257	0.87779	0.00000	—	30.7272
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14064	0.14064
Total	0.90170	0.86516	0.28237	3.17304	0.00580	0.00941	0.51676	0.52617	0.00903	0.13129	0.14031	10.3553	848.137	858.492	1.07946	0.02587	0.74945	893.939

3. Construction Emissions Details

3.1. Demolition (2026)

3.1.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.97723	0.81821	6.56564	9.09612	0.02195	0.19387	—	0.19387	0.17836	—	0.17836	—	2,278.71	2,278.71	0.09243	0.01849	—	2,286.53
Demolition	—	—	—	—	—	—	0.46931	0.46931	—	0.07107	0.07107	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11780	0.09863	0.79147	1.09652	0.00265	0.02337	—	0.02337	0.02150	—	0.02150	—	274.694	274.694	0.01114	0.00223	—	275.637
Demolition	—	—	—	—	—	—	0.05657	0.05657	—	0.00857	0.00857	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02150	0.01800	0.14444	0.20011	0.00048	0.00427	—	0.00427	0.00392	—	0.00392	—	45.4787	45.4787	0.00184	0.00037	—	45.6348
Demolition	—	—	—	—	—	—	0.01032	0.01032	—	0.00156	0.00156	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06234	0.05523	0.05820	0.96877	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	203.230	203.230	0.00843	0.00711	0.68763	206.247
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01892	0.00516	0.28704	0.12844	0.00146	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	—	209.083	209.083	0.01336	0.03347	0.45776	219.848
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00747	0.00658	0.00857	0.10431	0.00000	0.00000	0.02326	0.02326	0.00000	0.00545	0.00545	—	23.5680	23.5680	0.00106	0.00086	0.03586	23.8857
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00225	0.00061	0.03624	0.01558	0.00018	0.00032	0.00662	0.00694	0.00032	0.00182	0.00213	—	25.2132	25.2132	0.00161	0.00403	0.02371	26.4794
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00136	0.00120	0.00156	0.01904	0.00000	0.00000	0.00425	0.00425	0.00000	0.00099	0.00099	—	3.90195	3.90195	0.00017	0.00014	0.00594	3.95455
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00041	0.00011	0.00661	0.00284	0.00003	0.00006	0.00121	0.00127	0.00006	0.00033	0.00039	—	4.17434	4.17434	0.00027	0.00067	0.00393	4.38397

3.2. Grading (2026)

3.2.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11344	0.93560	8.76111	13.7493	0.02722	0.31102	—	0.31102	0.28614	—	0.28614	—	2,947.16	2,947.16	0.11955	0.02391	—	2,957.28
Dust From Material Movement	—	—	—	—	—	—	0.00006	0.00006	—	0.00001	0.00001	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06406	0.05383	0.50406	0.79106	0.00157	0.01789	—	0.01789	0.01646	—	0.01646	—	169.563	169.563	0.00688	0.00138	—	170.145
Dust From Material Movement	—	—	—	—	—	—	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01169	0.00982	0.09199	0.14437	0.00029	0.00327	—	0.00327	0.00300	—	0.00300	—	28.0731	28.0731	0.00114	0.00023	—	28.1694
Dust From Material Movement	—	—	—	—	—	—	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06234	0.05523	0.05820	0.96877	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	203.230	203.230	0.00843	0.00711	0.68763	206.247
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01892	0.00516	0.28704	0.12844	0.00146	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	—	209.083	209.083	0.01336	0.03347	0.45776	219.848
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00357	0.00314	0.00409	0.04978	0.00000	0.00000	0.01110	0.01110	0.00000	0.00260	0.00260	—	11.2484	11.2484	0.00050	0.00041	0.01711	11.4000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00107	0.00029	0.01730	0.00744	0.00008	0.00015	0.00316	0.00331	0.00015	0.00087	0.00102	—	12.0336	12.0336	0.00077	0.00193	0.01132	12.6379
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00065	0.00057	0.00075	0.00909	0.00000	0.00000	0.00203	0.00203	0.00000	0.00047	0.00047	—	1.86229	1.86229	0.00008	0.00007	0.00283	1.88740
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00020	0.00005	0.00316	0.00136	0.00002	0.00003	0.00058	0.00060	0.00003	0.00016	0.00019	—	1.99230	1.99230	0.00013	0.00032	0.00187	2.09235

3.3. Building Construction (2026)

3.3.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64018	0.53793	5.04849	5.79459	0.01223	0.22065	—	0.22065	0.20300	—	0.20300	—	1,323.72	1,323.72	0.05370	0.01074	—	1,328.26
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64018	0.53793	5.04849	5.79459	0.01223	0.22065	—	0.22065	0.20300	—	0.20300	—	1,323.72	1,323.72	0.05370	0.01074	—	1,328.26
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11651	0.09790	0.91881	1.05459	0.00222	0.04016	—	0.04016	0.03695	—	0.03695	—	240.912	240.912	0.00977	0.00195	—	241.738
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02126	0.01787	0.16768	0.19246	0.00041	0.00733	—	0.00733	0.00674	—	0.00674	—	39.8857	39.8857	0.00162	0.00032	—	40.0226
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42960	0.38060	0.40111	6.67644	0.00000	0.00000	1.35121	1.35121	0.00000	0.31672	0.31672	—	1,400.60	1,400.60	0.05812	0.04900	4.73895	1,421.39
Vendor	0.03873	0.01607	0.59088	0.28581	0.00387	0.00773	0.14707	0.15480	0.00387	0.04063	0.04450	—	535.921	535.921	0.02228	0.07648	1.44822	560.716
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42960	0.37832	0.45011	5.69760	0.00000	0.00000	1.35121	1.35121	0.00000	0.31672	0.31672	—	1,327.78	1,327.78	0.06039	0.04900	0.12300	1,344.02
Vendor	0.03797	0.01531	0.61779	0.29264	0.00387	0.00773	0.14707	0.15480	0.00387	0.04063	0.04450	—	536.194	536.194	0.02228	0.07648	0.03759	559.578
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.07777	0.06844	0.08918	1.08526	0.00000	0.00000	0.24206	0.24206	0.00000	0.05668	0.05668	—	245.217	245.217	0.01099	0.00892	0.37308	248.523
Vendor	0.00698	0.00286	0.11308	0.05271	0.00070	0.00141	0.02641	0.02782	0.00070	0.00731	0.00801	—	97.5561	97.5561	0.00406	0.01392	0.11368	101.919
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01419	0.01249	0.01627	0.19806	0.00000	0.00000	0.04418	0.04418	0.00000	0.01034	0.01034	—	40.5985	40.5985	0.00182	0.00148	0.06177	41.1458
Vendor	0.00127	0.00052	0.02064	0.00962	0.00013	0.00026	0.00482	0.00508	0.00013	0.00133	0.00146	—	16.1515	16.1515	0.00067	0.00230	0.01882	16.8738
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2027)

