LAB FIVE SOCCER CENTER PROJECT

CEQA Class 32
Categorical Exemption Report
Technical Appendices

LEAD AGENCY: CITY OF GARDENA
1700 West 162nd Street
Gardena, California 90247
Contact: John Signo, AICP, Senior Planner
jsigno@cityofgardena.org
(310) 217-9530

PREPARED BY: DE NOVO PLANNING GROUP
180 E. Main Street, Suite 108
Tustin, California 92780
Contact: Starla Barker, AICP
sbarker@denovoplanning.com
(949) 396-8193

September 2021

Appendix A

KITTELSON & ASSOCIATES
750 THE CITY DRIVE, SUITE 410
ORANGE, CA 92868
P 714.468.1997

MEMORANDUM

Date:	September 22, 2021	Project #26676
To:	City of Gardena	
From:	Michael Sahimi and Tim Erney, Kittelson & Associates, Inc.	
Project:	Lab Five Soccer Center	
Subject:	Transportation Memorandum	

This transportation memorandum summarizes estimated trip generation, the California Environmental Quality Act (CEQA) vehicle miles traveled (VMT) analysis, and the non-CEQA local transportation assessment for the proposed Lab Five Soccer Center (project), located at 14000 Halldale Avenue in the City of Gardena, California. This memo includes the following sections:

- Project Description
- Trip Generation Estimates
- VMT Impact Assessment
- Local Transportation Assessment
- Summary and Conclusions

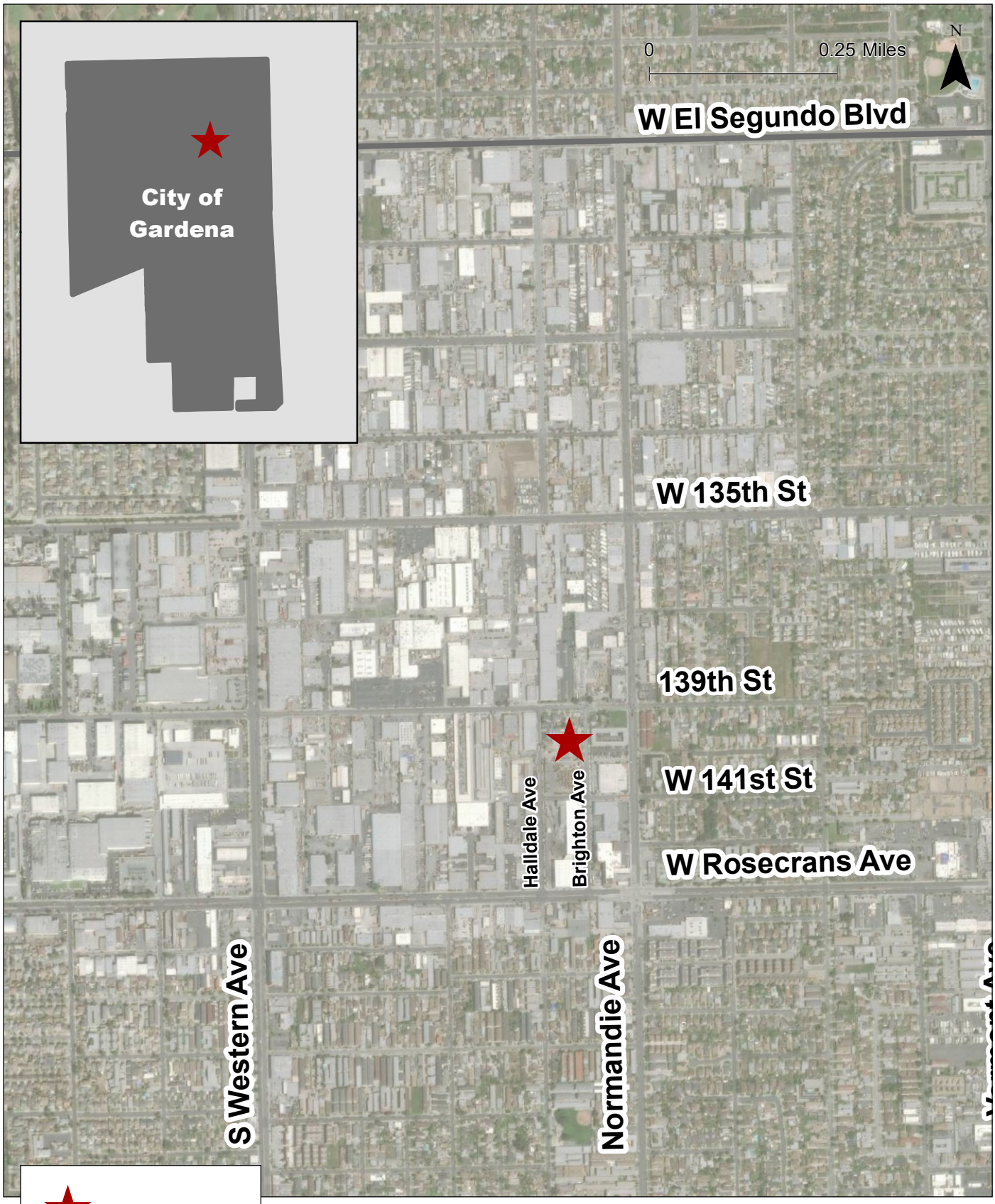
The analysis methodologies and contents of this assessment are based on the City's *SB 743 Implementation Transportation Analysis Updates* (June 2020).

PROJECT DESCRIPTION

The project site is located at 14000 Halldale Avenue in the City of Gardena, between Halldale Avenue and Brighton Avenue south of 139th Street. The project site is within in an industrial zone and was previously used for a hauling and demolition business. The project will be on a 1.5-acre lot and includes the development of seven (7) 50-foot by 98-foot soccer fields designed for five versus five games. The project also includes remodeling an existing two-story 2,786 square foot office building, in which 878 square feet will be converted to an incidental café use for the patrons of the soccer center. A total of 40 on-site parking spaces will also be provided, which would be accessed via a proposed driveway on Halldale Avenue located approximately 275 feet south of 139th Street.

The hours of operation for the soccer center are anticipated to be 9:00 AM to 11:00 PM.

The project location is shown in Figure 1. The current proposed site plan is shown in Figure 2.



Project Location
Gardena, California

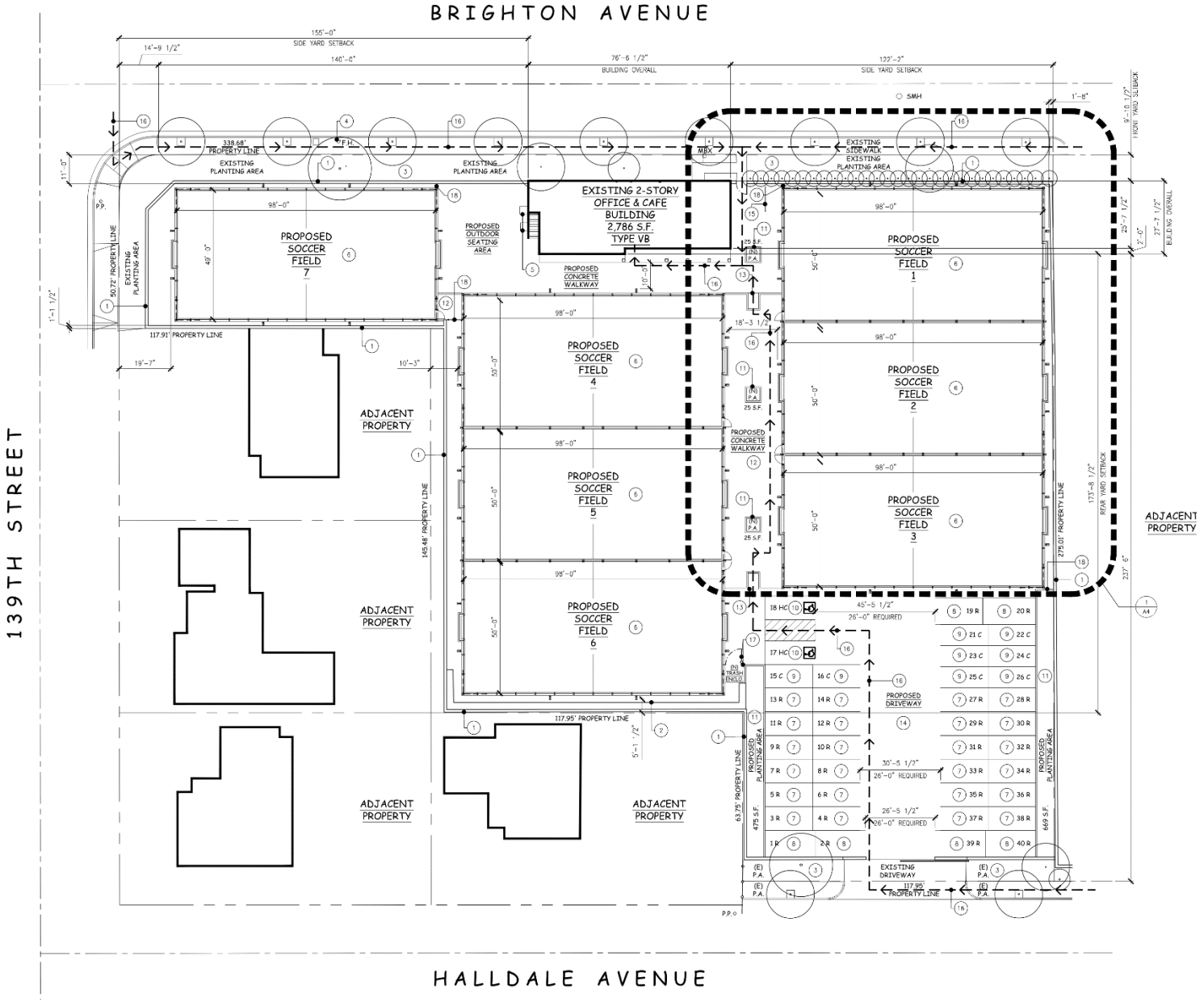
Figure
1

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

H:\26\26676 - Gardena Lab 5 Soccer Center\GIS\Figure 01 - Project Location.mxd - msahimi - 3:58 PM 8/17/2021

Figure 2: Project Site Plan



TRIP GENERATION ESTIMATES

Given that this project consists of a non-standard use that is not included in traditional trip generation rate sources such as the Institute of Transportation Engineers (ITE) Trip Generation Manual, trip generation rates were estimated using data collected at a comparable site. The existing Lab Five soccer center located at 9740 Telfair Avenue in the City of Pacoima was previously chosen as a comparable site for the project's parking study prepared by Walker Consultants in May 2021. This location has eight soccer fields, plus parking.

For the purposes of this analysis, inbound and outbound trips were collected at the Pacoima site during one weekday to develop per-field trip generation rates, which were then used to develop trip generation estimates for the proposed project. Given that the soccer fields are the project's primary trip-generating use supported by other buildings on the site, it is appropriate to develop per-field rates from the Pacoima site and apply them to the proposed Gardena site. Since some patrons of the Pacoima location park off-site and walk to the center. As such, driveway counts were conducted, including both vehicles and pedestrians. While bicycle counts were also collected, no bicyclists were observed entering or leaving the site. For the purpose of estimating vehicle trip generation, inbound and outbound pedestrian trips were conservatively included as vehicle trips.

The data collected at the Pacoima site was used to estimate per-field trip generation rates for four time periods:

- Weekday daily
- Weekday AM peak hour – This represents the peak hourly trip generation during the weekday AM peak period of the local roadway network (from 7:00 AM to 9:00 AM). Note that the estimated weekday AM trip generation rate is 0.0 per field, since no activity was observed at the Pacoima site during the AM hours; this is consistent with the proposed project's hours of operation.
- Weekday PM peak hour – This represents the peak hourly trip generation during the weekday PM peak period of the local roadway network (from 4:00 PM to 6:00 PM).
- Project weekday peak hour – This represents the project's hour of highest trip generation for the entirety of the day, which occurred from 7:15 PM to 8:15 PM. Note that this period is included for informational purposes, as City's transportation analysis requirements does not require the evaluation of a project's peak hour of activity.

The inbound and outbound trip generation rates were derived from the eight-field Pacoima site (driveway counts were divided by 8 to obtain rates, with inbound/outbound percentages based on the driveway trip patterns). Rates were then applied to the proposed seven-field project in Gardena. As shown in Table 1, the proposed project is expected to generate 198 weekday daily vehicle trips, 0 weekday AM peak hour vehicle trips, and 7 weekday PM peak hour vehicle trips. The project is also expected to generate 60 vehicle trips during its peak hour of trip generation (provided for informational purposes).

Table 1: Project Trip Generation Estimate

Trip Generation Rates										
Rate	**Daily**	**AM Peak Hour**			**PM Peak Hour**			**Project Weekday Peak Hour**		
		In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Per field	28.25	--	--	0.00	75%	25%	1.00	83%	17%	8.63
Trip Generation Estimates										
Size	**Daily**	**AM Peak Hour**			**PM Peak Hour**			**Project Weekday Peak Hour**		
		In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
7 fields	198	0	0	0	5	2	7	50	10	60

Source: Kittelson & Associates, Inc., 2021.
Note: These rates were derived from driveway counts collected at the comparable Pacoima site. The weekday AM and weekday PM peak hour trip generation rates represent the project's expected peak hourly trip generation during the morning and evening peak periods of the local roadway network (7:00-9:00 AM and 4:00-6:00 PM, respectively). The project weekday peak hour trip generation rate represents the project's hour of highest trip generation for the entirety of the day (7:15-8:15 PM).

VMT IMPACT ASSESSMENT

The City's transportation analysis guidelines include criteria for individual project screening, which can be used to screen projects that are expected to generate low VMT out of a detailed VMT analysis. The City's three VMT screening criteria and determinations are listed below.

(1) Project Type Screening

Projects that generate fewer than 110 daily trips, local-serving retail projects less than 50,000 square feet, and affordable housing projects may be screened from conducting a VMT analysis. Since the project would generate approximately 198 daily trips, is not a retail project, and is not an affordable housing project, none of these conditions would apply to this project.

(2) Transit Proximity Screening

Projects located within a high-quality transit area would be screened from a detailed VMT analysis if the project does not have certain characteristics. This screening criteria cannot be applied if the project:

- Has a Floor Area Ratio (FAR) of less than 0.75 (for office, retail, hotel, and industrial projects) or less than 20 units per acre (for residential projects).
- Includes more parking for use by residents, customers, or employees than required by the City (unless additional parking is being provided for design feasibility, such as completing the floor of a subterranean or structured parking facility, or if additional parking is located within the project site to serve adjacent uses).
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the City).
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

According to Figure 3 in the City's guidelines, the proposed project site is located within a frequent transit area (within a half-mile radius of an existing or planned major transit stop, or an existing stop along a high-quality transit corridor, which has fixed route bus service with service intervals no longer than 15 minutes during peak commute hours). In addition, this project would meet the other criteria necessary to screen out due to transit proximity:

- The FAR/density requirement does not apply since this is not an office, retail, hotel, industrial, or residential project.
- The project's parking supply would not exceed City requirements.
- The Project is consistent with the Southern California Association of Governments (SCAG) Sustainable Communities Strategy (SCS) (more information on SCS consistency is provided below).
- The project would not replace residential units.

The proposed project is consistent with the SCAG SCS for the following reasons:

- The proposed project does not include a change from residential uses to employment uses (e.g., office and industrial) or vice versa, and is thus consistent with SCAG's land use projections for the area. In addition, the project would be obtaining a conditional use permit as opposed to requiring a change to the City's zoning map.
- The project furthers goals from the SCAG SCS, including:
    - The project is located in an area with high-quality bus service and furthers the goals of: improving mobility, accessibility, reliability, and travel safety for people and goods; increasing person and goods movement and travel choices within the transportation system; reducing greenhouse gas emissions and improving air quality; and, focusing growth near destinations and mobility options.
    - By encouraging sports and recreation activities, the project furthers the goal of supporting healthy and equitable communities.

Therefore, the project can be screened out of requiring a detailed VMT analysis under the transit proximity screening criteria.

(3) Low VMT Area Screening

Projects that are assessed using home-based VMT per resident (such as residential projects) or home-based work VMT per employee (such as offices) in a low-VMT generating area may be screened from a VMT analysis. This project is a unique use that would not be analyzed using either of these VMT metrics, as it is not a residential use, and the number of employees is not directly correlated to the activity level of the soccer fields. As such, this screening criteria would not apply to this project.

Screening Analysis Results

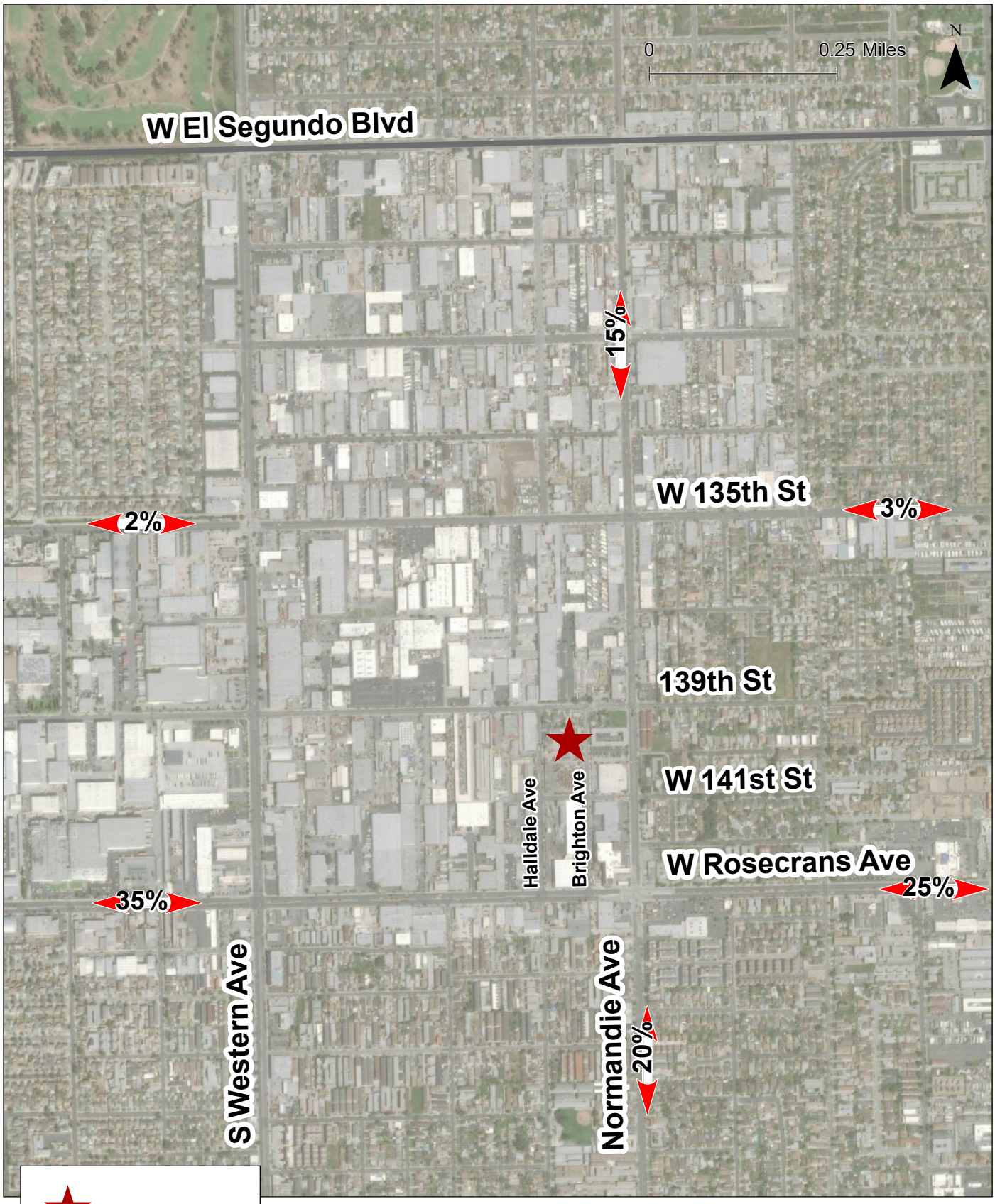
To be screened out of a detailed VMT analysis, a project would need to satisfy at least one of the VMT screening criteria. Given that this project meets the requirements for transit proximity screening, it is screened out of a detailed VMT analysis. Therefore, the project would result in a **less-than-significant** VMT impact.

LOCAL TRANSPORTATION ASSESSMENT

To fulfill the City's local transportation assessment requirements, this section summarizes the trip generation, trip distribution, and trip assignment for the proposed project. As documented above and summarized in Table 1, the project is expected to generate 198 weekday daily vehicle trips, 0 weekday AM peak hour vehicle trips, and 7 weekday PM peak hour vehicle trips (while the project is estimated to generate 60 vehicle trips during its peak hour of trip generation, that hour is not within the standard AM and PM peak study periods). Given that the project is expected to generate fewer than 20 peak hour vehicle trips, this local transportation assessment summarizes project trip distribution and assignment; a cumulative project review and level of service (LOS) analysis are not required and have not been conducted.

For this analysis, project trip distribution was estimated using existing vehicle volumes and traffic patterns on adjacent arterial roadways such as Rosecrans Avenue and Normandie Avenue. Generally, it is expected that the majority of project trips would travel in the eastbound/westbound directions compared to the northbound/southbound directions based on recent traffic counts in the study area. Project trip distribution percentages are shown in Figure 3.

Based on these trip distribution estimates, the weekday PM peak hour project trips were assigned to the study area roadways based on local travel patterns, the locations of nearby freeway on- and off-ramps, and local roadway configurations and traffic controls. The weekday PM inbound and outbound project trip assignments are shown in Figure 4 and Figure 5.



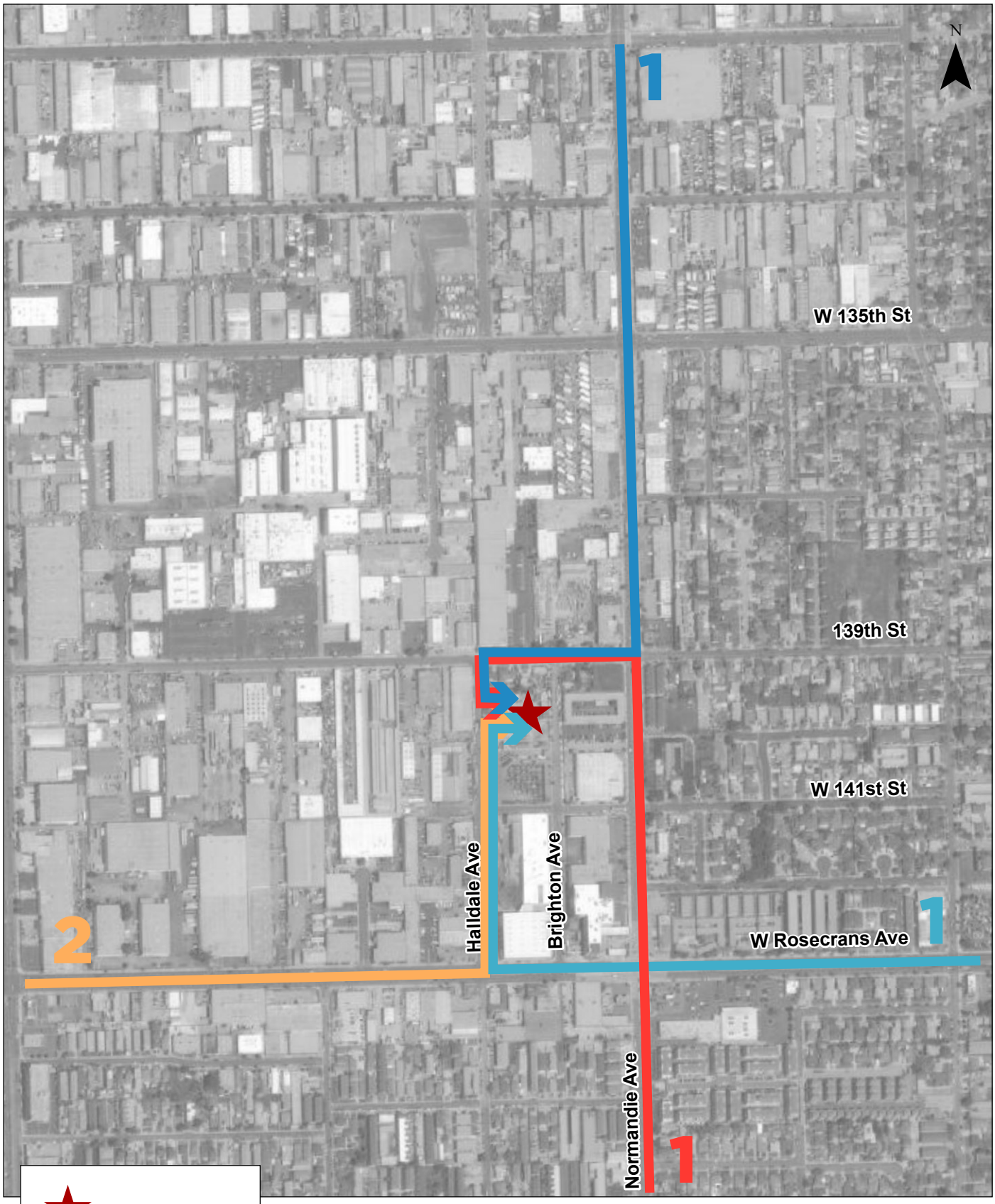
Project Trip Distribution
Gardena, California

Figure
3

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

H:\26\26676 - Gardena Lab 5 Soccer Center\GIS\Figure 03 - Project Trip Distribution.mxd - msahimi - 2:27 PM 9/9/2021



PM Peak Hour Project Trip Assignment (Inbound)
Gardena, California

Figure **4**

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

H:\26\26676 - Gardena Lab 5 Soccer Center\GIS\Figure 04 - PM Peak Hour Project Trip Assignment (Inbound).mxd - msahimi - 3:09 PM 9/9/2021

PM Peak Hour Project Trip Assignment (Outbound)
Gardena, California

Figure **5**

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

H:\26\26676 - Gardena Lab 5 Soccer Center\GIS\Figure 05 - PM Peak Hour Project Trip Assignment (Outbound).mxd - msahimi - 3:09 PM 9/9/2021

SUMMARY AND CONCLUSIONS

The following summarizes the findings of the CEQA VMT impact assessment:

- Per the City's guidelines, the project can be screened out of a detailed VMT analysis since it meets the requirements for transit proximity screening.
- Since the project screens out of a detailed VMT analysis, it would result in a **less-than-significant** VMT impact.

The following summarizes the findings of the non-CEQA local transportation assessment:

- The proposed project is expected to generate 198 weekday daily vehicle trips, 0 weekday AM peak hour vehicle trips, and 7 weekday PM peak hour vehicle trips.
- Project trips are expected to mostly travel in the eastbound/westbound directions primarily along Rosecrans Avenue, as well as parallel roads such as 139th Street. Northbound/southbound trips are expected to primarily travel along Normandie Avenue.

Attachment A: Pacoima Site Data Collection Sheet

Attachment A: Pacoima Site Data Collection Sheet

Prepared by National Data & Surveying Services

Trip Generation Study

Location: Lab Five Soccer Dwy, 9740 Telfair Ave
City: Pacoima, CA

Date: 8/25/2021
Day: Wednesday

TIME	Vehicle				PEDS						BIKES					
	IN		OUT		IN			OUT			IN			OUT		
	NR	SL	WL	WR	NR	SL	ET	WL	WT	WR	NR	SL	ET	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	7	4	1	0	2	0	0	0	0	2	0	0	0	0	0	0
7:00 PM	3	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	8	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0
7:30 PM	6	6	0	0	0	2	0	0	0	1	0	0	0	0	0	0
7:45 PM	6	7	2	0	1	2	1	0	0	0	0	0	0	0	0	0
8:00 PM	11	1	6	2	0	1	0	0	0	0	0	0	0	0	0	0
8:15 PM	1	1	2	1	3	2	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	2	3	1	0	3	0	0	0	0	0	0	0	0	0	0
8:45 PM	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	1	6	4	0	0	0	3	0	1	0	0	0	0	0	0
9:15 PM	1	0	11	10	1	0	0	1	0	4	0	0	0	0	0	0
9:30 PM	0	0	7	3	0	0	0	0	0	4	0	0	0	0	0	0
9:45 PM	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	1	5	4	0	0	0	0	0	2	0	0	0	0	0	0
10:15 PM	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	48	41	51	38	8	15	1	5	0	16	0	0	0	0	0	0

For Peds and Bikes sidewalk movement

Appendix B

Lab Five Soccer at Gardena

Noise Impact Study

City of Gardena, CA

Prepared for:

Starla Barker
De Novo Planning Group
25425 Jefferson Ave, Ste 1180 East Main S #108
Tustin, CA 92780

Prepared by:

MD Acoustics, LLC
Claire Pincock, INCE-USA
1197 Los Angeles Ave, Ste C-256
Simi Valley, CA 93065

Date: 9/27/2021

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info@mdacoustics.com

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1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This noise assessment was prepared to evaluate the potential noise impacts for the project study area and to recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. The assessment was conducted and compared to the noise standards set forth by the Federal, State, and Local agencies. Consistent with the City's Noise Guidelines, the project must demonstrate compliance to the applicable noise criterion as outlined within the City's Noise Element and Municipal Code.

The following is provided in this report:

- A description of the study area and the proposed project
- Information regarding the fundamentals of noise
- A description of the local noise guidelines and standards
- An analysis of traffic noise impacts to the project site
- An analysis of railroad noise impacts to the project site
- An analysis of construction noise impacts

1.2 Site Location and Study Area

The project site is located at 1400 Halldale Avenue, in the City of Gardena, California, as shown in Exhibit A. The project site is located in an industrial zone with industrial buildings surrounding the site mainly. There are several residential homes abutting the subject property and across the street from Brighton Avenue.

The main existing source of noise is traffic on Normandie Ave and industrial activities.

1.3 Proposed Project Description

The Project proposes to develop an industrial site into a soccer facility with seven 50 ft by 98 ft soccer fields. In addition, there is an existing 2-story, 2,786 SF of an office building in which 878 SF will be converted to an incidental café use for the patrons of the soccer center. Also, the proposed scope of work includes reconstruction of existing restrooms to 3 new single-use occupancy accessible restrooms. The project includes a proposal of 40 parking spaces – 2 handicapped parking spaces, 8 compact tandem parking spaces, and 30 standard tandem parking spaces. The site plan used for this is illustrated in Exhibit B.

1.4 Noise Study Summary

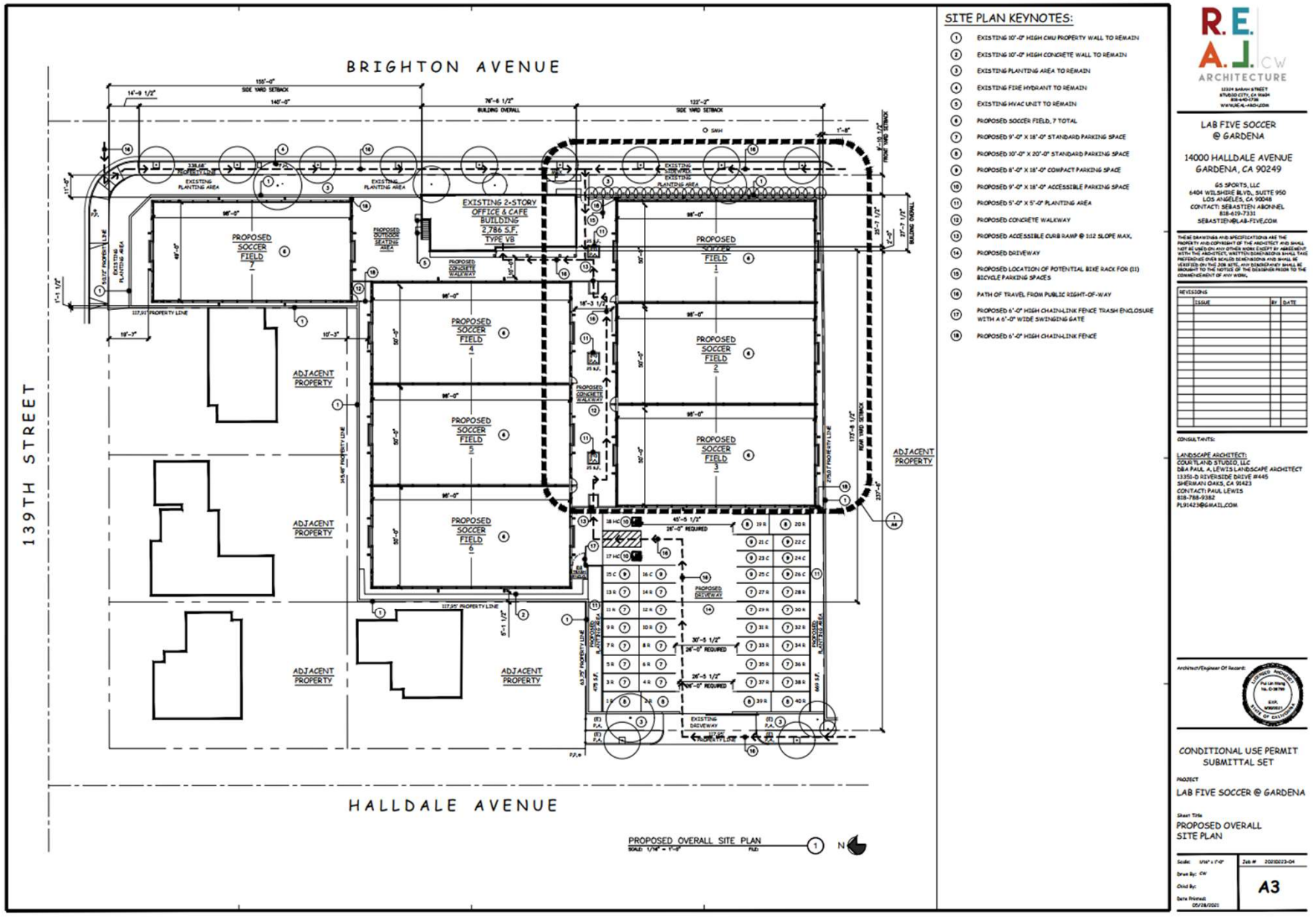
The operational-only levels at the property lines will range between 35 dBA Leq to 49 dBA Leq. The project plus ambient levels will range from 55 dBA Leq to 56 dBA Leq. All levels fall within the City of Gardena limits of 70 dBA in industrial areas and no increase in the ambient in residential areas (as the existing ambient already exceeds the residential limit). The project site is below 62 dBA.