3.4.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61641	0.51796	4.73823	5.77054	0.01223	0.19810	—	0.19810	0.18225	—	0.18225	—	1,323.69	1,323.69	0.05369	0.01074	—	1,328.23
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61641	0.51796	4.73823	5.77054	0.01223	0.19810	—	0.19810	0.18225	—	0.18225	—	1,323.69	1,323.69	0.05369	0.01074	—	1,328.23
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.32932	0.27672	2.53138	3.08289	0.00653	0.10583	—	0.10583	0.09737	—	0.09737	—	707.175	707.175	0.02869	0.00574	—	709.602
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.06010	0.05050	0.46198	0.56263	0.00119	0.01931	—	0.01931	0.01777	—	0.01777	—	117.081	117.081	0.00475	0.00095	—	117.483
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41592	0.36693	0.35667	6.20924	0.00000	0.00000	1.35121	1.35121	0.00000	0.31672	0.31672	—	1,373.79	1,373.79	0.05812	0.04900	4.28073	1,394.12
Vendor	0.03449	0.01607	0.56579	0.26922	0.00387	0.00387	0.14707	0.15094	0.00387	0.04063	0.04450	—	525.548	525.548	0.02228	0.07261	1.37084	549.114
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41137	0.36009	0.44555	5.26116	0.00000	0.00000	1.35121	1.35121	0.00000	0.31672	0.31672	—	1,302.43	1,302.43	0.01823	0.04900	0.11094	1,317.60
Vendor	0.03373	0.01531	0.58846	0.27566	0.00387	0.00387	0.14707	0.15094	0.00387	0.04063	0.04450	—	525.838	525.838	0.02228	0.07261	0.03560	548.068
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21977	0.19238	0.23803	2.95382	0.00000	0.00000	0.71057	0.71057	0.00000	0.16638	0.16638	—	706.084	706.084	0.00974	0.02618	0.98565	715.115
Vendor	0.01842	0.00838	0.31628	0.14565	0.00207	0.00207	0.07754	0.07960	0.00207	0.02145	0.02351	—	280.837	280.837	0.01190	0.03879	0.31598	293.010
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04011	0.03511	0.04344	0.53907	0.00000	0.00000	0.12968	0.12968	0.00000	0.03036	0.03036	—	116.900	116.900	0.00161	0.00433	0.16319	118.395
Vendor	0.00336	0.00153	0.05772	0.02658	0.00038	0.00038	0.01415	0.01453	0.00038	0.00391	0.00429	—	46.4957	46.4957	0.00197	0.00642	0.05231	48.5112
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Paving (2028)

3.5.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74648	0.62588	5.84990	8.80025	0.01296	0.21041	—	0.21041	0.19358	—	0.19358	—	1,350.28	1,350.28	0.05477	0.01095	—	1,354.92
Paving	0.13067	0.13067	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74648	0.62588	5.84990	8.80025	0.01296	0.21041	—	0.21041	0.19358	—	0.19358	—	1,350.28	1,350.28	0.05477	0.01095	—	1,354.92
Paving	0.13067	0.13067	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.04908	0.04115	0.38465	0.57865	0.00085	0.01384	—	0.01384	0.01273	—	0.01273	—	88.7856	88.7856	0.00360	0.00072	—	89.0903
Paving	0.00859	0.00859	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00896	0.00751	0.07020	0.10560	0.00016	0.00252	—	0.00252	0.00232	—	0.00232	—	14.6995	14.6995	0.00060	0.00012	—	14.7499
Paving	0.00157	0.00157	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07782	0.06834	0.06812	1.12811	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	261.029	261.029	0.00265	0.00948	0.74421	264.664
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07738	0.06790	0.07760	0.95923	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	247.488	247.488	0.00309	0.00948	0.01925	250.410
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00506	0.00444	0.00507	0.06594	0.00000	0.00000	0.01692	0.01692	0.00000	0.00396	0.00396	—	16.5134	16.5134	0.00020	0.00062	0.02117	16.7254

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00092	0.00081	0.00093	0.01203	0.00000	0.00000	0.00309	0.00309	0.00000	0.00072	0.00072	—	2.73398	2.73398	0.00003	0.00010	0.00350	2.76908
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Architectural Coating (2027)

3.6.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13715	0.11335	0.83116	1.12539	0.00173	0.01905	—	0.01905	0.01752	—	0.01752	—	133.513	133.513	0.00542	0.00108	—	133.971
Architectural Coatings	2.92380	2.92380	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13715	0.11335	0.83116	1.12539	0.00173	0.01905	—	0.01905	0.01752	—	0.01752	—	133.513	133.513	0.00542	0.00108	—	133.971

Architectural Coating	2.92380	2.92380	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06522	0.05390	0.39525	0.53517	0.00082	0.00906	—	0.00906	0.00833	—	0.00833	—	63.4904	63.4904	0.00258	0.00052	—	63.7083
Architectural Coatings	1.39038	1.39038	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01190	0.00984	0.07213	0.09767	0.00015	0.00165	—	0.00165	0.00152	—	0.00152	—	10.5116	10.5116	0.00043	0.00009	—	10.5476
Architectural Coatings	0.25374	0.25374	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08318	0.07339	0.07133	1.24185	0.00000	0.00000	0.27024	0.27024	0.00000	0.06334	0.06334	—	274.758	274.758	0.01162	0.00980	0.85615	278.825

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08227	0.07202	0.08911	1.05223	0.00000	0.00000	0.27024	0.27024	0.00000	0.06334	0.06334	—	260.486	260.486	0.00365	0.00980	0.02219	263.520
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03912	0.03425	0.04238	0.52585	0.00000	0.00000	0.12650	0.12650	0.00000	0.02962	0.02962	—	125.699	125.699	0.00173	0.00466	0.17547	127.306
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00714	0.00625	0.00773	0.09597	0.00000	0.00000	0.02309	0.02309	0.00000	0.00541	0.00541	—	20.8108	20.8108	0.00029	0.00077	0.02905	21.0770
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Architectural Coating (2028)

3.7.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12985	0.10731	0.80814	1.11833	0.00173	0.01536	—	0.01536	0.01413	—	0.01413	—	133.517	133.517	0.00542	0.00108	—	133.975

Architectural Coating	2.92380	2.92380	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12985	0.10731	0.80814	1.11833	0.00173	0.01536	—	0.01536	0.01413	—	0.01413	—	133.517	133.517	0.00542	0.00108	—	133.975
Architectural Coatings	2.92380	2.92380	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03151	0.02604	0.19610	0.27138	0.00042	0.00373	—	0.00373	0.00343	—	0.00343	—	32.3994	32.3994	0.00131	0.00026	—	32.5106
Architectural Coatings	0.70949	0.70949	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00575	0.00475	0.03579	0.04953	0.00008	0.00068	—	0.00068	0.00063	—	0.00063	—	5.36410	5.36410	0.00022	0.00004	—	5.38250