Exhibit A

Location Map

Exhibit B

Site Plan



SITE PLAN KEYNOTES:

1. EXISTING 10'-0" HIGH CMU PROPERTY WALL TO REMAIN
2. EXISTING 10'-0" HIGH CONCRETE WALL TO REMAIN
3. EXISTING PLANTING AREA TO REMAIN
4. EXISTING FIRE HYDRANT TO REMAIN
5. EXISTING HVAC UNIT TO REMAIN
6. PROPOSED SOCCER FIELD, 7 TOTAL
7. PROPOSED 9'-0" X 18'-0" STANDARD PARKING SPACE
8. PROPOSED 10'-0" X 20'-0" STANDARD PARKING SPACE
9. PROPOSED 8'-0" X 18'-0" COMPACT PARKING SPACE
10. PROPOSED 9'-0" X 18'-0" ACCESSIBLE PARKING SPACE
11. PROPOSED 5'-0" X 5'-0" PLANTING AREA
12. PROPOSED CONCRETE WALKWAY
13. PROPOSED ACCESSIBLE CURB RAMP @ 1:12 SLOPE MAX.
14. PROPOSED DRIVEWAY
15. PROPOSED LOCATION OF POTENTIAL BIKE RACK FOR (11) BICYCLE PARKING SPACES
16. PATH OF TRAVEL FROM PUBLIC RIGHT-OF-WAY
17. PROPOSED 6'-0" HIGH CHAIN-LINK FENCE TRASH ENCLOSURE WITH A 6'-0" WIDE SWINGING GATE
18. PROPOSED 6'-0" HIGH CHAIN-LINK FENCE

R.E. A.J. CW ARCHITECTURE

LAB FIVE SOCCER @ GARDENA

14000 HALLDALE AVENUE
GARDENA, CA 90249

GS SPORTS, LLC
6404 WILSHIRE BLVD., SUITE 950
LOS ANGELES, CA 90048
CONTACT: SEBASTIEN ABONNEL
818-619-7331
SEBASTIEN@LAB-FIVE.COM

REVISIONS

ISSUE	BY	DATE

CONSULTANTS:

LANDSCAPE ARCHITECT:
COURTLAND STUDIO, LLC
DBA PAUL A. LEWIS LANDSCAPE ARCHITECT
13351-D RIVERSIDE DRIVE #445
SHERMAN OAKS, CA 91423
CONTACT: PAUL LEWIS
818-788-9382
PL91423@GMAIL.COM

Architect/Engineer Of Record:

CONDITIONAL USE PERMIT SUBMITTAL SET

PROJECT
LAB FIVE SOCCER @ GARDENA

Sheet Title
PROPOSED OVERALL SITE PLAN

Scale: 1/16" = 1'-0"
Drawn By: CW
Chkd By:
Date Printed: 05/28/2021
Job # 20210223-04

A3

2.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

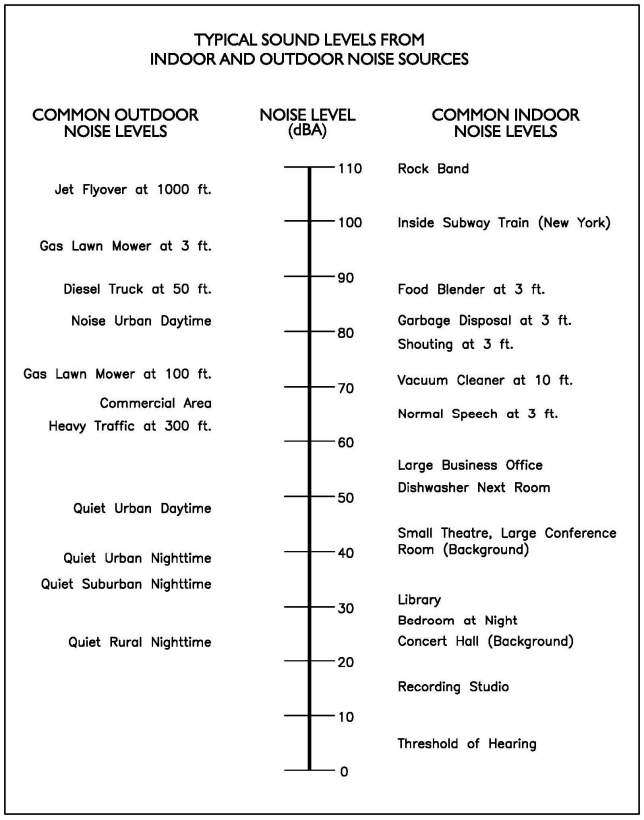
2.1 Sound, Noise, and Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic or stationary noise, the medium of concern is air. *Noise* is defined as sound that is loud, unpleasant, unexpected, or unwanted.

2.2 Frequency and Hertz

A continuous sound is described by its *frequency* (pitch) and its *amplitude* (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting at 20 Hz to the high pitch of 20,000 Hz.

Exhibit C: Typical A-Weighted Noise Levels



2.3 Sound Pressure Levels and Decibels

The *amplitude* of a sound determines its loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure amplitude is measure in units of micro-Newton per square inch meter (N/m2), also called micro-Pascal (µPa). One µPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels abbreviated dB. Exhibit C illustrates references sound levels for different noise sources.

2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds or equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

2.5 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in the noise level of 3 dB. A change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels.

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking, or dining purposes, excluding such

enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90, and L99, etc.

Noise: *A*ny unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).
Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

2.7 Traffic Noise Prediction

Noise levels associated with traffic depends on a variety of factors: (1) volume of traffic, (2) speed of traffic, (3) auto, medium truck (2 axles), and heavy truck percentage (3 axles and greater), and sound propagation. A greater volume of traffic, higher speeds and truck percentages equate to a louder volume in noise. A doubling of the Average Daily Traffic (ADT) along a roadway will increase noise levels by approximately 3 dB; reasons for this are discussed in the sections above.

2.8 Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt, or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet from a noise source. Wind, temperature, air humidity, and turbulence can further impact have far sound can travel.

3.0 Regulatory Setting

The proposed project is located in the City of Gardena and noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

3.1 Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Publicize noise emission standards for interstate commerce
- Assist state and local abatement efforts
- Promote noise education and research

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows: The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies. The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system. The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that "noise sensitive" uses are either prohibited from being constructed adjacent to a highway or that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

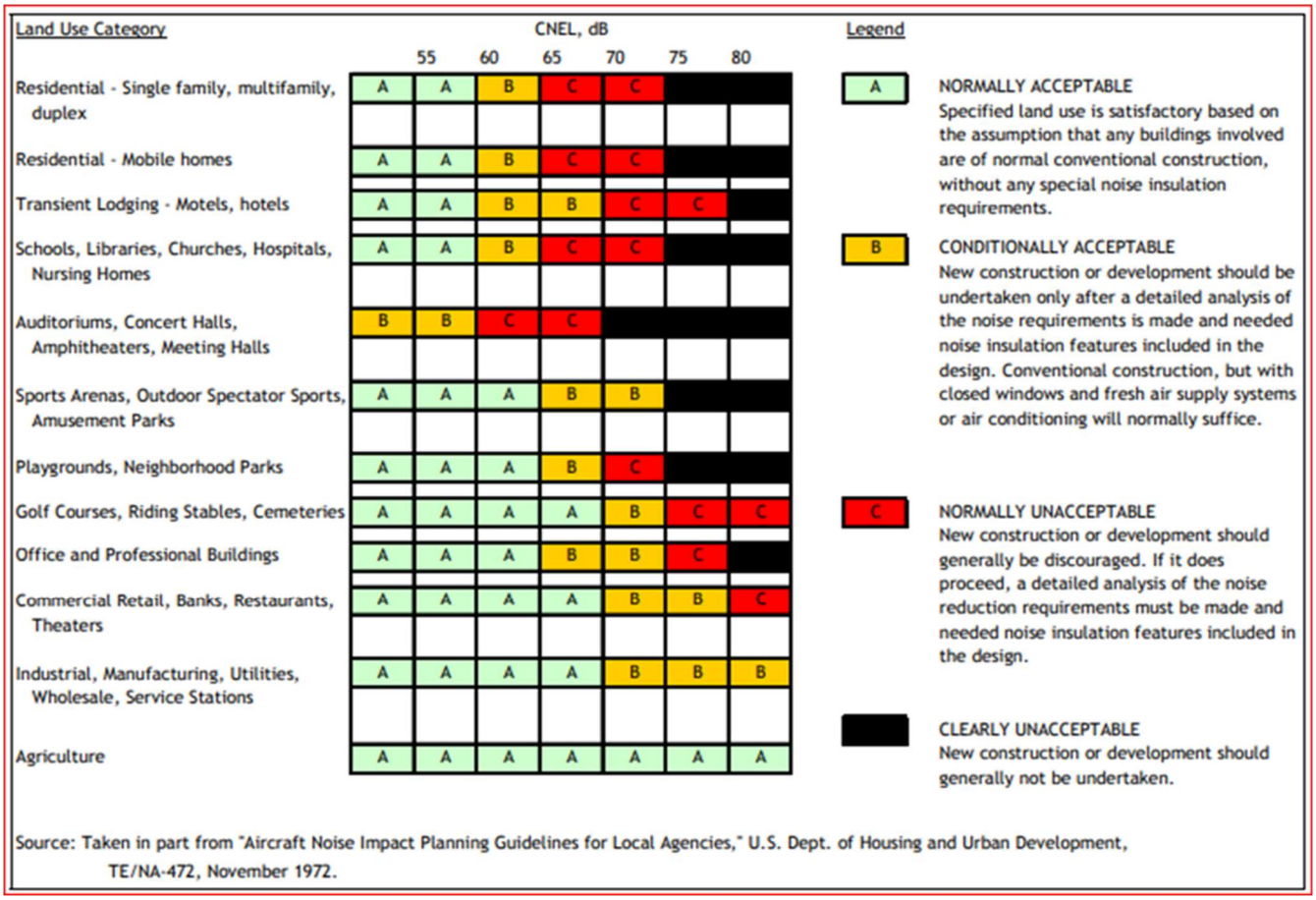
3.2 State Regulations

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the "Land Use Compatibility for Community Noise Environments Matrix." The matrix allows the local jurisdiction to clearly delineate the compatibility of sensitive uses with various incremental levels of noise.

The State of California has established noise insulation standards as outlined in Title 24 and the Uniform Building Code (UBC) which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold. The State mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan.

The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable as illustrated in Exhibit D.

Exhibit D: Land Use Compatibility Guidelines



3.3 City of Gardena Noise Regulations

The City of Gardena outlines their noise regulations and standards within the Noise Element of the City's General Plan and the Noise Ordinance located in the City's Municipal Code.

City of Gardena General Plan

Applicable policies and standards governing environmental noise in the City are set forth in the General Plan Noise Element. The City's noise and land use compatibility guidelines for land use planning are presented in Exhibit D. In addition to the noise standards, the City has outlined goals, policies, and implementation measures to reduce potential noise impacts and are presented below:

Goals, Policies, and Implementation Measures

Policies, goals and implementation program measures from the Noise Element that are applicable to the proposed project are presented below.

Goal N 1.0: Use noise control measures to reduce the impact from transportation noise sources.

Policy N 1.1: Minimize noise conflicts between land uses and the circulation network, and mitigate sound levels where necessary or feasible to ensure the peace and quiet of the community.

Goal N 2.0: Incorporate noise considerations into land use planning decisions.

Policy N 2.2: Require noise/land use compatibility standards to guide future planning and development.

Policy N 2.4: Require mitigation of all significant noise impacts as a condition of project approval.

Policy N 2.5: Require proposed projects to be reviewed for compatibility with nearby noise sensitive land uses with the intent of reducing noise impacts.

Policy N 2:7 Require new commercial/industrial operations located in proximity to existing or proposed residential areas to incorporate noise mitigation into the project design.

Policy N 2.9: Encourage the creative use of site and building design techniques as a means to minimize noise impacts.

Goal 3.0: Develop measures to control non-transportation noise impacts.

Policy N 3.3: Require compliance with construction hours to minimize the impacts of construction noise on adjacent land.

City of Gardena Municipal Code

Sections 8.36.040 and 8.36.050 of the City's Noise Ordinance establish exterior and interior noise standards that limit how loud project operation noise can be. The allowable exterior noise levels presented in Table 1, limit project operational noise at nearby land uses; and the allowable interior noise levels presented in Table 2, limit how loud project operational noise can be inside nearby residential and mixed use structures. Subsection 8.36.040(C), states that in the event the ambient noise level exceeds the noise standard, the ambient noise level shall become the noise standard.

Table 1: Allowable Exterior Noise Level (dBA, Leq)

Type of Land Use	15-Minute Average Noise (dBA, Leq)		Maximum Noise Level (dBA, Lmax)	
	7 AM-10 PM	10 PM to 7 AM	7 AM-10 PM	10 PM to 7 AM
Residential	55	50	75	70
Residential portions of mixed use	60	50	80	70
Commercial	65	60	85	80
Industrial or manufacturing	70	70	90	90

Source: City of Gardena Municipal Code Section 8.36.040.
1) Measured noise levels are shown in Tables 3 and 4.
2) Lowest measured nighttime noise level (see Table 4).
A. The exterior noise standards, unless otherwise specifically indicated, shall apply to all property within the City. The Land Use category refers to the affected receiver property. In the event the alleged offensive noise contains a pure tone such as a whine, screech, or hum, or contains repetitive, impulsive or impact noise such as hammering or riveting, or contains music or speech conveying informational content, each of the above noise standards shall be reduced by 5 dB.
B. No person shall operate or cause to be operated, any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured from any other property, either incorporated or unincorporated, to exceed the noise standards presented in the above table.
C. In the event the ambient noise level exceeds the noise standard, the ambient noise level shall become the noise standard.

Table 2: Allowable Interior Noise Level (dBA, Leq)

Type of Land Use	15-Minute Average Noise (dBA, Leq)		Maximum Noise Level (dBA, Lmax)	
	7 AM-10 PM	10 PM to 7 AM	7 AM-10 PM	10 PM to 7 AM
Residential	45	40	65	60
Residential portions of mixed use	45	40	70	60

Source: City of Gardena Municipal Code Section 8.36.050.
Notes:
A. The interior noise standards presented above, unless otherwise specifically indicated, shall apply to all residential dwellings with windows in their normal seasonal configuration, where such dwelling is the receiver of intrusive noise:
In the event the alleged offensive noise contains a pure tone such as a whine, screech, or hum, or contains repetitive, impulsive or impact noise such as hammering or riveting, or contains music or speech conveying informational content, each of the above noise standards shall be reduced by 5 dB.
B. No person shall operate or cause to be operated, any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured within any residential dwelling, either incorporated or unincorporated, to exceed the noise standards of paragraph (A).
C. In the event the ambient noise level exceeds the noise standard, the ambient noise level shall become the noise standard.

Construction Noise Regulations

Per Section 8.36.080 of the City's Noise Ordinance, project construction activities are explicitly exempt from the exterior and interior noise standards presented in Sections 8.36.040 and 8.36.050. Specifically, the ordinance states that "noise associated with construction, repair, remodeling, grading or demolition of any real property are exempt from the provisions in Chapter 8.36 (City of Gardena Noise Ordinance), provided said activities do not take place between the hours of 6:00 PM and 7:00 AM on weekdays between the hours of 6:00 PM and 9:00 AM on Saturday or any time on Sunday or a Federal holiday".