Architectural Coatings	0.12948	0.12948	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08045	0.07065	0.07042	1.16618	0.00000	0.00000	0.27024	0.27024	0.00000	0.06334	0.06334	—	269.839	269.839	0.00273	0.00980	0.76933	273.598
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07999	0.07019	0.08022	0.99161	0.00000	0.00000	0.27024	0.27024	0.00000	0.06334	0.06334	—	255.842	255.842	0.00319	0.00980	0.01990	258.862
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01930	0.01692	0.01936	0.25158	0.00000	0.00000	0.06455	0.06455	0.00000	0.01511	0.01511	—	62.9995	62.9995	0.00077	0.00238	0.08076	63.8082
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00352	0.00309	0.00353	0.04591	0.00000	0.00000	0.01178	0.01178	0.00000	0.00276	0.00276	—	10.4303	10.4303	0.00013	0.00039	0.01337	10.5642
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.59877	1.45450	1.01632	12.1582	0.03008	0.01800	2.87649	2.89449	0.01675	0.73060	0.74736	—	3,076.46	3,076.46	0.14352	0.11943	8.51623	3,124.15
Enclosed Parking Structure	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	1.59877	1.45450	1.01632	12.1582	0.03008	0.01800	2.87649	2.89449	0.01675	0.73060	0.74736	—	3,076.46	3,076.46	0.14352	0.11943	8.51623	3,124.15
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.58399	1.43804	1.11123	11.2247	0.02881	0.01801	2.87649	2.89450	0.01676	0.73060	0.74737	—	2,948.80	2,948.80	0.14956	0.12537	0.22081	2,990.12
Enclosed Parking Structure	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	1.58399	1.43804	1.11123	11.2247	0.02881	0.01801	2.87649	2.89450	0.01676	0.73060	0.74737	—	2,948.80	2,948.80	0.14956	0.12537	0.22081	2,990.12
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.28696	0.26037	0.20455	2.10065	0.00532	0.00329	0.51676	0.52005	0.00306	0.13129	0.13434	—	493.902	493.902	0.02459	0.02081	0.60881	501.327

Enclose Parking Structure	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.28696	0.26037	0.20455	2.10065	0.00532	0.00329	0.51676	0.52005	0.00306	0.13129	0.13434	—	493.902	493.902	0.02459	0.02081	0.60881	501.327

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,372.56	1,372.56	0.04408	0.00534	—	1,375.25
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	178.730	178.730	0.00574	0.00070	—	179.081
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,551.29	1,551.29	0.04982	0.00604	—	1,554.33
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,372.56	1,372.56	0.04408	0.00534	—	1,375.25
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	178.730	178.730	0.00574	0.00070	—	179.081
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,551.29	1,551.29	0.04982	0.00604	—	1,554.33
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	227.243	227.243	0.00730	0.00088	—	227.689
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	29.5908	29.5908	0.00095	0.00012	—	29.6489
Total	—	—	—	—	—	—	—	—	—	—	—	—	256.833	256.833	0.00825	0.00100	—	257.337

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04365	0.02182	0.37297	0.15871	0.00238	0.03016	—	0.03016	0.03016	—	0.03016	—	473.424	473.424	0.04190	0.00089	—	474.737
Enclosed Parking Structure	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.04365	0.02182	0.37297	0.15871	0.00238	0.03016	—	0.03016	0.03016	—	0.03016	—	473.424	473.424	0.04190	0.00089	—	474.737
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04365	0.02182	0.37297	0.15871	0.00238	0.03016	—	0.03016	0.03016	—	0.03016	—	473.424	473.424	0.04190	0.00089	—	474.737
Enclosed Parking Structure	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.04365	0.02182	0.37297	0.15871	0.00238	0.03016	—	0.03016	0.03016	—	0.03016	—	473.424	473.424	0.04190	0.00089	—	474.737
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartment Mid Rise	0.00797	0.00398	0.06807	0.02896	0.00043	0.00550	—	0.00550	0.00550	—	0.00550	—	78.3808	78.3808	0.00694	0.00015	—	78.5982
Enclosed Parking Structure	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00797	0.00398	0.06807	0.02896	0.00043	0.00550	—	0.00550	0.00550	—	0.00550	—	78.3808	78.3808	0.00694	0.00015	—	78.5982

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.54229	2.54229	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.21067	0.21067	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.83486	0.78717	0.07809	8.34740	0.00037	0.00493	—	0.00493	0.00372	—	0.00372	—	23.4173	23.4173	0.00098	0.00020	—	23.4999
Total	3.58782	3.54014	0.07809	8.34740	0.00037	0.00493	—	0.00493	0.00372	—	0.00372	—	23.4173	23.4173	0.00098	0.00020	—	23.4999
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.54229	2.54229	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.21067	0.21067	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.75296	2.75296	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.46397	0.46397	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03845	0.03845	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10436	0.09840	0.00976	1.04342	0.00005	0.00062	—	0.00062	0.00047	—	0.00047	—	2.65547	2.65547	0.00011	0.00002	—	2.66485
Total	0.60677	0.60081	0.00976	1.04342	0.00005	0.00062	—	0.00062	0.00047	—	0.00047	—	2.65547	2.65547	0.00011	0.00002	—	2.66485

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	9.49958	98.8443	108.344	0.97725	0.02353	—	139.787
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	9.49958	98.8443	108.344	0.97725	0.02353	—	139.787

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	9.49958	98.8443	108.344	0.97725	0.02353	—	139.787
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	9.49958	98.8443	108.344	0.97725	0.02353	—	139.787
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.57276	16.3648	17.9376	0.16179	0.00390	—	23.1433
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1.57276	16.3648	17.9376	0.16179	0.00390	—	23.1433

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	53.0472	0.00000	53.0472	5.30188	0.00000	—	185.594

Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	53.0472	0.00000	53.0472	5.30188	0.00000	—	185.594
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	53.0472	0.00000	53.0472	5.30188	0.00000	—	185.594
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	53.0472	0.00000	53.0472	5.30188	0.00000	—	185.594
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	8.78257	0.00000	8.78257	0.87779	0.00000	—	30.7272
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	8.78257	0.00000	8.78257	0.87779	0.00000	—	30.7272

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84946	0.84946
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84946	0.84946
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84946	0.84946
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84946	0.84946
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14064	0.14064
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.14064	0.14064

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	7/1/2026	8/31/2026	5.00000	44.0000	—
Grading	Grading	9/1/2026	9/29/2026	5.00000	21.0000	—
Building Construction	Building Construction	9/30/2026	9/30/2027	5.00000	262.000	—
Paving	Paving	3/31/2028	5/3/2028	5.00000	24.0000	—
Architectural Coating	Architectural Coating	5/3/2027	5/3/2028	5.00000	263.000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Excavators	Diesel	Average	1.000000	8.00000	367.000	0.40000
Demolition	Skid Steer Loaders	Diesel	Average	1.000000	8.00000	71.0000	0.37000
Demolition	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000

Grading	Excavators	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rollers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Paving	Cement and Mortar Mixers	Diesel	Average	2.00000	6.00000	10.00000	0.56000
Paving	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	6.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	6.00000	36.0000	0.38000
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2000	HHDT,MHDT
Demolition	Hauling	6.00000	10.00000	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Grading	Vendor	—	10.2000	HHDT,MHDT
Grading	Hauling	6.00000	10.00000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	103.375	18.5000	LDA,LDT1,LDT2

Building Construction	Vendor	17.1895	10.2000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Paving	Vendor	—	10.2000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	20.6751	18.5000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	240,179	80,059.7	2,346.36	260.707	3,128.48

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	1,577.00	0.00000
Grading	—	500.000	0.00000	0.00000	0.00000

Paving	0.00000	0.00000	0.00000	0.00000	1.44700

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Apartments Mid Rise	0.25000	0%
Paving	Enclosed Parking Structure	1.19700	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00000	1,027.54	0.03300	0.00400
2027	0.00000	1,027.54	0.03300	0.00400
2028	0.00000	1,027.54	0.03300	0.00400

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	485.450	485.450	485.450	177,189	4,056.98	4,056.98	4,056.98	1,480,798
Enclosed Parking Structure	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	0	0
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	0	0
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Enclosed Parking Structure	Wood Fireplaces	0	0
Enclosed Parking Structure	Gas Fireplaces	0	0
Enclosed Parking Structure	Propane Fireplaces	0	0
Enclosed Parking Structure	Electric Fireplaces	0	0
Enclosed Parking Structure	No Fireplaces	0	0
Enclosed Parking Structure	Conventional Wood Stoves	0	0
Enclosed Parking Structure	Catalytic Wood Stoves	0	0
Enclosed Parking Structure	Non-Catalytic Wood Stoves	0	0
Enclosed Parking Structure	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
240,179	80,059.7	2,346.36	260.707	3,128.48

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	250.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	487,556	1,027.54	0.0330	0.0040	1,477,210
Enclosed Parking Structure	63,488.0	1,027.54	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	4,957,415	257,117
Enclosed Parking Structure	0.00000	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	98.4290	0.00000
Enclosed Parking Structure	0.00000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Based on the Project's Site Plan
Construction: Construction Phases	Based on applicant construction questionnaire
Construction: Off-Road Equipment	Based on the Project's construction questionnaire
Construction: Trips and VMT	Based on construction questionnaire
Operations: Vehicle Data	Based on the Project's trip generation estimate
Operations: Hearths	Based on Project Site Plan

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	3.50000	2.15000
Building Area	sq. ft	127,680	118,607
Landscape Area	sq. ft	—	15,000.0
Building Area	sq. ft	53,200.0	18,132.0
Landscape Area	sq. ft	—	0.00000

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Demolition	Demolition	End Date	7/29/2026	8/31/2026
Demolition	Demolition	Work Days per Phase	20.0000	44.0000
Grading	Grading	Start Date	8/7/2026	9/1/2026
Grading	Grading	End Date	8/18/2026	9/29/2026
Grading	Grading	Work Days per Phase	8.00000	21.0000
Building Construction	Building Construction	Start Date	8/19/2026	9/30/2026
Building Construction	Building Construction	End Date	7/7/2027	9/30/2027
Building Construction	Building Construction	Work Days per Phase	230.000	262.000
Paving	Paving	Start Date	7/8/2027	3/31/2028
Paving	Paving	End Date	8/2/2027	5/3/2028
Paving	Paving	Work Days per Phase	18.0000	24.0000
Architectural Coating	Architectural Coating	Start Date	8/3/2027	5/3/2027
Architectural Coating	Architectural Coating	End Date	8/28/2027	5/3/2028
Architectural Coating	Architectural Coating	Work Days per Phase	18.0000	263.000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Demolition	Excavators	Number per Day	2.00000	1.000000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Demolition	Hauling	One-Way Trips per Day	8.97727	6.00000
Demolition	Hauling	Miles per Trip	20.0000	10.00000

Grading	Hauling	One-Way Trips per Day	3.00000	6.00000
Grading	Hauling	Miles per Trip	20.0000	10.00000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Apartments Mid Rise	Weekday Trip Rate	size/day	5.44000	3.65000
Apartments Mid Rise	Saturday Trip Rate	size/day	4.91000	3.65000
Apartments Mid Rise	Sunday Trip Rate	size/day	4.09000	3.65000

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Rosemead Family Apartments CEQA Evaluation

Final Report

April 10, 2026

Submitted to:

13186.25 | Prepared by **Iteris, Inc.**

Innovating Through Informatics™

TABLE OF CONTENTS

TABLES

FIGURES

1 INTRODUCTION

This report summarizes the results of the California Environmental Quality Act (CEQA) evaluation for the proposed Rosemead Family Apartments project, hereinafter referred to as the "project", located at 600 North Rosemead Boulevard in the City of Pasadena. This report provides detailed CEQA analysis including the net changes in vehicle miles traveled (VMT) per capita, vehicle trips per capita (VT), the project impact on service population proximity access to transit and bike facilities and walk accessibility score.

1.1 Project Description

The proposed project consists of a two-story and a five-story family housing development with a total of 133 units (131 affordable housing units and 2 manager's units). The project is planned to provide a total of 55 vehicle parking spaces and 22 bicycle parking spaces with two full-access driveways off of Rosemead Boulevard to the south of the project site. The primary pedestrian access would be through access points fronting Rosemead Boulevard. The project would include amenities such as office, club rooms, laundry room, landscaped patios, open courtyard, playground areas, and other recreational amenities. The existing project site consists of a 56,828 square-foot two-story office building (west building) and a two-story parking garage (east building), for a total area of approximately 93,760 square feet. The construction of this project would require the west building to be repurposed and converted to a residential building and east building to be demolished. **Figure 1** presents the project's site plan.