4.0 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

4.1 SoundPLAN Noise Model (Operational Noise)

SoundPLAN acoustical modeling software was utilized to model project operational noise at nearby sensitive receptors. The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. It allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. It also calculates noise level increases due to the reflection of noise from hard surfaces.

Measured and referenced sound level data was utilized to model the various stationary on-site noise sources associated with project operation.

Noise associated with proposed sport, recreational, and parking areas was modeled using SoundPLAN methodology which takes into consideration the number of parking spaces and estimates the number of movements per hour per parking space. Modeling assumptions are summarized in Table 3. SoundPLAN noise modeling input and results are provided in Appendix B. At full capacity, all soccer fields are operational, and the parking lot is full. At half capacity half the soccer fields are operational and the parking lot is half full. Half capacity is expected from 10 PM to 11 PM.

Table 3: SoundPLAN Modeling Assumptions

Noise Source	Source Type	Source Reference	Reference Level (dBA) Sound Pressure Level
Soccer Field	Area	5’ from Soccer Field	58
Parking Lot	Area (SP Parking Tool)	1 movement per hour	--
Source: SoundPLAN 8.2.			

5.0 Existing Noise Environment

One (1) 24-hour noise measurement was conducted at the project site in order to document the existing noise environment. The measurements include the 1-hour Leq, Lmin, Lmax, and other statistical data (e.g. L2, L8). The results of the noise measurement are presented in Table 4. Noise measurement field sheets are provided in Appendix A.

Table 4: Long-Term Noise Measurement Data for (LT1) (dBA)[1]

Date	Time	1-Hour dB(A)							
		L_{EQ}	L_{MAX}	L_{MIN}	L_2	L_8	L_{25}	L_{50}	L_{90}
8/25/2021	12AM-1AM	53.4	75.4	44.4	60.1	55.8	53.7	49.4	46.8
8/25/2021	1AM-2AM	51.0	73.0	42.0	57.7	53.4	51.3	47.0	44.4
8/25/2021	2AM-3AM	49.7	71.7	40.7	56.4	52.1	50.0	45.7	43.1
8/25/2021	3AM-4AM	48.0	70.0	39.0	54.7	50.4	48.3	44.0	41.4
8/25/2021	4AM-5AM	49.0	71.0	40.0	55.7	51.4	49.3	45.0	42.4
8/25/2021	5AM-6AM	52.8	74.8	43.8	59.5	55.2	53.1	48.8	46.2
8/25/2021	6AM-7AM	59.2	81.2	50.2	65.9	61.6	59.5	55.2	52.6
8/25/2021	7AM-8AM	61.5	83.5	50.6	68.2	63.9	61.8	57.5	54.9
8/25/2021	8AM-9AM	59.7	79.5	50.7	69.8	62.6	58.5	53.6	52.1
8/25/2021	9AM-10AM	59.6	80.1	50.3	66.6	62.2	59.1	53.9	52.0
8/25/2021	10AM-11AM	58.5	80.5	49.5	65.2	60.9	58.8	54.5	51.9
8/25/2021	11AM-12PM	56.2	72.6	47.8	64.0	60.5	58.2	53.5	50.8
8/25/2021	12PM-1PM	56.2	71.0	48.2	64.6	61.6	58.8	53.3	50.8
8/25/2021	1PM-2PM	55.9	72.6	49.3	61.3	59.2	58.2	53.6	51.3
8/25/2021	2PM-3PM	59.1	81.1	50.1	65.8	61.5	59.4	55.1	52.5
8/25/2021	3PM-4PM	60.3	82.3	51.3	67.0	62.7	60.6	56.3	53.7
8/25/2021	4PM-5PM	61.8	83.8	52.8	68.5	64.2	62.1	57.8	55.2
8/25/2021	5PM-6PM	61.5	83.5	52.5	68.2	63.9	61.8	57.5	54.9
8/25/2021	6PM-7PM	59.7	81.7	50.7	66.4	62.1	60.0	55.7	53.1
8/25/2021	7PM-8PM	58.4	80.4	49.4	65.1	60.8	58.7	54.4	51.8
8/25/2021	8PM-9PM	57.3	79.3	48.3	64.0	59.7	57.6	53.3	50.7
8/25/2021	9PM-10PM	55.6	78.6	47.6	63.3	59.0	56.9	52.6	50.0
8/25/2021	10PM-11PM	55.0	77.6	46.6	62.3	58.0	55.9	51.6	49.0
8/25/2021	11PM-12AM	55.0	77.0	46.0	61.7	57.4	55.3	51.0	48.4
CNEL		62.0							

Notes:
[1] Long-term noise monitoring location (LT1) is illustrated in Exhibit E.

The data presented in Table 4 and the field notes provided in Appendix A indicate that ambient noise levels in the project vicinity range between 55.0 and 61.8 dBA Leq during operational hours. The

overall CNEL was 62.0 dBA CNEL. The field data indicates that traffic and industrial uses are the dominant noise sources.

As a worst-case scenario, the operational noise levels will be compared to the lowest hourly daytime level of 55.6 dBA Leq and nighttime level of 55.0 dBA Leq, as the project operates from 10 PM to 11 PM.

Exhibit D

Noise Measurement Location

X = Measurement location

6.0 Future Noise Environment Impacts and Mitigation

This assessment analyzes future noise impacts to and from the project compares the results to the City's Noise Standards. Traffic noise impacts are analyzed from the adjacent subject roadways. The analysis details the estimated exterior noise levels.

6.1 Traffic Noise Impact

The main source of ambient noise to the site is traffic noise and industrial uses. The CNEL levels are 62 dBA on site, which is below the normally acceptable level of 65 dBA CNEL for sports use.

The project will create approximately 198 daily trips. The main source of traffic noise to the site is Normandie Ave. which has an ADT of over 20,000 according to city-published 2018 traffic counts. The addition of 198 trips is not expected to increase the overall ambient level. Therefore, the impact is less than significant.

6.2 Noise Impacts to Off-Site Receptors Due to Stationary Noise Sources

The worst-case stationary noise was modeled using SoundPLAN 3D acoustical modeling software. This worst-case scenario models all operational noise operating at the same time for the full duration of an hour. The model utilizes the sound level data for the events specified within Section 4.2 of this report which includes parking and soccer activities. There is an existing 10' wall surrounding the site included in the model.

A total of seven (7) receptors were modeled to accurately evaluate the proposed project's operational noise impact to adjacent land uses. A receptor is denoted by a yellow dot. Exhibit F shows the model with project-only operational noise for day Leq at full operational capacity. Exhibit G shows the model with project-only operational noise for day Leq at half operational capacity. Between 10 PM and 11 PM only fields 1 through 4 will be operational.

Project Operational Noise Levels

"Project only" noise levels calculated by SoundPLAN are in Exhibit F and G and illustrate how the noise will propagate at the site. Worst-case operational noise levels are anticipated to range between 35 to 49 dBA Leq at the receptors R1 – R7.

Project Plus Ambient Operational Noise Levels

Project plus ambient noise level projections are provided in Table 5 (next page). Noise levels are anticipated to be 56 dBA Leq during the day and 55 dBA Leq at night at the receptors R1 – R7 during operational hours.

<Table 5, next page>

Table 5: Worst-Case Predicted Operational Noise Levels (dBA, Leq)

Receptor[1]	Existing Day Ambient Noise Level[2]	Full Capacity Project Noise Level[3]	Total Combined Noise Level	Daytime Land Use Noise Limit[4]	Change in Noise Level as Result of Project
R1	56	39	56	**70**	0
R2	56	49	56	**56**	0
R3	56	43	56	**56**	0
R4	56	48	56	**56**	0
R5	56	49	56	**70**	0
R6	56	46	56	**70**	0
R7	56	43	56	**70**	0

Notes:

1. R1 and R5 are industrial and R2 through R4 are residential.
2. FHWA projection calibrated to LT1 and traffic counts.
3. See Exhibit F for the operational noise level projections at said receptors.
4. 8.36.040(C) If the ambient exceeds the noise standard the ambient becomes the noise standard.

Receptor[1]	Existing Night Ambient Noise Level[2]	Half Capacity Project Noise Level[3]	Total Combined Noise Level	Nighttime Land Use Noise Limit[4]	Change in Noise Level as Result of Project
R1	55	35	55	**70**	0
R2	55	45	55	**55**	0
R3	55	39	55	**55**	0
R4	55	45	55	**55**	0
R5	55	47	56	**70**	1
R6	55	44	55	**70**	0
R7	55	41	55	**70**	0

Notes:

1. R1 and R5 are industrial and R2 through R4 are residential.
2. FHWA projection calibrated to LT1 and traffic counts.
3. See Exhibit G for the operational noise level projections at said receptors.
4. 8.36.040(C) If the ambient exceeds the noise standard the ambient becomes the noise standard.

As demonstrated in Table 5, the combined noise levels do not exceed the City's noise limits given by Section 8.36.040 of the Municipal Code which stipulate a 70 dBA industrial noise limit and a residential noise limit that cannot exceed the ambient in cases such as this where the ambient exceeds the noise limit. Therefore, the project's impact is less than significant and no additional mitigation measures are required.

Exhibit E

Full Capacity Operational Noise Levels

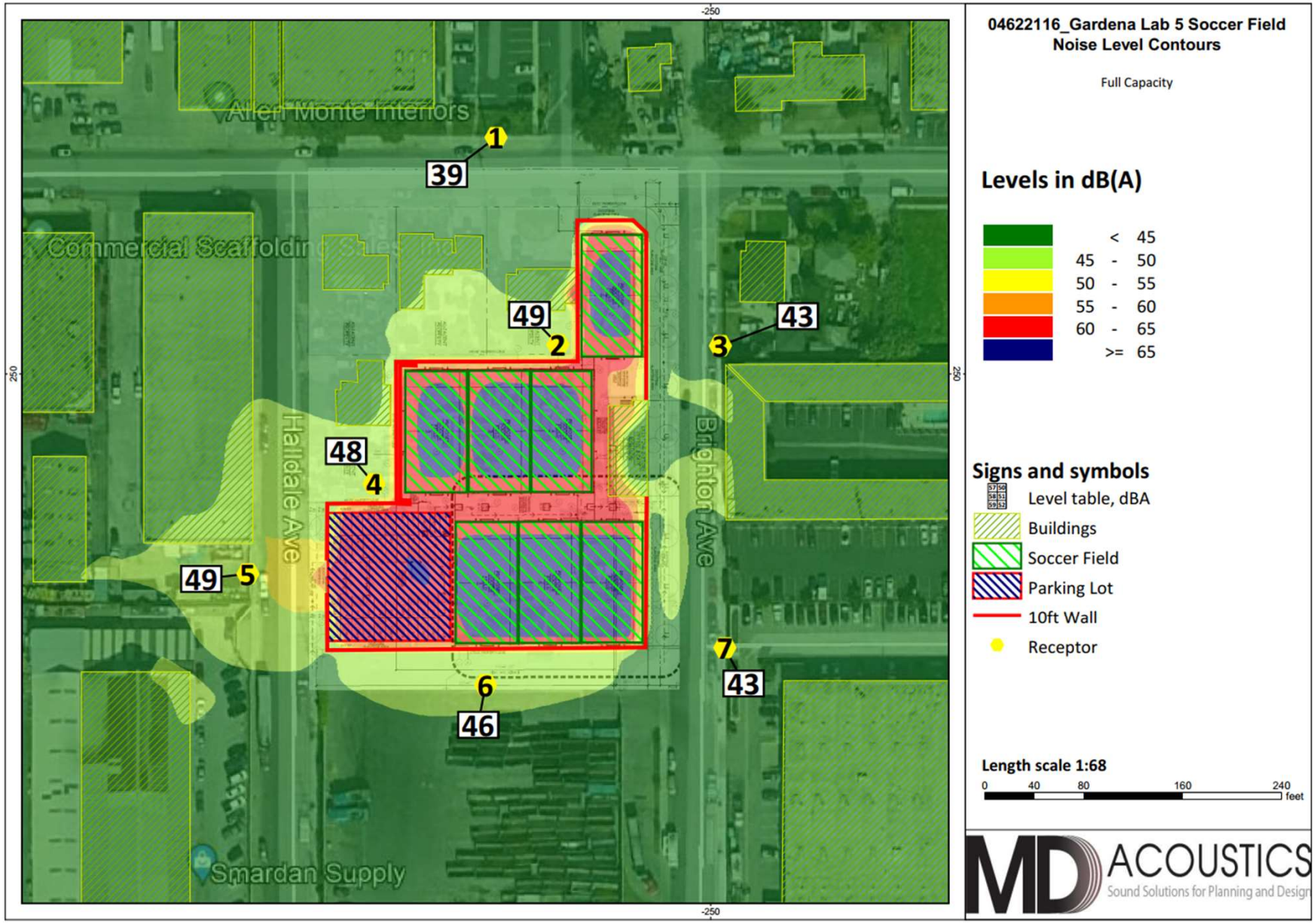
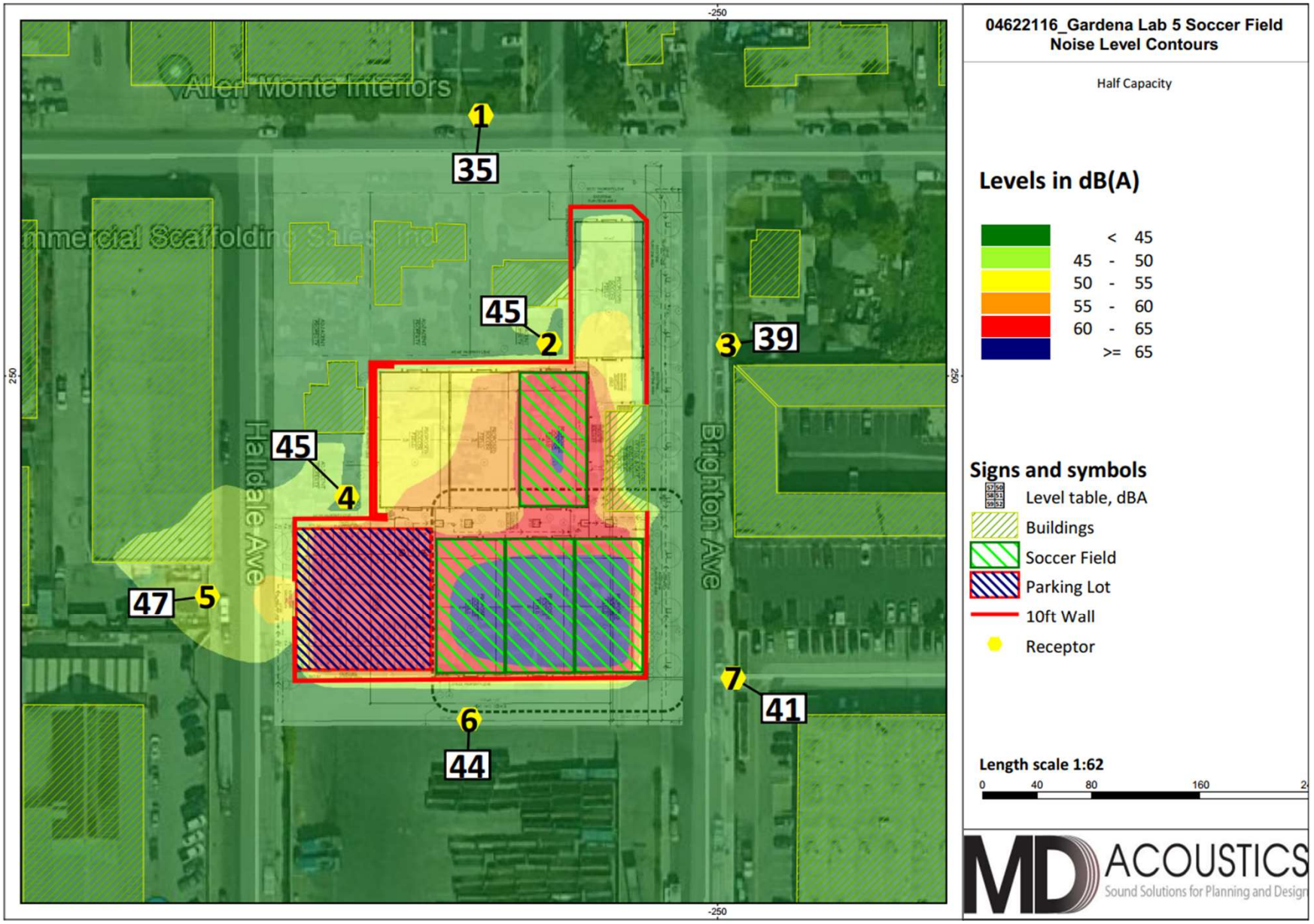


Exhibit F

Half Capacity Operational Noise Levels



7.0 Construction Noise Impact

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. This section summarizes discusses noise and ground-borne vibration modeling efforts, impact analysis, and mitigation, if necessary.