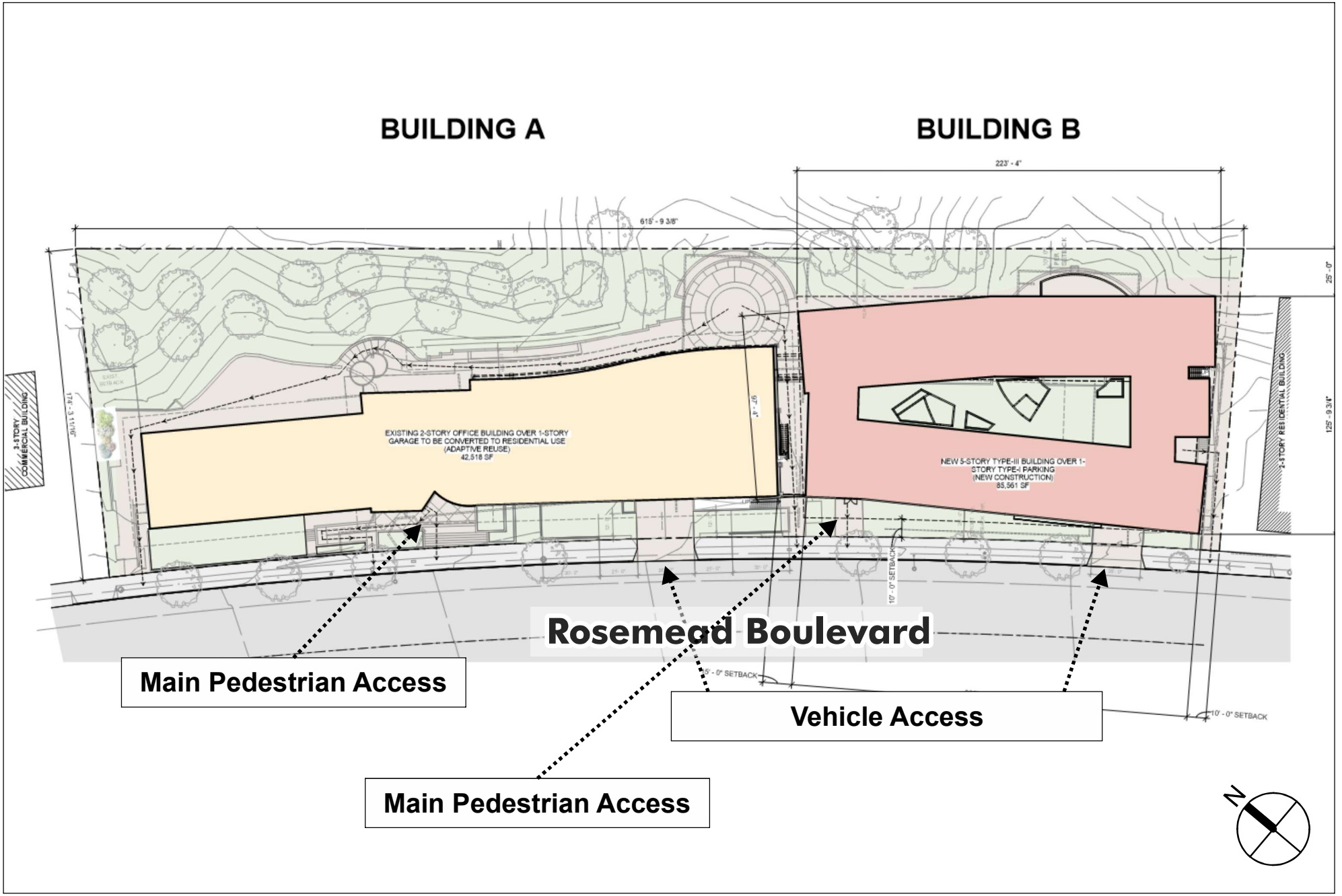


Figure 1
Project Site Plan

2 EXISTING TRANSPORTATION NETWORK

This section describes the roadway system within the project vicinity. The existing configurations of the transportation network, within the study area, are described below:

Orange Grove Boulevard, oriented in an east-west direction, is designated as a City Connector. The roadway is undivided, and consists of two lanes in each direction. On-street parking is generally permitted in both directions. The roadway has a posted speed limit of 40 mph.

Rosemead Boulevard, oriented in an east-west direction, is designated as a City Connector. The roadway is divided with a two-way-left-turn lane, and consists of two lanes in each direction in the study area. On-street parking is generally permitted in both directions, but a portion of the west side is unavailable for on-street parking as it is designated as No Stopping at Any Time. The roadway has a posted speed limit of 40 mph. Rosemead Boulevard is the sole vehicular and pedestrian access point for the project site.

Foothill Boulevard, oriented in an east-west direction, is designated as a City Connector. The roadway is partially divided with raised medians and partially divided with a two-way-left-turn lane, and consists of two lanes in each direction in the study area. On-street parking is generally prohibited in both directions, except a short section east of Halstead Street, where on-street parking is permitted in both directions with a two-hour limit. The roadway has a posted speed limit of 35 mph.

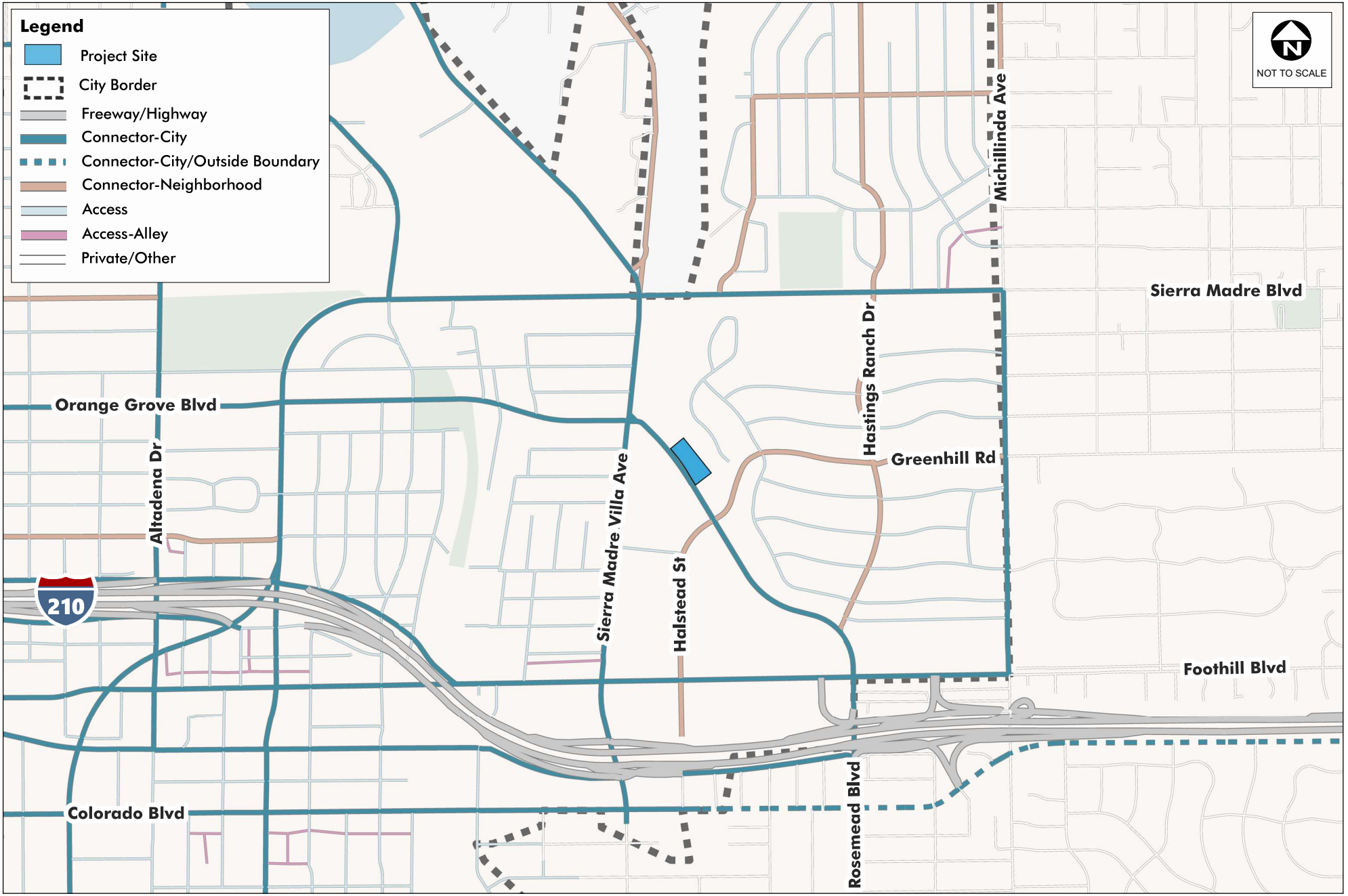
Hastings Ranch Drive, oriented in an east-west direction, is designated as a Neighborhood Connector. The roadway is undivided, and consists of one lane in each direction. On-street parking is generally permitted in both directions. The roadway has a posted speed limit of 35 mph.

Sierra Madre Villa Avenue, oriented in a north-south direction, is designated as a City Connector. The roadway is partially undivided and partially divided with a two-way-left-turn lane, and consists of one lane in each direction south of Hermanos Street and two lanes in each direction north of Hermanos Street. On-street parking is generally permitted in both directions north of Orange Grove Boulevard – Rosemead Boulevard. South of Orange Grove Boulevard – Rosemead Boulevard, on-street parking is generally permitted in the southbound direction with a two-hour limit. The roadway has a posted speed limit of 30 mph.

Greenhill Road, oriented in a north-south direction, is designated as a Neighborhood Connector. The roadway is undivided, and consists of one lane in each direction. On-street parking is generally prohibited in both directions. The roadway has a posted speed limit of 25 mph.

Halstead Street, oriented in a north-south direction, is designated as a Neighborhood Connector. The roadway is divided with a two-way-left-turn lane, and consists of one lane in each direction. On-street parking is generally prohibited in the northbound direction and is generally permitted in the southbound direction with a two-hour limit. The roadway assumes the prima facie speed of 25 mph.

Figure 2 shows the existing street network and classifications in the study area.



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City of Pasadena
Rosemead Family Apartments
Local Mobility Analysis & CEQA

Figure 2
Roadway Classifications

2.1 Existing Transit Service

LA Metro, Pasadena Transit, and Foothill Transit provide transit services in the study area. The bus stop locations, per line, are summarized in **Table 1**.

Table 1: Existing Transit Service Stop Locations

Location		LA Metro	Pasadena Transit	Foothill Transit
Sierra Madre Villa Ave / Orange Grove Blvd / Rosemead Blvd:				
	Northwest corner	268	32	None
	Southwest corner	None	33 40	None
	Southeast corner	268	32	None
Sierra Madre Villa Ave / Alameda St:				
	Northwest corner	None	32	None
Sierra Madre Villa Ave / Foothill Blvd:				
	Northwest corner	487/489	31 60	None
	Northeast corner	268	32	187
	Southeast corner	266 268 487/489	31 32 33 40 60	187
Sierra Madre Villa Ave / I-210 Ramps (Sierra Madre Villa Station):				
	Northeast corner	266 268 487/489	31 32 33 40 60	None
	Southeast corner	A Line	None	None
Greenhill Rd / Halstead St / Rosemead Blvd:				
	Northwest corner	None	33 40	None
Halstead St / Foothill Blvd:				
	Northwest corner	None	33	None
	Northeast corner	None	33	None
	Southeast corner	266	40 60	None
Trader Joe's Driveway / Rosemead Blvd:				
	Southwest corner	None	40	None

Location		LA Metro	Pasadena Transit	Foothill Transit
Ralph's Driveway / Foothill Blvd:				
	Northwest corner	None	40 60	None
Hastings Ranch Dr / Rosemead Blvd:				
	Southwest corner	None	40	None
Rosemead Blvd / Foothill Blvd:				
	Northwest corner	266	40 60	187
	Northeast corner	None	40 60	None
	Southwest corner	266	None	187

3 TRANSPORTATION ANALYSIS METHODOLOGY

This section discusses the methodologies and thresholds used in the CEQA transportation analysis. There are several performance measures that are analyzed for this study. These performance measures assess the quality of walking, biking, transit, and vehicular activity in the City:

- Vehicle Miles Traveled (VMT) per Capita;
- Vehicle Trips (VT) per Capita;
- Proximity and Quality of the Bicycle Network;
- Proximity and Quality of the Transit Network; and
- Pedestrian Accessibility.

Analyzing these performance measures is critical to being consistent with the sustainability goals of the General Plan and evaluating different travel modes to understand the needs of the community. After the performance measures are calculated, the values are compared to the City of Pasadena CEQA thresholds of significance to determine significant impact. **Table 2** details the thresholds of significance used in the study.

Table 2: City of Pasadena CEQA Thresholds of Significance

Metric	Description	Impact Threshold
VMT per Capita	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs/employees)	Net change in VMT per capita is 16.8% below Citywide average baseline **2017 Baseline: 35.6** **16.8% Below Baseline Threshold: 29.6**
VT per Capita	Vehicle Trips (VT) in the City of Pasadena per service population	Net change in VT per service population is 16.8% below Citywide average baseline **2017 Baseline: 4.2** **16.8% Below Baseline Threshold: 3.5**
Proximity and Quality of Bicycle Network	Percent of service population within a ¼ mile of bicycle facility types.	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 bike facilities. **2017 Baseline**: **32.3%**
Proximity and Quality of Transit Network	Percent of service population located within a ¼ mile of transit facility	Any decrease in baseline Citywide service population within a ¼ miles of Level 1 or 2 transit facilities. **2017 Baseline: 66.8%**
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a network-based walkshed to evaluate walkability	Any decrease in the Citywide Pedestrian Accessibility Score **2017 Baseline: 3.9**

3.1 Vehicle Miles Traveled per Capita

VMT per capita is calculated by aggregating the miles traveled for trips from the City of Pasadena Travel Demand Model, which is derived from the Southern California Association of Governments (SCAG) regional model. The total VMT consists of 100% of the miles traveled for trips that start and finish within the City and 100% of the miles traveled for trips with one end outside of the City. The total VMT is divided by the City's total service population (population + jobs/employees) to derive VMT per capita.