7.1 Construction Noise

Construction noise associated with each phase of the project was calculated at the residences to the south utilizing methodology presented in the FHWA Roadway Construction Noise Model together with several key construction parameters including distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Construction equipment typically moves back and forth across the site, and it is an industry standard to use the acoustical center of the site to model average construction noise levels.

The anticipated construction equipment was split into two phases, site preparation and building construction. Noise levels associated with each phase are shown in Table 6. The construction noise calculation output worksheet is located in Appendix C.

Table 6: Construction Noise Level by Phase (dBA, Leq)

Activity	Noise Levels at Nearest Sensitive Receptor	
	Leq	Lmax
Site Preparation	66	72
Building Construction	64	69
Note: Construction Modeling Worksheets are provided in Appendix C.		

As shown in Table 6, project construction noise will range between 64 to 66 dBA Leq and 69 to 72 dBA Lmax at nearby sensitive receptors.

The Project will be required to adhere to Section 8.36.080(G) of the City of Gardena Municipal Code which outlines the allowed times for construction. This impact is less than significant. No mitigation is required.

7.2 Construction Vibration

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet which is perceptible but below any risk to architectural damage.
The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (100/D_{rec})^n$$

Where: PPV_{ref} = reference PPV at 100ft.
D_{rec} = distance from equipment to receiver in ft.
n = 1.1 (the value related to the attenuation rate through the ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual in Table 7 (below) provides general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

Table 7: Guideline Vibration Damage Potential Threshold Criteria

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

Source: Table 19, Transportation and Construction Vibration Guidance Manual, Caltrans, Sept. 2013.
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 8 gives approximate vibration levels for particular construction activities. This data provides a reasonable estimate for a wide range of soil conditions.

Table 8: Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (dVB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2018.

Construction equipment has the potential to get as close as 25 feet to the adjacent residential buildings. At this distance, a large bulldozer would yield a worst-case 0.089 PPV (in/sec) which would be perceptible but would not result in architectural damage. The impact is not significant. No mitigation is required.

7.3 Construction Noise Reduction Measures

In addition to complying with Section 8.36.080(G) of the City of Gardena Municipal Code, the following measures are recommended to reduce construction noise.

1. During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices.

2. The contractor should locate equipment staging areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

3. Idling equipment should be turned off when not in use.

4. Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.

8.0 References

State of California General Plan Guidelines: 1998. Governor's Office of Planning and Research

City of Gardena: General Plan Noise Element.

City of Gardena: Noise Ordinance Chapter 8.36

Appendix A:
Field Sheets

MD ACOUSTICS
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www.mdacoustics.com

AZ Office
4960 S. Gilbert Rd, Ste 1-461
Chandler, AZ 85249

CA Office
1197 E Los Angeles Ave, C-256
Simi Valley, CA 93065

24-Hour Continuous Noise Measurement Datasheet

Project: Lab 5
Site Address/Location: 14000 Halldale Ave. Gardena
Date: 8/25/2021
Field Tech/Engineer: Jason Schuyler

Site Observations: Daytime temps in the 90's, night time in the low 60's. Wind 1-3MPH from the South, South West

General Location:
Sound Meter: NTi Audio **SN:** 08562-E0
Settings: A-weighted, slow, 1-sec, 1-hr interval
Meteorological Con.: 90 F, minimal wind, partly sunny
Site ID: ST1

Site Topo: Hard site
Ground Type: Concrete

Noise Source(s) w/ Distance:
Noise Source(s) w/ Distance:
Noise comes from the area, not any 1 source mostly traffic

Figure 1: LT-1 Monitoring Location

Figure 2: LT-1 Photo

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CA Office
1197 E Los Angeles Ave, C-256
Simi Valley, CA 93065

24-Hour Noise Measurement Datasheet - Cont.

Project: Lab 5 **Day:** 1 of 1
Site Address/Location: 14000 Halldale Ave. Gardena
Site ID: LT-1

Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
8/25/2021	12:00 AM	1:00 AM	53.4	75.4	44.4	60.1	55.8	53.7	49.4	46.8
8/25/2021	1:00 AM	2:00 AM	51.0	73.0	42.0	57.7	53.4	51.3	47.0	44.4
8/25/2021	2:00 AM	3:00 AM	49.7	71.7	40.7	56.4	52.1	50.0	45.7	43.1
8/25/2021	3:00 AM	4:00 AM	48.0	70.0	39.0	54.7	50.4	48.3	44.0	41.4
8/25/2021	4:00 AM	5:00 AM	49.0	71.0	40.0	55.7	51.4	49.3	45.0	42.4
8/25/2021	5:00 AM	6:00 AM	52.8	74.8	43.8	59.5	55.2	53.1	48.8	46.2
8/25/2021	6:00 AM	7:00 AM	59.2	81.2	50.2	65.9	61.6	59.5	55.2	52.6
8/25/2021	7:00 AM	8:00 AM	61.5	83.5	50.6	68.2	63.9	61.8	57.5	54.9
8/25/2021	8:00 AM	9:00 AM	59.7	79.5	50.7	69.8	62.6	58.5	53.6	52.1
8/25/2021	9:00 AM	10:00 AM	59.6	80.1	50.3	66.6	62.2	59.1	53.9	52.0
8/25/2021	10:00 AM	11:00 AM	58.5	80.5	49.5	65.2	60.9	58.8	54.5	51.9
8/25/2021	11:00 AM	12:00 PM	56.2	72.6	47.8	64.0	60.5	58.2	53.5	50.8
8/25/2021	12:00 PM	1:00 PM	56.2	71.0	48.2	64.6	61.6	58.8	53.3	50.8
8/25/2021	1:00 PM	2:00 PM	55.9	72.6	49.3	61.3	59.2	58.2	53.6	51.3
8/25/2021	2:00 PM	3:00 PM	59.1	81.1	50.1	65.8	61.5	59.4	55.1	52.5
8/25/2021	3:00 PM	4:00 PM	60.3	82.3	51.3	67.0	62.7	60.6	56.3	53.7
8/25/2021	4:00 PM	5:00 PM	61.8	83.8	52.8	68.5	64.2	62.1	57.8	55.2
8/25/2021	5:00 PM	6:00 PM	61.5	83.5	52.5	68.2	63.9	61.8	57.5	54.9
8/25/2021	6:00 PM	7:00 PM	59.7	81.7	50.7	66.4	62.1	60.0	55.7	53.1
8/25/2021	7:00 PM	8:00 PM	58.4	80.4	49.4	65.1	60.8	58.7	54.4	51.8
8/25/2021	8:00 PM	9:00 PM	57.3	79.3	48.3	64.0	59.7	57.6	53.3	50.7
8/25/2021	9:00 PM	10:00 PM	55.6	78.6	47.6	63.3	59.0	56.9	52.6	50.0
8/25/2021	10:00 PM	11:00 PM	55.0	77.6	46.6	62.3	58.0	55.9	51.6	49.0
8/25/2021	11:00 PM	12:00 AM	55.0	77.0	46.0	61.7	57.4	55.3	51.0	48.4

CNEL: 62.0

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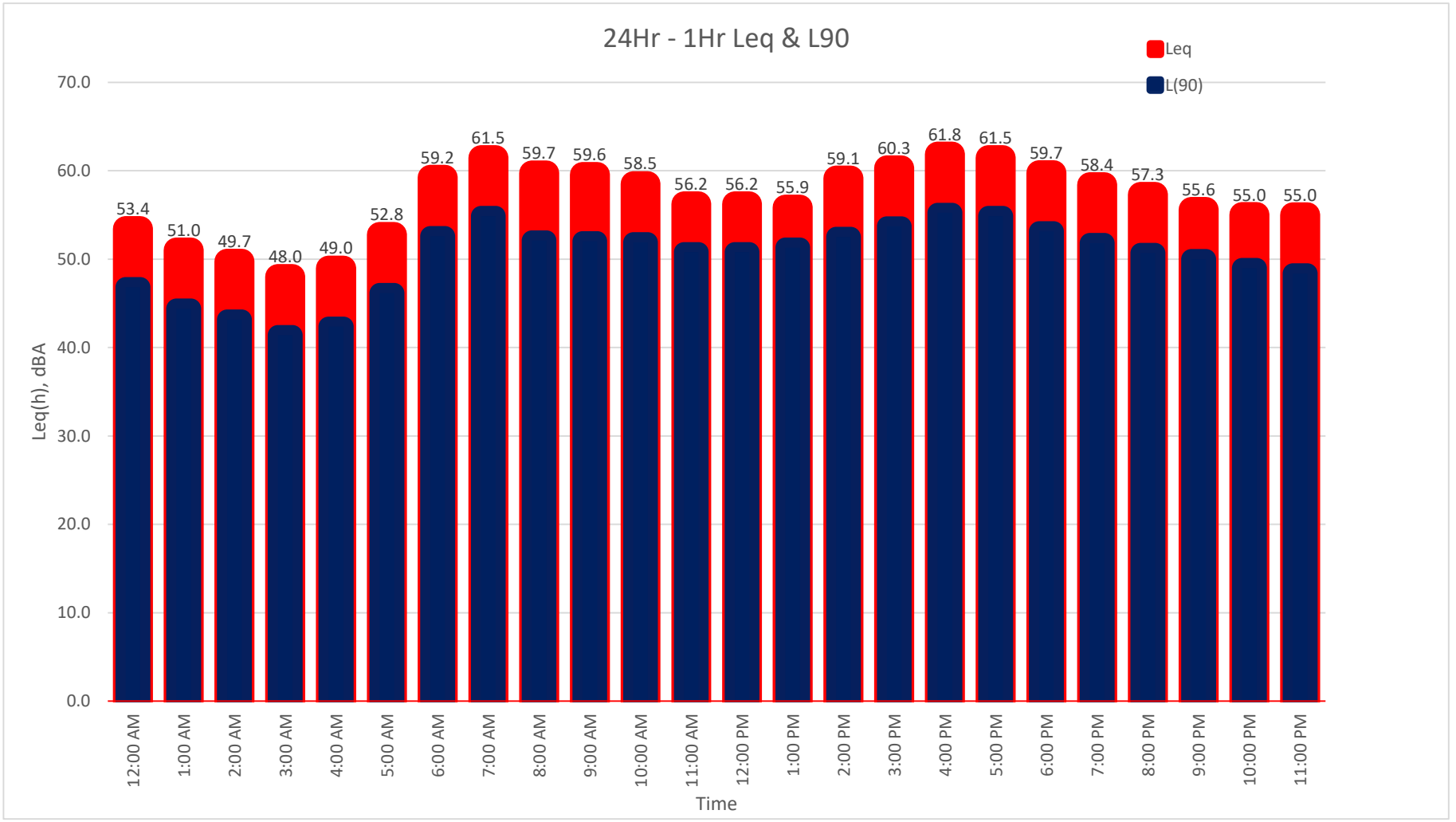
CA Office
1197 E Los Angeles Ave, C-256
Simi Valley, CA 93065

24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: Lab 5 **Day:** 1 of 1
Site Address/Location: 14000 Halldale Ave. Gardena
Site ID: LT-1



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AZ Office
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CA Office
1197 E Los Angeles Ave, C-256
Simi Valley, CA 93065

15-Minute Continuous Noise Measurement Datasheet

Project: Lab 5 Gardena
Site Address/Location: 9740 Telfair Ave Pacoima, CA 91331
Date: 8/26/2020
Field Tech/Engineer: Jason Schuyler

Site Observations: Over cast and hazy skys, measurements were performed on the site and measured the baseline noise conditions created by the teams playing socer.

General Location:
Sound Meter: NTi Audio **SN:** A2A-05967-E0
Settings: A-weighted, slow, 1-sec, 10-minute interval
Meteorological Con.: 87 degrees F, minimal wind, west-North west, 1-3mphs
Site ID: NM2

Site Topo: Flat
Ground Type: Flat w encolsures for socer

Noise Source(s) w/ Distance:

NM2 - 5' from socer field

Figure 1: Monitoring Locations

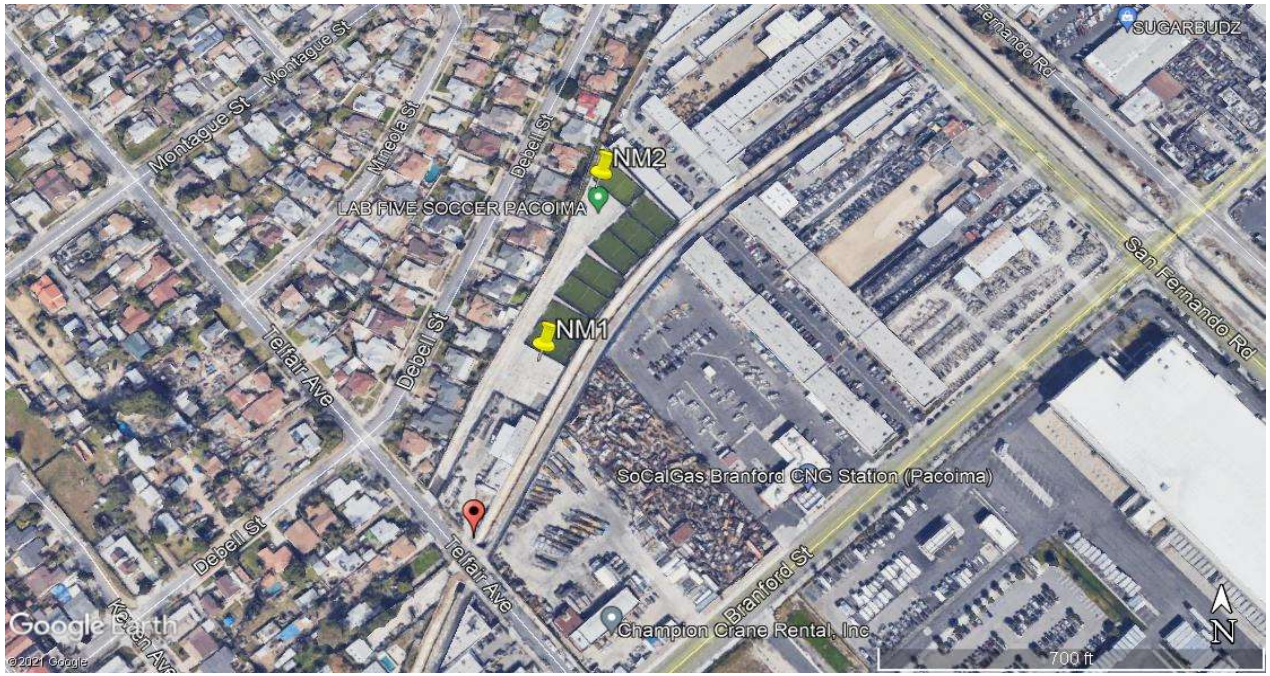

Figure 2: NM2 Photo

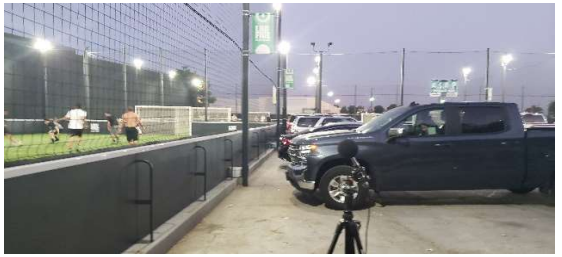

Figure 3: NM2 Photo

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1197 E Los Angeles Ave, C-256
Simi Valley, CA 93065

15-Minute Continuous Noise Measurement Datasheet

Project: Lab 5 Gardena
Site Address/Location: 9740 Telfair Ave Pacoima, CA 91331
Site ID: NM2

Figure 4: NM2 Photo

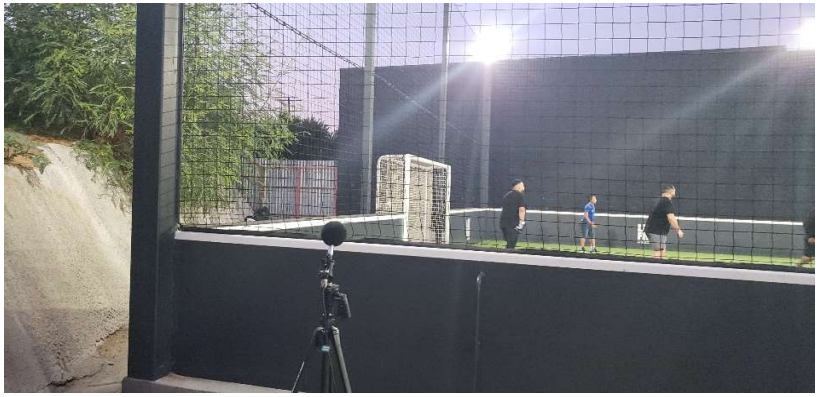

Table 1: Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
1	7:27 PM	7:42 PM	57.9	79.9	42	66.2	61.8	57.7	54.6	50.2

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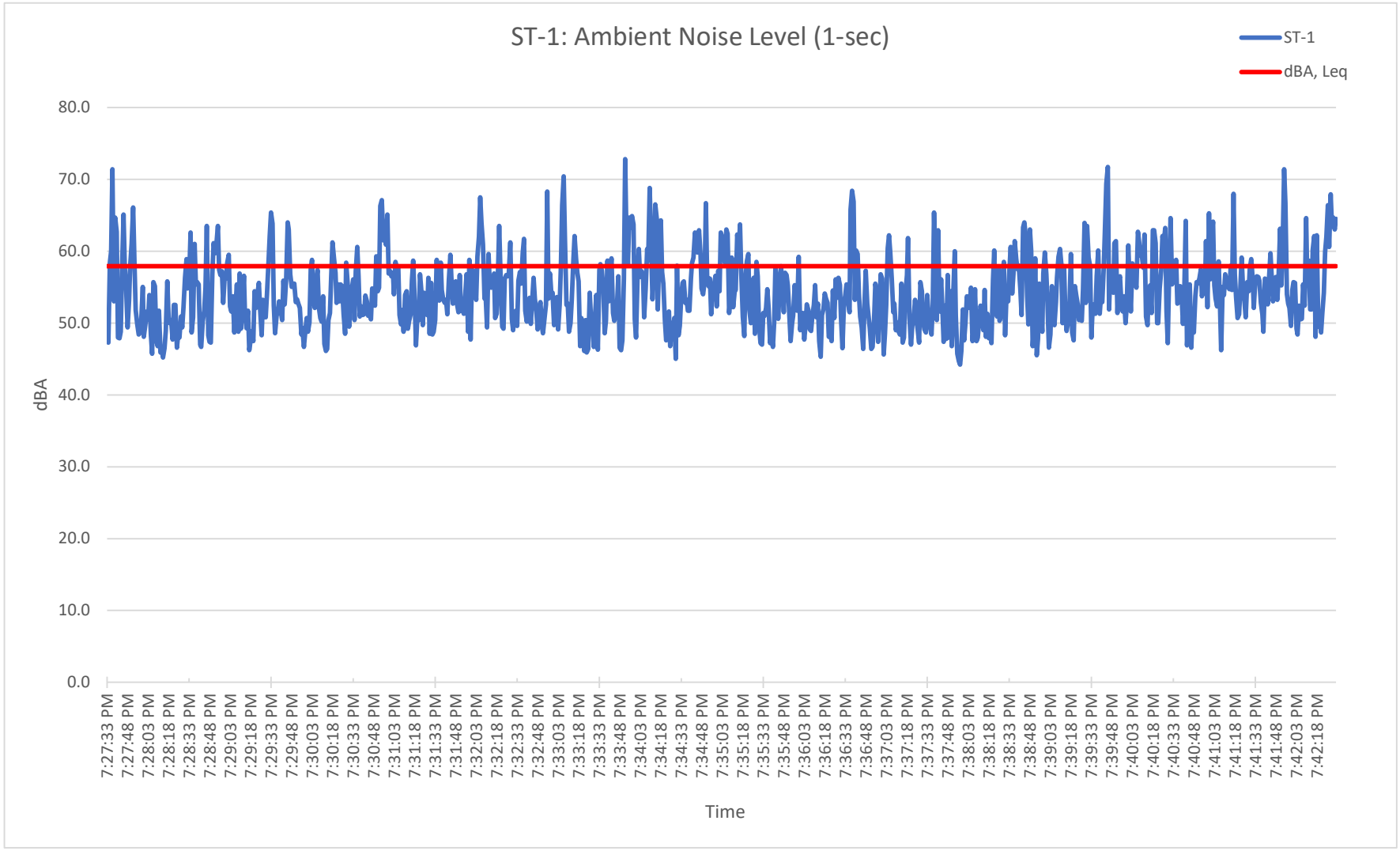
Simi Valley, CA 93065

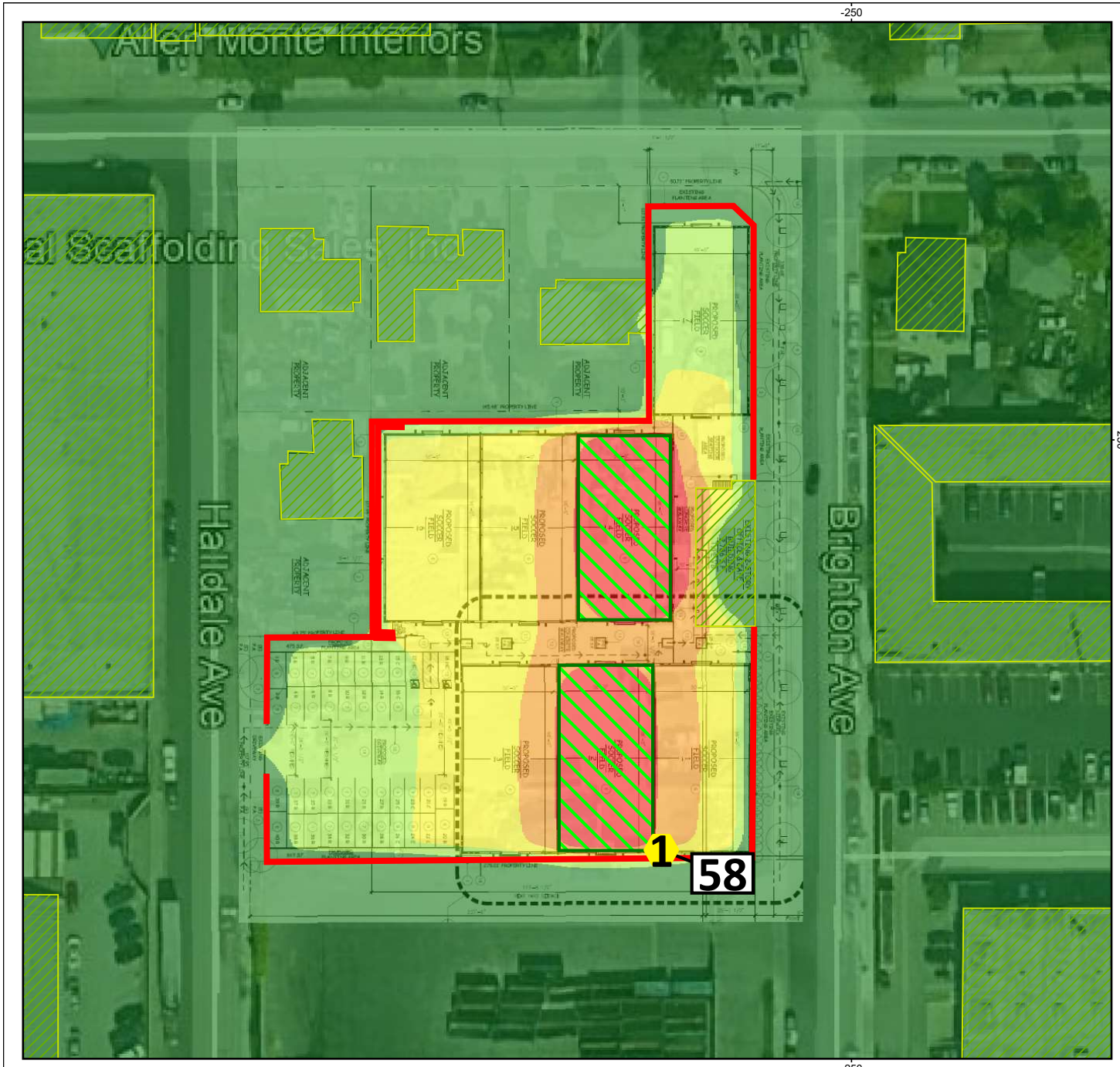
15-Minute Continuous Noise Measurement Datasheet

Project: Lab 5 Gardena
Site Address/Location: 9740 Telfair Ave Pacoima, CA 91331
Site ID: ST1



Appendix B:

SoundPLAN Input/Outputs



04622116_Gardena Lab 5 Soccer Field
Noise Level Contours

Calibration

Levels in dB(A)

	<	45
45	-	50
50	-	55
55	-	60
60	-	65
	>=	65

Signs and symbols

- Level table, dBA
- Buildings
- Soccer Field
- Parking Lot
- 10ft Wall
- Receptor

Length scale 1:52

0 30 60 120 180 feet

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Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
Receiver Receiver 5 Fl G LrD,lim dB(A) LrD 57.9 dB(A)						
Soccer Field 2	Default industrial noise	Area		57.7	0.0	
Soccer Field 4	Default industrial noise	Area		45.6	0.0	

Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
Receiver Receiver 1 Fl G LrD,lim dB(A) LrD 39.1 dB(A)						
Soccer Field 7	Default industrial noise	Area		35.1	0.0	
Soccer Field 3	Default industrial noise	Area		31.1	0.0	
Soccer Field 5	Default industrial noise	Area		30.9	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		28.2	0.0	
Soccer Field 4	Default industrial noise	Area		28.0	0.0	
Soccer Field 6	Default industrial noise	Area		27.3	0.0	
Soccer Field 2	Default industrial noise	Area		25.8	0.0	
Soccer Field 1	Default industrial noise	Area		23.8	0.0	
Receiver Receiver 2 Fl G LrD,lim dB(A) LrD 48.8 dB(A)						
Soccer Field 7	Default industrial noise	Area		42.4	0.0	
Soccer Field 4	Default industrial noise	Area		42.0	0.0	
Soccer Field 5	Default industrial noise	Area		41.3	0.0	
Soccer Field 6	Default industrial noise	Area		40.7	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		36.6	0.0	
Soccer Field 2	Default industrial noise	Area		36.5	0.0	
Soccer Field 3	Default industrial noise	Area		36.3	0.0	
Soccer Field 1	Default industrial noise	Area		35.0	0.0	
Receiver Receiver 3 Fl G LrD,lim dB(A) LrD 43.2 dB(A)						
Soccer Field 7	Default industrial noise	Area		39.0	0.0	
Soccer Field 4	Default industrial noise	Area		34.3	0.0	
Soccer Field 1	Default industrial noise	Area		33.7	0.0	
Soccer Field 5	Default industrial noise	Area		33.7	0.0	
Soccer Field 6	Default industrial noise	Area		33.5	0.0	
Soccer Field 2	Default industrial noise	Area		31.2	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		30.3	0.0	
Soccer Field 3	Default industrial noise	Area		28.5	0.0	
Receiver Receiver 4 Fl G LrD,lim dB(A) LrD 48.2 dB(A)						
Auto Parking - 40 Spaces	Default parking lot noise	PLot		44.9	0.0	
Soccer Field 6	Default industrial noise	Area		40.8	0.0	
Soccer Field 5	Default industrial noise	Area		37.7	0.0	
Soccer Field 3	Default industrial noise	Area		37.2	0.0	
Soccer Field 4	Default industrial noise	Area		35.8	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Soccer Field 1	Default industrial noise	Area		35.2	0.0	
Soccer Field 7	Default industrial noise	Area		28.0	0.0	
Receiver Receiver 5 Fl G LrD,lim dB(A) LrD 49.0 dB(A)						
Auto Parking - 40 Spaces	Default parking lot noise	PLot		46.3	0.0	
Soccer Field 3	Default industrial noise	Area		40.9	0.0	
Soccer Field 2	Default industrial noise	Area		39.6	0.0	
Soccer Field 1	Default industrial noise	Area		39.2	0.0	
Soccer Field 4	Default industrial noise	Area		32.8	0.0	
Soccer Field 5	Default industrial noise	Area		32.7	0.0	
Soccer Field 6	Default industrial noise	Area		32.4	0.0	

Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
Soccer Field 7	Default industrial noise	Area		26.3	0.0	
Receiver Receiver 6 Fl G LrD,lim dB(A) LrD 45.7 dB(A)						
Auto Parking - 40 Spaces	Default parking lot noise	PLot		40.9	0.0	
Soccer Field 3	Default industrial noise	Area		38.8	0.0	
Soccer Field 2	Default industrial noise	Area		37.7	0.0	
Soccer Field 1	Default industrial noise	Area		36.8	0.0	
Soccer Field 6	Default industrial noise	Area		33.3	0.0	
Soccer Field 4	Default industrial noise	Area		33.1	0.0	
Soccer Field 5	Default industrial noise	Area		32.7	0.0	
Soccer Field 7	Default industrial noise	Area		28.9	0.0	
Receiver Receiver 7 Fl G LrD,lim dB(A) LrD 42.9 dB(A)						
Soccer Field 1	Default industrial noise	Area		36.6	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		34.6	0.0	
Soccer Field 3	Default industrial noise	Area		33.5	0.0	
Soccer Field 6	Default industrial noise	Area		33.0	0.0	
Soccer Field 5	Default industrial noise	Area		32.2	0.0	
Soccer Field 7	Default industrial noise	Area		30.9	0.0	
Soccer Field 4	Default industrial noise	Area		30.8	0.0	

Gardena Lab 5 Soccer Field
Octave spectra of the sources in dB(A) - 001 - Outdoor SP

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Time histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Soccer Field 1	Area	448.76			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 2	Area	454.43			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 3	Area	456.44			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 4	Area	443.12			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 5	Area	452.27			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 6	Area	453.53			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 7	Area	445.38			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Auto Parking - 40 Spaces	PLot	956.80			56.9	86.7	0.0	0.0	86.7	0	E/h - Soccer Parking	Typical spectrum	70.1	81.7	74.2	78.7	78.8	79.2	76.5	70.3	57.5

Gardena Lab 5 Soccer Field
Contribution level - 002 - Outdoor SP

Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
Receiver Receiver 1 Fl G LrD,lim dB(A) LrD 34.6 dB(A)						
Soccer Field 3	Default industrial noise	Area		31.1	0.0	
Soccer Field 4	Default industrial noise	Area		28.0	0.0	
Soccer Field 2	Default industrial noise	Area		25.8	0.0	
Parking Lot	Default parking lot noise	PLot		25.2	0.0	
Soccer Field 1	Default industrial noise	Area		23.8	0.0	
Receiver Receiver 2 Fl G LrD,lim dB(A) LrD 44.8 dB(A)						
Soccer Field 4	Default industrial noise	Area		42.0	0.0	
Soccer Field 2	Default industrial noise	Area		36.5	0.0	
Soccer Field 3	Default industrial noise	Area		36.3	0.0	
Soccer Field 1	Default industrial noise	Area		35.0	0.0	
Parking Lot	Default parking lot noise	PLot		33.5	0.0	
Receiver Receiver 3 Fl G LrD,lim dB(A) LrD 38.8 dB(A)						
Soccer Field 4	Default industrial noise	Area		34.3	0.0	
Soccer Field 1	Default industrial noise	Area		33.7	0.0	
Soccer Field 2	Default industrial noise	Area		31.2	0.0	
Soccer Field 3	Default industrial noise	Area		28.5	0.0	
Parking Lot	Default parking lot noise	PLot		27.3	0.0	
Receiver Receiver 4 Fl G LrD,lim dB(A) LrD 45.0 dB(A)						
Parking Lot	Default parking lot noise	PLot		41.9	0.0	
Soccer Field 3	Default industrial noise	Area		37.2	0.0	
Soccer Field 4	Default industrial noise	Area		35.8	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Soccer Field 1	Default industrial noise	Area		35.2	0.0	
Receiver Receiver 5 Fl G LrD,lim dB(A) LrD 47.3 dB(A)						
Parking Lot	Default parking lot noise	PLot		43.3	0.0	
Soccer Field 3	Default industrial noise	Area		40.9	0.0	
Soccer Field 2	Default industrial noise	Area		39.6	0.0	
Soccer Field 1	Default industrial noise	Area		39.2	0.0	
Soccer Field 4	Default industrial noise	Area		32.8	0.0	
Receiver Receiver 6 Fl G LrD,lim dB(A) LrD 44.2 dB(A)						
Soccer Field 3	Default industrial noise	Area		38.8	0.0	
Parking Lot	Default parking lot noise	PLot		37.9	0.0	
Soccer Field 2	Default industrial noise	Area		37.7	0.0	
Soccer Field 1	Default industrial noise	Area		36.8	0.0	
Soccer Field 4	Default industrial noise	Area		33.1	0.0	
Receiver Receiver 7 Fl G LrD,lim dB(A) LrD 41.2 dB(A)						
Soccer Field 1	Default industrial noise	Area		36.6	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Soccer Field 3	Default industrial noise	Area		33.5	0.0	
Parking Lot	Default parking lot noise	PLot		31.6	0.0	
Soccer Field 4	Default industrial noise	Area		30.8	0.0	

Gardena Lab 5 Soccer Field
Octave spectra of the sources in dB(A) - 002 - Outdoor SP