VMT tends to increase with the addition of number of people/residents in the population. Therefore, the City can reduce VMT per capita with strategic land use policies that reduce the distance average Pasadena residents travel daily and build more developments in areas with access to diverse modes of transportation, such as transit and bikes.

3.2 Vehicle Trips per Capita

VT per capita is the sum of the origin and destination trips within the City, which is generated by the City of Pasadena Travel Demand Model. Regional VT is calculated by aggregating the VT within the City and 100% of the VT that either start or end in the City with one trip end outside of the City. The final City's VT is divided by the City's total service population (population + jobs/employees).

Similar to the VMT, VT tends to increase with the addition of number of people/residents in the population. Therefore, the City can reduce VT per capita with strategic land use policies that reduce the distance average Pasadena residents travel daily and build more developments in areas with access to diverse modes of transportation, such as transit and bikes.

3.3 Proximity and Quality of Bicycle Network

The proximity and quality of bicycle network is measured by the percentage of the City's service population, which are residents and number of jobs/employees, located within a quarter mile of bicycle facility types. There are three levels of bicycle facilities based on the City's Bicycle Transportation Plan, and those three levels are summarized in **Table 3**.

Table 3: Bicycle Facilities Hierarchy

Level	Description	Facilities Included
1	Advanced Facilities	Bike Paths Multipurpose Paths Cycle Tracks/Protected Bike Lanes
2	Dedicated Facilities	Buffered Bike Lanes Bike Lanes Bike Boulevards
3	Basic Facilities	Bike Routes Enhanced Bike Routes Emphasized Bikeways

For the analysis, total service population within a quarter-mile buffer of levels 1 and 2 bicycle networks was identified.

3.4 Proximity and Quality of Transit Network

The proximity and quality of transit network is measured by the percentage of the City's service population located within a quarter mile of transit facility types. There are three levels of transit facilities as summarized in **Table 4**.

Table 4: Transit Facilities Hierarchy

Level	Facilities Included
1	Includes all A Line (i.e., Gold Line) stops as well as corridors with transit service, whether it be a single route or multiple routes combined, with headways of five minutes or less during peak periods.
2	Includes corridors with transit headways of between six and 15 minutes in peak periods.
3	Includes corridors with transit headways of 16 minutes or more at peak periods.

For the analysis, total service population located within a quarter-mile buffer of levels 1 and 2 transit networks was identified.

3.5 Pedestrian Accessibility

Pedestrian accessibility score is calculated by measuring the average walkability in the project TAZ, based on an accessibility metric. The metric consists of a number of land use types accessible to a resident or an employee in the project TAZ within a 5-minute walk. The land uses used in the metric are:

- Retail
- Personal Services
- Restaurant
- Entertainment
- Office (including private sector and government offices)
- Medical (including medical office and hospital uses)
- Culture (including churches, religious, and other cultural uses)
- Park and Open Space
- School (including elementary and high schools)
- College

4 TRANSPORTATION IMPACT ANALYSIS

This section includes the CEQA transportation impact analysis utilizing the methodologies described in Section 3.

4.1 VMT and VT Analysis

VMT per Capita and VT are analyzed using the City's travel demand model which utilizes TransCAD software to simulate travel volumes and patterns for the City of Pasadena. Multi-family land use was used for the project. **Table 5** summarizes the results of the proposed project's VMT and VT impacts on the transportation system using the travel demand model and performance measure module. The results are based on the project's motorized and non-motorized travel patterns, trip lengths, surrounding land uses, and the City's transportation network. **Appendix A** includes the model output module used to calculate the performances measures.

Table 5: VMT and VT Performance Measures Analysis Results

Transportation Performance Measures	16.8% Baseline Value	Project-related Incremental Change	Impact?
VMT Per Capita	29.6 VMT per Capita	8.2 VMT per Capita	No
VT Per Capita	3.5 VT per Capita	3.3 VT per Capita	No

As summarized in **Table 5**, the incremental/net change in VMT per capita and VT per capita are not forecast to exceed the thresholds set forth in the City's guidelines.

4.2 Proximity and Quality of Bicycle and Transit Networks

The proposed affordable housing project would increase the service population on the site as compared to the existing use. As such, citywide population in the existing plus project scenario would be greater than the citywide population in the existing scenario. **Table 6** summarizes the existing and existing plus project evaluation of the Proximity and Quality of Bicycle and Transit networks.

Table 6: Proximity and Quality of Bicycle and Transit Network Performance Measures Analysis Results

Transportation Performance Measures	Existing Value	Existing Plus Project Value	Impact?
Proximity and Quality of Bicycle Network	32.3% of population and jobs	≥ 32.3% of population and jobs	No
Proximity and Quality of Transit Network	66.8% of population and jobs	≥ 66.8% of population and jobs	No

As summarized in **Table 6**, the project is not forecast to exceed the Proximity and Quality of Bicycle and Transit Network thresholds.

4.3 Pedestrian Accessibility

Given the average walkability in the zone because of the number of land use types accessible to the service population, the Pedestrian Accessibility score would not be decreased. Therefore, the project is not forecast to exceed the Pedestrian Accessibility threshold. **Table 7** summarizes the existing and existing plus project evaluation of the pedestrian accessibility.

Table 7: Pedestrian Accessibility Analysis Results

Transportation Performance Measures	Existing Value	Existing Plus Project Value	Impact?
Pedestrian Accessibility	C – 3.9 land use types	C – 3.9 land use types	No

As summarized in **Table 7**, the project is not forecast to exceed the pedestrian accessibility threshold.

5 CONCLUSIONS

Iteris prepared a CEQA transportation impact analysis for the proposed affordable housing development located at 600 North Rosemead Boulevard (Rosemead Family Apartments) in the City of Pasadena. The following describes the results of the CEQA analysis:

- The project is not forecast to exceed the VMT per capita threshold.
- The project is not forecast to exceed the VT per capita threshold.
- The project is not forecast to exceed the proximity and quality of bicycle network thresholds.
- The project is not forecast to exceed the proximity and quality of transit network thresholds.
- The project is not forecast to exceed the pedestrian accessibility threshold.

APPENDIX A – TDF MODEL OUTPUTS

Pasadena Project Level Performance Criteria

Project: Rosemead Family Apartments

METRIC	DESCRIPTION	IMPACT THRESHOLD	EXISTING VALUE	PLUS PROJECT VALUE	IMPACT
VMT Per Capita	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs)	Net change in VMT per service population is 16.8% below Citywide average baseline 2017 Baseline: 35.6	29.6 VMT per capita	8.2 VMT per capita	No
VT Per Capita	Vehicle Trips (VT) in the City of Pasadena per service population	Net change in VT per service population is 16.8% below Citywide average baseline 2017 Baseline: 4.2	3.5 VT per capita	3.3 VT per capita	No
Proximity and Quality of Bicycle Network	Percent of service population within a ¼ mile of bicycle facility types	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 bike facilities	32.3% of population and jobs	32.3% of population and jobs	No
Proximity and Quality of Transit Network	Percent of service population located within a ¼ mile of transit facility types	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 transit facilities	66.8% of population and jobs	66.8% of population and jobs	No
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a network-based walk shed to evaluate walkability	Any decrease in the Citywide Pedestrian Accessibility Score	C – 3.9 land use types	C – 3.9 land use types	No

Daily Trips	Internal	External
Internal	381,849	335,668
External	335,668	534,549

Pop	137,182
Emp	113,025
Ext. Factor	100%

FINAL REDUCED DAILY VMT BY SPEED BIN					EMFAC
Speed	**Internal**	**External**	**Regional**	**Total**	**INPUT**
5	178	0	5,268	5,446	0%
10	1,337	653	28,816	30,805	0%
15	10,306	3,119	89,008	102,434	1%
20	18,689	11,177	184,432	214,298	2%
25	107,895	24,255	344,000	476,151	5%
30	512,796	115,649	676,288	1,304,733	15%
35	856,781	261,727	760,115	1,878,624	21%
40	154,529	89,753	477,223	721,505	8%
45	102,781	41,565	366,070	510,417	6%
50	79,374	14,051	440,952	534,377	6%
55	70,055	169,321	460,361	699,736	8%
60	97,011	37,190	424,975	559,176	6%
65	505,883	90,508	319,425	915,816	10%
70	1,880	412	801,557	803,849	11%
75	0	0	137,625	137,625	
80	0	0	0	0	
85	0	0	0	0	
SUM	**2,519,495**	**859,380**	**5,516,116**	**8,894,991**	**100%**

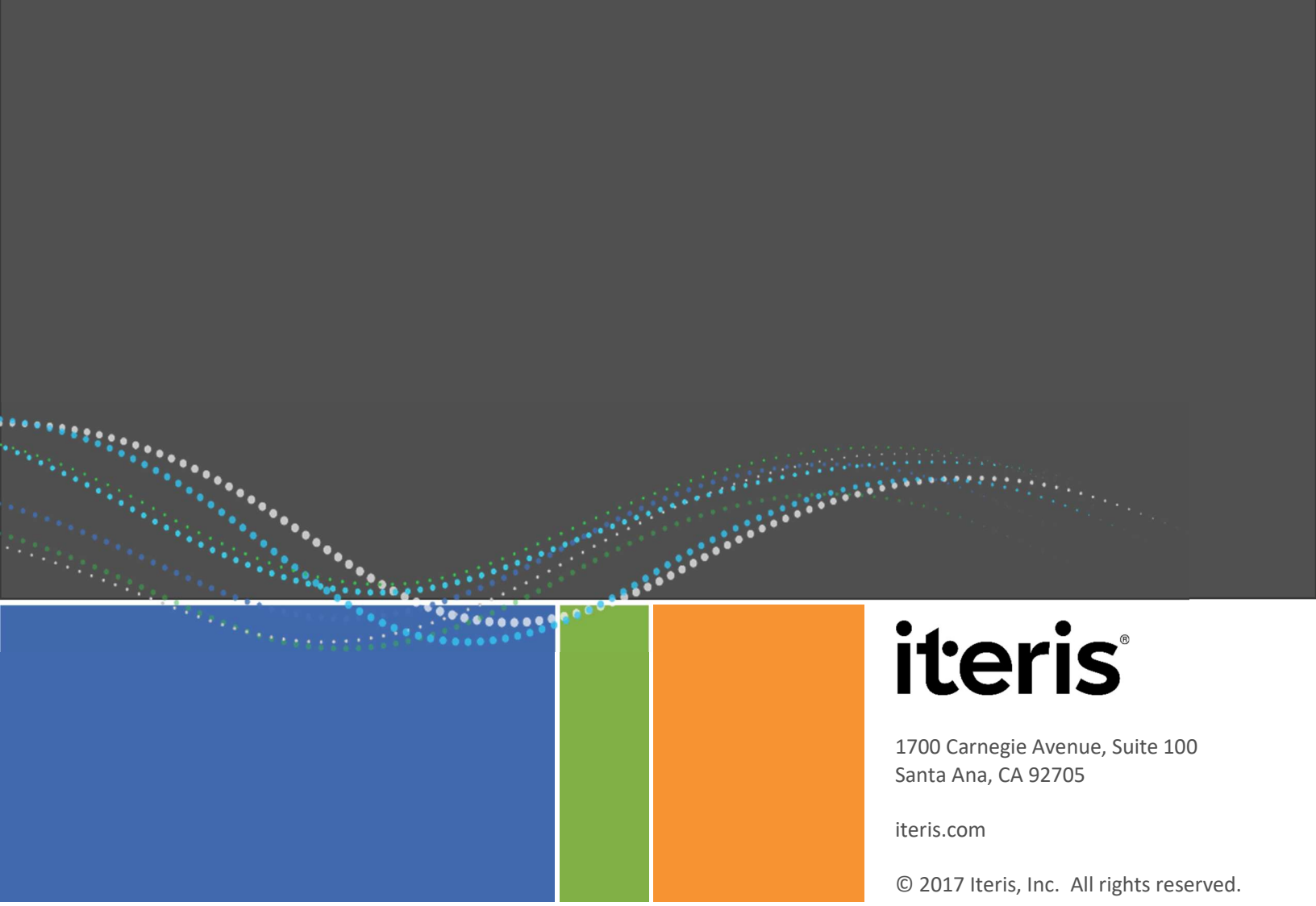
TOTAL RAW DAILY SUMMARY					
Metric	**Internal**	**External**	**Regional**	**Total**	**Capita**
VMT	2,519,495	859,380	5,516,116	8,894,991	35.6
VT	381,849	671,336	-	1,053,185	4.2
Length	6.6	1.3	-	8.4	-

REDUCED DAILY SUMMARY					
Metric	**Internal**	**External**	**Regional**	**Total**	**Capita**
VMT	2,519,495	859,380	5,516,116	8,894,991	35.6
VT	381,849	671,336	-	1,053,185	4.2
Length	6.6	1.3	-	8.4	-

FINAL DAILY SCENARIO SUMMARY					
Pop	**Emp**	**VMT**	**VT**	**VMT/Cap**	**VT/Cap**
137,182	113,025	8,894,991	1,053,185	35.6	4.2

2017 EXISTING SUMMARY					
Pop	**Emp**	**VMT**	**VT**	**VMT/Cap**	**VT/Cap**
136,911	113,160	8,893,871	1,052,731	35.6	4.2

INCREMENTAL SCENARIO RESULTS					
Pop	**Emp**	**VMT**	**VT**	**VMT/Cap**	**VT/Cap**
271	-135	1,119	455	8.2	3.3
				PASS	PASS



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