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Time histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Soccer Field 1	Area	448.76			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 2	Area	454.43			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 3	Area	456.44			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 4	Area	443.12			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Parking Lot	PLot	949.93			57.0	86.7	0.0	0.0		0	E/h - Soccer Parking Non Peak	Typical spectrum	70.1	81.7	74.2	78.7	78.8	79.2	76.5	70.3	57.5

Appendix C:
Construction Noise Modeling

Receptor - Adjacent Residences

A	B	C	D	E	F	G	H	I	J
Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA	Dist. To Recptr.	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Recptr. Item Lmax, dBA	Recptr. Item Leq, dBA
SITE PREP									
1. Saw	1	76	110	20	0.20	-6.8	-7.0	69.2	62.2
2. Concrete Breaker	1	90	110	10	0.10	-6.8	-10.0	83.2	73.2
3. Jack Hammer	2	85	110	20	0.40	-6.8	-4.0	78.2	74.2
4. Skip Loader	1	80	110	40	0.40	-6.8	-4.0	73.2	69.2
5. Truck	1	84	110	40	0.40	-6.8	-4.0	77.2	73.2
								85.5	78.9
BUILD									
1. Skip Loader	1	80	110	40	0.40	-6.8	-4.0	73.2	69.2
2. Truck	1	84	110	40	0.40	-6.8	-4.0	77.2	73.2
3. Lift	1	85	110	20	0.20	-6.8	-7.0	78.2	71.2
4. Welding Machine	2	73	110	40	0.80	-6.8	-1.0	66.2	65.2
							Log Sum	81.5	76.6

Barrier insertion loss For Flat Ground

Receiver - North P/L

Enter variables here:

Source Height H_s(ft)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Receiver Height H_R(ft)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Barrier Height H_B(ft)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Distance Source to barrier (ft)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Distance Receiver to Barrier (ft)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Soft Ground = 1; Hard Ground = 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Calculations

A	100	100.005	100.019998	100.04499	100.07997	100.12492	100.17984	100.2447	100.31949	100.40418	100.49876	100.60318	100.71743	100.84146	100.97524	101.11874
B	10.440307	10.77033	11.18033989	11.661904	12.206556	12.806248	13.453624	14.142136	14.866069	15.620499	16.401219	17.204651	18.027756	18.867962	19.723083	20.59126
C	110.0409	110.0409	110.0409015	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409
P	0.399405	0.734428	1.159436401	1.6659922	2.2456222	2.890269	3.5925609	4.3459347	5.1446569	5.983781	6.8590742	7.7669299	8.7042814	9.6685205	10.657426	11.669101
Ground type H_{eff} (with barrier)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Ground type H_{eff} (no barrier)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
H_{eff} (with barrier)	14.5	15.5	16.5	17.5	18.5	19.5	20.5	21.5	22.5	23.5	24.5	25.5	26.5	27.5	28.5	29.5
H_{eff} no barrier	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
G_B	0.4910714	0.4732143	0.455357143	0.4375	0.4196429	0.4017857	0.3839286	0.3660714	0.3482143	0.3303571	0.3125	0.2946429	0.2767857	0.2589286	0.2410714	0.2232143
G_{NB}	0.6339286	0.6339286	0.633928571	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286
$A_{barrier}$	9.069496	11.661283	13.63711468	15.210378	16.506868	17.602862	18.547517	19.374307	20.107039	20.763231	21.356129	21.895968	22.390804	22.847075	23.269998	23.663848
$IL_{barrier}$	**8.6**	**11.1**	**13.0**	**14.3**	**14.3**	**14.2**	**14.1**	**14.1**	**14.0**	**14.0**	**13.9**	**13.8**	**13.8**	**13.7**	**13.7**	**13.6**

Barrier Height (ft)	IL (dBA)
8	9
9	11
10	13
11	14
12	14
13	14
14	14
15	14
16	14
17	14
18	14
19	14
20	14
21	14
22	14
23	14

Appendix C

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

City of Gardena - Lab Five

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Uses: 1.5 acres park (soccer field)

Construction Phase - Construction schedule as provided by Project applicant. Phases estimated based on Project type.

Off-road Equipment -

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment -

Trips and VMT -

Demolition - ~200 s.f. of building demolished (per Project Applicant).

Grading - Grading would occur during grading phase only. Estimated total of 100 cubic yards of sand (soil) import.

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

Vehicle Trips - Operational mobile trips provided by Kittelson & Associates, Inc. (198 trips per day) = 132 trips per acre per day.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Energy Use -

Construction Off-road Equipment Mitigation - Reductions include: Water Exposed Area 3 times daily; Unpaved Road Mitigation (Moisture Content at 12%; Vehicle Speed 15 MPH).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	200.00	10.00
tblConstructionPhase	PhaseEndDate	11/2/2021	11/19/2021
tblConstructionPhase	PhaseEndDate	11/8/2021	12/3/2021
tblConstructionPhase	PhaseStartDate	11/3/2021	11/20/2021
tblGrading	AcresOfGrading	14.06	0.00
tblGrading	MaterialImported	0.00	100.00
tblVehicleTrips	ST_TR	1.96	132.00
tblVehicleTrips	SU_TR	2.19	132.00
tblVehicleTrips	WD_TR	0.78	132.00

2.0 Emissions Summary

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0367	0.3788	0.2418	4.6000e-004	0.0779	0.0181	0.0960	0.0396	0.0168	0.0564	0.0000	40.8606	40.8606	0.0113	1.4000e-004	41.1850
2022	9.9200e-003	0.0728	0.0796	1.5000e-004	2.1000e-003	3.3900e-003	5.4900e-003	5.7000e-004	3.2900e-003	3.8500e-003	0.0000	12.8571	12.8571	1.7400e-003	1.9000e-004	12.9575
Maximum	**0.0367**	**0.3788**	**0.2418**	**4.6000e-004**	**0.0779**	**0.0181**	**0.0960**	**0.0396**	**0.0168**	**0.0564**	**0.0000**	**40.8606**	**40.8606**	**0.0113**	**1.9000e-004**	**41.1850**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0367	0.3788	0.2418	4.6000e-004	0.0321	0.0181	0.0502	0.0159	0.0168	0.0327	0.0000	40.8606	40.8606	0.0113	1.4000e-004	41.1850
2022	9.9200e-003	0.0728	0.0796	1.5000e-004	2.1000e-003	3.3900e-003	5.4900e-003	5.7000e-004	3.2900e-003	3.8500e-003	0.0000	12.8570	12.8570	1.7400e-003	1.9000e-004	12.9575
Maximum	**0.0367**	**0.3788**	**0.2418**	**4.6000e-004**	**0.0321**	**0.0181**	**0.0502**	**0.0159**	**0.0168**	**0.0327**	**0.0000**	**40.8606**	**40.8606**	**0.0113**	**1.9000e-004**	**41.1850**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.23**	**0.00**	**45.10**	**58.97**	**0.00**	**39.34**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-1-2021**	**1-31-2022**	0.4847	0.4847
		Highest	0.4847	0.4847

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774
Waste						0.0000	0.0000		0.0000	0.0000	0.0264	0.0000	0.0264	1.5600e-003	0.0000	0.0654
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.5214	3.5214	3.0000e-004	4.0000e-005	3.5396
Total	**0.1042**	**0.1275**	**1.0475**	**2.1500e-003**	**0.2141**	**1.8600e-003**	**0.2159**	**0.0571**	**1.7300e-003**	**0.0588**	**0.0264**	**203.8040**	**203.8303**	**0.0162**	**9.2200e-003**	**206.9824**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774
Waste						0.0000	0.0000		0.0000	0.0000	0.0264	0.0000	0.0264	1.5600e-003	0.0000	0.0654
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.5214	3.5214	3.0000e-004	4.0000e-005	3.5396
Total	**0.1042**	**0.1275**	**1.0475**	**2.1500e-003**	**0.2141**	**1.8600e-003**	**0.2159**	**0.0571**	**1.7300e-003**	**0.0588**	**0.0264**	**203.8040**	**203.8303**	**0.0162**	**9.2200e-003**	**206.9824**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2021	11/19/2021	5	15	
2	Grading	Grading	11/20/2021	12/3/2021	5	10	
3	Demolition	Demolition	12/4/2021	12/17/2021	5	10	

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

4	Paving	Paving	12/18/2021	12/31/2021	5	10	
5	Architectural Coating	Architectural Coating	1/15/2022	1/28/2022	5	10	
6	Building Construction	Building Construction	1/1/2022	1/14/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Air Compressors	1	6.00	78	0.48
Paving	Rollers	1	7.00	80	0.38

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

Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	13.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0395	0.0000	0.0395	0.0217	0.0000	0.0217	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1307	0.0567	1.3000e-004		5.7400e-003	5.7400e-003		5.2800e-003	5.2800e-003	0.0000	11.3388	11.3388	3.6700e-003	0.0000	11.4305
Total	**0.0117**	**0.1307**	**0.0567**	**1.3000e-004**	**0.0395**	**5.7400e-003**	**0.0453**	**0.0217**	**5.2800e-003**	**0.0270**	**0.0000**	**11.3388**	**11.3388**	**3.6700e-003**	**0.0000**	**11.4305**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	2.0000e-004	2.4400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5594	0.5594	2.0000e-005	2.0000e-005	0.5647
Total	**2.2000e-004**	**2.0000e-004**	**2.4400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5594**	**0.5594**	**2.0000e-005**	**2.0000e-005**	**0.5647**

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

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0154	0.0000	0.0154	8.4700e-003	0.0000	8.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1307	0.0567	1.3000e-004		5.7400e-003	5.7400e-003		5.2800e-003	5.2800e-003	0.0000	11.3388	11.3388	3.6700e-003	0.0000	11.4305
Total	**0.0117**	**0.1307**	**0.0567**	**1.3000e-004**	**0.0154**	**5.7400e-003**	**0.0212**	**8.4700e-003**	**5.2800e-003**	**0.0138**	**0.0000**	**11.3388**	**11.3388**	**3.6700e-003**	**0.0000**	**11.4305**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	2.0000e-004	2.4400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5594	0.5594	2.0000e-005	2.0000e-005	0.5647
Total	**2.2000e-004**	**2.0000e-004**	**2.4400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5594**	**0.5594**	**2.0000e-005**	**2.0000e-005**	**0.5647**

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

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	0.0171	0.0000	0.0171	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1400e-003	0.1011	0.0488	1.0000e-004		4.5800e-003	4.5800e-003		4.2100e-003	4.2100e-003	0.0000	9.0519	9.0519	2.9300e-003	0.0000	9.1251
Total	**9.1400e-003**	**0.1011**	**0.0488**	**1.0000e-004**	**0.0354**	**4.5800e-003**	**0.0400**	**0.0171**	**4.2100e-003**	**0.0213**	**0.0000**	**9.0519**	**9.0519**	**2.9300e-003**	**0.0000**	**9.1251**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.3100e-003	2.9000e-004	0.0000	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4124	0.4124	2.0000e-005	7.0000e-005	0.4324
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.6000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4662	0.4662	1.0000e-005	1.0000e-005	0.4706
Total	**2.3000e-004**	**1.4700e-003**	**2.3200e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.8000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.8786**	**0.8786**	**3.0000e-005**	**8.0000e-005**	**0.9030**

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

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0138	0.0000	0.0138	6.6800e-003	0.0000	6.6800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1400e-003	0.1011	0.0488	1.0000e-004		4.5800e-003	4.5800e-003		4.2100e-003	4.2100e-003	0.0000	9.0519	9.0519	2.9300e-003	0.0000	9.1251
Total	**9.1400e-003**	**0.1011**	**0.0488**	**1.0000e-004**	**0.0138**	**4.5800e-003**	**0.0184**	**6.6800e-003**	**4.2100e-003**	**0.0109**	**0.0000**	**9.0519**	**9.0519**	**2.9300e-003**	**0.0000**	**9.1251**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.3100e-003	2.9000e-004	0.0000	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4124	0.4124	2.0000e-005	7.0000e-005	0.4324
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.6000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4662	0.4662	1.0000e-005	1.0000e-005	0.4706
Total	**2.3000e-004**	**1.4700e-003**	**2.3200e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.8000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.8786**	**0.8786**	**3.0000e-005**	**8.0000e-005**	**0.9030**

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

3.4 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9700e-003	0.0985	0.0725	1.2000e-004		5.2000e-003	5.2000e-003		4.8600e-003	4.8600e-003	0.0000	10.5357	10.5357	2.6900e-003	0.0000	10.6030
Total	**9.9700e-003**	**0.0985**	**0.0725**	**1.2000e-004**	**1.0000e-004**	**5.2000e-003**	**5.3000e-003**	**1.0000e-005**	**4.8600e-003**	**4.8700e-003**	**0.0000**	**10.5357**	**10.5357**	**2.6900e-003**	**0.0000**	**10.6030**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0317	0.0317	0.0000	1.0000e-005	0.0333
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	2.1000e-004	2.6400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6061	0.6061	2.0000e-005	2.0000e-005	0.6117
Total	**2.4000e-004**	**3.1000e-004**	**2.6600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6378**	**0.6378**	**2.0000e-005**	**3.0000e-005**	**0.6450**

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

3.4 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9600e-003	0.0985	0.0725	1.2000e-004		5.2000e-003	5.2000e-003		4.8600e-003	4.8600e-003	0.0000	10.5357	10.5357	2.6900e-003	0.0000	10.6030
Total	**9.9600e-003**	**0.0985**	**0.0725**	**1.2000e-004**	**4.0000e-005**	**5.2000e-003**	**5.2400e-003**	**1.0000e-005**	**4.8600e-003**	**4.8700e-003**	**0.0000**	**10.5357**	**10.5357**	**2.6900e-003**	**0.0000**	**10.6030**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0317	0.0317	0.0000	1.0000e-005	0.0333
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	2.1000e-004	2.6400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6061	0.6061	2.0000e-005	2.0000e-005	0.6117
Total	**2.4000e-004**	**3.1000e-004**	**2.6600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6378**	**0.6378**	**2.0000e-005**	**3.0000e-005**	**0.6450**

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

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9600e-003	0.0464	0.0534	8.0000e-005		2.5500e-003	2.5500e-003		2.3900e-003	2.3900e-003	0.0000	7.1591	7.1591	1.9500e-003	0.0000	7.2079
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9600e-003**	**0.0464**	**0.0534**	**8.0000e-005**		**2.5500e-003**	**2.5500e-003**		**2.3900e-003**	**2.3900e-003**	**0.0000**	**7.1591**	**7.1591**	**1.9500e-003**	**0.0000**	**7.2079**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.4000e-004	3.0400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6993	0.6993	2.0000e-005	2.0000e-005	0.7058
Total	**2.8000e-004**	**2.4000e-004**	**3.0400e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6993**	**0.6993**	**2.0000e-005**	**2.0000e-005**	**0.7058**

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

3.5 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9600e-003	0.0464	0.0534	8.0000e-005		2.5500e-003	2.5500e-003		2.3900e-003	2.3900e-003	0.0000	7.1591	7.1591	1.9500e-003	0.0000	7.2079
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.9600e-003**	**0.0464**	**0.0534**	**8.0000e-005**		**2.5500e-003**	**2.5500e-003**		**2.3900e-003**	**2.3900e-003**	**0.0000**	**7.1591**	**7.1591**	**1.9500e-003**	**0.0000**	**7.2079**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.4000e-004	3.0400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6993	0.6993	2.0000e-005	2.0000e-005	0.7058
Total	**2.8000e-004**	**2.4000e-004**	**3.0400e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6993**	**0.6993**	**2.0000e-005**	**2.0000e-005**	**0.7058**

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

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**1.0200e-003**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	9.3000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2268	0.2268	1.0000e-005	1.0000e-005	0.2288
Total	**9.0000e-005**	**7.0000e-005**	**9.3000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2268**	**0.2268**	**1.0000e-005**	**1.0000e-005**	**0.2288**

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

3.6 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**1.0200e-003**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	9.3000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2268	0.2268	1.0000e-005	1.0000e-005	0.2288
Total	**9.0000e-005**	**7.0000e-005**	**9.3000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2268**	**0.2268**	**1.0000e-005**	**1.0000e-005**	**0.2288**

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

3.7 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2400e-003	0.0625	0.0636	1.1000e-004		2.9400e-003	2.9400e-003		2.8400e-003	2.8400e-003	0.0000	9.0789	9.0789	1.5800e-003	0.0000	9.1184
Total	**8.2400e-003**	**0.0625**	**0.0636**	**1.1000e-004**		**2.9400e-003**	**2.9400e-003**		**2.8400e-003**	**2.8400e-003**	**0.0000**	**9.0789**	**9.0789**	**1.5800e-003**	**0.0000**	**9.1184**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	2.8300e-003	9.4000e-004	1.0000e-005	3.5000e-004	3.0000e-005	3.7000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.0503	1.0503	4.0000e-005	1.5000e-004	1.0963
Worker	4.6000e-004	3.9000e-004	5.0100e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2245	1.2245	3.0000e-005	3.0000e-005	1.2353
Total	**5.7000e-004**	**3.2200e-003**	**5.9500e-003**	**2.0000e-005**	**1.8300e-003**	**4.0000e-005**	**1.8600e-003**	**4.9000e-004**	**3.0000e-005**	**5.2000e-004**	**0.0000**	**2.2748**	**2.2748**	**7.0000e-005**	**1.8000e-004**	**2.3316**

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

3.7 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2400e-003	0.0625	0.0636	1.1000e-004		2.9400e-003	2.9400e-003		2.8400e-003	2.8400e-003	0.0000	9.0788	9.0788	1.5800e-003	0.0000	9.1184
Total	**8.2400e-003**	**0.0625**	**0.0636**	**1.1000e-004**		**2.9400e-003**	**2.9400e-003**		**2.8400e-003**	**2.8400e-003**	**0.0000**	**9.0788**	**9.0788**	**1.5800e-003**	**0.0000**	**9.1184**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	2.8300e-003	9.4000e-004	1.0000e-005	3.5000e-004	3.0000e-005	3.7000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.0503	1.0503	4.0000e-005	1.5000e-004	1.0963
Worker	4.6000e-004	3.9000e-004	5.0100e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2245	1.2245	3.0000e-005	3.0000e-005	1.2353
Total	**5.7000e-004**	**3.2200e-003**	**5.9500e-003**	**2.0000e-005**	**1.8300e-003**	**4.0000e-005**	**1.8600e-003**	**4.9000e-004**	**3.0000e-005**	**5.2000e-004**	**0.0000**	**2.2748**	**2.2748**	**7.0000e-005**	**1.8000e-004**	**2.3316**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774
Unmitigated	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	198.00	198.00	198.00	569,753	569,753
Total	198.00	198.00	198.00	569,753	569,753

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546774	0.061880	0.186704	0.127505	0.022909	0.005912	0.010702	0.008032	0.000940	0.000617	0.023937	0.000692	0.003397

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Unmitigated	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Total	**6.1000e-004**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**4.0000e-005**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Total	**6.1000e-004**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**4.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.5214	3.0000e-004	4.0000e-005	3.5396
Unmitigated	3.5214	3.0000e-004	4.0000e-005	3.5396

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.78722	3.5214	3.0000e-004	4.0000e-005	3.5396
Total		**3.5214**	**3.0000e-004**	**4.0000e-005**	**3.5396**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.78722	3.5214	3.0000e-004	4.0000e-005	3.5396
Total		**3.5214**	**3.0000e-004**	**4.0000e-005**	**3.5396**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0264	1.5600e-003	0.0000	0.0654
Unmitigated	0.0264	1.5600e-003	0.0000	0.0654

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
Total		**0.0264**	**1.5600e-003**	**0.0000**	**0.0654**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
Total		**0.0264**	**1.5600e-003**	**0.0000**	**0.0654**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

City of Gardena - Lab Five

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Uses: 1.5 acres park (soccer field)

Construction Phase - Construction schedule as provided by Project applicant. Phases estimated based on Project type.

Off-road Equipment -

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment -

Trips and VMT -

Demolition - ~200 s.f. of building demolished (per Project Applicant).

Grading - Grading would occur during grading phase only. Estimated total of 100 cubic yards of sand (soil) import.

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

Vehicle Trips - Operational mobile trips provided by Kittelson & Associates, Inc. (198 trips per day) = 132 trips per acre per day.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Energy Use -

Construction Off-road Equipment Mitigation - Reductions include: Water Exposed Area 3 times daily; Unpaved Road Mitigation (Moisture Content at 12%; Vehicle Speed 15 MPH).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	200.00	10.00
tblConstructionPhase	PhaseEndDate	11/2/2021	11/19/2021
tblConstructionPhase	PhaseEndDate	11/8/2021	12/3/2021
tblConstructionPhase	PhaseStartDate	11/3/2021	11/20/2021
tblGrading	AcresOfGrading	14.06	0.00
tblGrading	MaterialImported	0.00	100.00
tblVehicleTrips	ST_TR	1.96	132.00
tblVehicleTrips	SU_TR	2.19	132.00
tblVehicleTrips	WD_TR	0.78	132.00

2.0 Emissions Summary

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.0425	20.4906	15.0577	0.0255	7.2183	1.0421	8.1376	3.4608	0.9726	4.3067	0.0000	2,468.7179	2,468.7179	0.6533	0.0172	2,485.0653
2022	1.7638	13.1101	13.9753	0.0270	0.3723	0.5959	0.9682	0.1003	0.5755	0.6759	0.0000	2,513.8849	2,513.8849	0.3640	0.0401	2,534.9384
Maximum	**2.0425**	**20.4906**	**15.0577**	**0.0270**	**7.2183**	**1.0421**	**8.1376**	**3.4608**	**0.9726**	**4.3067**	**0.0000**	**2,513.8849**	**2,513.8849**	**0.6533**	**0.0401**	**2,534.9384**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.0425	20.4906	15.0577	0.0255	2.8972	1.0421	3.8166	1.3716	0.9726	2.2175	0.0000	2,468.7179	2,468.7179	0.6533	0.0172	2,485.0653
2022	1.7638	13.1101	13.9753	0.0270	0.3723	0.5959	0.9682	0.1003	0.5755	0.6759	0.0000	2,513.8849	2,513.8849	0.3640	0.0401	2,534.9384
Maximum	**2.0425**	**20.4906**	**15.0577**	**0.0270**	**2.8972**	**1.0421**	**3.8166**	**1.3716**	**0.9726**	**2.2175**	**0.0000**	**2,513.8849**	**2,513.8849**	**0.6533**	**0.0401**	**2,534.9384**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	56.93	0.00	47.45	58.67	0.00	41.93	0.00	0.00	0.00	0.00	0.00	0.00

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652
Total	**0.5943**	**0.6407**	**5.8298**	**0.0122**	**1.1995**	**0.0102**	**1.2097**	**0.3195**	**9.5000e-003**	**0.3290**		**1,253.6979**	**1,253.6979**	**0.0848**	**0.0529**	**1,271.5656**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652
Total	**0.5943**	**0.6407**	**5.8298**	**0.0122**	**1.1995**	**0.0102**	**1.2097**	**0.3195**	**9.5000e-003**	**0.3290**		**1,253.6979**	**1,253.6979**	**0.0848**	**0.0529**	**1,271.5656**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2021	11/19/2021	5	15	
2	Grading	Grading	11/20/2021	12/3/2021	5	10	
3	Demolition	Demolition	12/4/2021	12/17/2021	5	10	
4	Paving	Paving	12/18/2021	12/31/2021	5	10	
5	Architectural Coating	Architectural Coating	1/15/2022	1/28/2022	5	10	
6	Building Construction	Building Construction	1/1/2022	1/14/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

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

Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Air Compressors	1	6.00	78	0.48
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	13.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.2693	0.0000	5.2693	2.8965	0.0000	2.8965			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**5.2693**	**0.7654**	**6.0347**	**2.8965**	**0.7041**	**3.6006**		**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

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

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0300	0.0230	0.3451	8.4000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		85.5430	85.5430	2.5200e-003	2.1800e-003	86.2562
Total	**0.0300**	**0.0230**	**0.3451**	**8.4000e-004**	**0.0894**	**6.1000e-004**	**0.0900**	**0.0237**	**5.7000e-004**	**0.0243**		**85.5430**	**85.5430**	**2.5200e-003**	**2.1800e-003**	**86.2562**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0550	0.0000	2.0550	1.1296	0.0000	1.1296			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**2.0550**	**0.7654**	**2.8204**	**1.1296**	**0.7041**	**1.8338**	**0.0000**	**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0300	0.0230	0.3451	8.4000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		85.5430	85.5430	2.5200e-003	2.1800e-003	86.2562
Total	**0.0300**	**0.0230**	**0.3451**	**8.4000e-004**	**0.0894**	**6.1000e-004**	**0.0900**	**0.0237**	**5.7000e-004**	**0.0243**		**85.5430**	**85.5430**	**2.5200e-003**	**2.1800e-003**	**86.2562**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0837	0.0000	7.0837	3.4249	0.0000	3.4249			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**7.0837**	**0.9158**	**7.9995**	**3.4249**	**0.8425**	**4.2674**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.5800e-003	0.2484	0.0573	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	8.9900e-003		90.9160	90.9160	4.7600e-003	0.0144	95.3312
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0376	0.0288	0.4314	1.0600e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		106.9287	106.9287	3.1500e-003	2.7300e-003	107.8203
Total	**0.0461**	**0.2771**	**0.4887**	**1.8900e-003**	**0.1345**	**3.6500e-003**	**0.1382**	**0.0359**	**3.4700e-003**	**0.0393**		**197.8447**	**197.8447**	**7.9100e-003**	**0.0172**	**203.1515**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7627	0.0000	2.7627	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**2.7627**	**0.9158**	**3.6784**	**1.3357**	**0.8425**	**2.1782**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.5800e-003	0.2484	0.0573	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	8.9900e-003		90.9160	90.9160	4.7600e-003	0.0144	95.3312
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0376	0.0288	0.4314	1.0600e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		106.9287	106.9287	3.1500e-003	2.7300e-003	107.8203
Total	**0.0461**	**0.2771**	**0.4887**	**1.8900e-003**	**0.1345**	**3.6500e-003**	**0.1382**	**0.0359**	**3.4700e-003**	**0.0393**		**197.8447**	**197.8447**	**7.9100e-003**	**0.0172**	**203.1515**

3.4 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0197	0.0000	0.0197	2.9800e-003	0.0000	2.9800e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.0197**	**1.0409**	**1.0606**	**2.9800e-003**	**0.9715**	**0.9745**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.4 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.6000e-004	0.0191	4.4100e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9935	6.9935	3.7000e-004	1.1100e-003	7.3332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0488	0.0374	0.5608	1.3700e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		139.0073	139.0073	4.1000e-003	3.5500e-003	140.1663
Total	**0.0495**	**0.0565**	**0.5652**	**1.4300e-003**	**0.1471**	**1.2200e-003**	**0.1483**	**0.0390**	**1.1300e-003**	**0.0401**		**146.0009**	**146.0009**	**4.4700e-003**	**4.6600e-003**	**147.4995**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6800e-003	0.0000	7.6800e-003	1.1600e-003	0.0000	1.1600e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**7.6800e-003**	**1.0409**	**1.0486**	**1.1600e-003**	**0.9715**	**0.9726**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.4 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.6000e-004	0.0191	4.4100e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9935	6.9935	3.7000e-004	1.1100e-003	7.3332
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0488	0.0374	0.5608	1.3700e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		139.0073	139.0073	4.1000e-003	3.5500e-003	140.1663
Total	**0.0495**	**0.0565**	**0.5652**	**1.4300e-003**	**0.1471**	**1.2200e-003**	**0.1483**	**0.0390**	**1.1300e-003**	**0.0401**		**146.0009**	**146.0009**	**4.4700e-003**	**4.6600e-003**	**147.4995**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770		1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9928**	**9.2691**	**10.6744**	**0.0165**		**0.5094**	**0.5094**		**0.4770**	**0.4770**		**1,578.3145**	**1,578.3145**	**0.4304**		**1,589.0752**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0563	0.0431	0.6471	1.5800e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		160.3931	160.3931	4.7300e-003	4.0900e-003	161.7304
Total	**0.0563**	**0.0431**	**0.6471**	**1.5800e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**160.3931**	**160.3931**	**4.7300e-003**	**4.0900e-003**	**161.7304**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770	0.0000	1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9928**	**9.2691**	**10.6744**	**0.0165**		**0.5094**	**0.5094**		**0.4770**	**0.4770**	**0.0000**	**1,578.3145**	**1,578.3145**	**0.4304**		**1,589.0752**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0563	0.0431	0.6471	1.5800e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		160.3931	160.3931	4.7300e-003	4.0900e-003	161.7304
Total	**0.0563**	**0.0431**	**0.6471**	**1.5800e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**160.3931**	**160.3931**	**4.7300e-003**	**4.0900e-003**	**161.7304**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**0.2045**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0173	0.0126	0.1971	5.1000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.0064	52.0064	1.4100e-003	1.2500e-003	52.4144
Total	**0.0173**	**0.0126**	**0.1971**	**5.1000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**52.0064**	**52.0064**	**1.4100e-003**	**1.2500e-003**	**52.4144**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**0.2045**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0173	0.0126	0.1971	5.1000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.0064	52.0064	1.4100e-003	1.2500e-003	52.4144
Total	**0.0173**	**0.0126**	**0.1971**	**5.1000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**52.0064**	**52.0064**	**1.4100e-003**	**1.2500e-003**	**52.4144**

3.7 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.7 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0217	0.5388	0.1847	2.1500e-003	0.0705	5.1300e-003	0.0756	0.0203	4.9100e-003	0.0252		231.5078	231.5078	7.7400e-003	0.0334	241.6427
Worker	0.0935	0.0682	1.0642	2.7600e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		280.8343	280.8343	7.6000e-003	6.7600e-003	283.0377
Total	**0.1151**	**0.6071**	**1.2489**	**4.9100e-003**	**0.3723**	**7.0600e-003**	**0.3793**	**0.1003**	**6.6900e-003**	**0.1070**		**512.3421**	**512.3421**	**0.0153**	**0.0401**	**524.6804**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

3.7 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0217	0.5388	0.1847	2.1500e-003	0.0705	5.1300e-003	0.0756	0.0203	4.9100e-003	0.0252		231.5078	231.5078	7.7400e-003	0.0334	241.6427
Worker	0.0935	0.0682	1.0642	2.7600e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		280.8343	280.8343	7.6000e-003	6.7600e-003	283.0377
Total	**0.1151**	**0.6071**	**1.2489**	**4.9100e-003**	**0.3723**	**7.0600e-003**	**0.3793**	**0.1003**	**6.6900e-003**	**0.1070**		**512.3421**	**512.3421**	**0.0153**	**0.0401**	**524.6804**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652
Unmitigated	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	198.00	198.00	198.00	569,753	569,753
Total	198.00	198.00	198.00	569,753	569,753

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546774	0.061880	0.186704	0.127505	0.022909	0.005912	0.010702	0.008032	0.000940	0.000617	0.023937	0.000692	0.003397

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Unmitigated	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Total	**3.3800e-003**	**0.0000**	**1.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.3000e-004**	**3.3000e-004**	**0.0000**		**3.5000e-004**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Total	**3.3800e-003**	**0.0000**	**1.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.3000e-004**	**3.3000e-004**	**0.0000**		**3.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

City of Gardena - Lab Five

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Uses: 1.5 acres park (soccer field)

Construction Phase - Construction schedule as provided by Project applicant. Phases estimated based on Project type.

Off-road Equipment -

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment -

Trips and VMT -

Demolition - ~200 s.f. of building demolished (per Project Applicant).

Grading - Grading would occur during grading phase only. Estimated total of 100 cubic yards of sand (soil) import.

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

Vehicle Trips - Operational mobile trips provided by Kittelson & Associates, Inc. (198 trips per day) = 132 trips per acre per day.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Energy Use -

Construction Off-road Equipment Mitigation - Reductions include: Water Exposed Area 3 times daily; Unpaved Road Mitigation (Moisture Content at 12%; Vehicle Speed 15 MPH).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	200.00	10.00
tblConstructionPhase	PhaseEndDate	11/2/2021	11/19/2021
tblConstructionPhase	PhaseEndDate	11/8/2021	12/3/2021
tblConstructionPhase	PhaseStartDate	11/3/2021	11/20/2021
tblGrading	AcresOfGrading	14.06	0.00
tblGrading	MaterialImported	0.00	100.00
tblVehicleTrips	ST_TR	1.96	132.00
tblVehicleTrips	SU_TR	2.19	132.00
tblVehicleTrips	WD_TR	0.78	132.00

2.0 Emissions Summary

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.0457	20.5035	15.0112	0.0255	7.2183	1.0421	8.1377	3.4608	0.9726	4.3068	0.0000	2,461.3462	2,461.3462	0.6534	0.0173	2,477.7675
2022	1.7701	13.1395	13.8946	0.0268	0.3723	0.5960	0.9682	0.1003	0.5756	0.6759	0.0000	2,499.1235	2,499.1235	0.3640	0.0406	2,520.3295
Maximum	**2.0457**	**20.5035**	**15.0112**	**0.0268**	**7.2183**	**1.0421**	**8.1377**	**3.4608**	**0.9726**	**4.3068**	**0.0000**	**2,499.1235**	**2,499.1235**	**0.6534**	**0.0406**	**2,520.3295**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.0457	20.5035	15.0112	0.0255	2.8972	1.0421	3.8166	1.3716	0.9726	2.2176	0.0000	2,461.3462	2,461.3462	0.6534	0.0173	2,477.7675
2022	1.7701	13.1395	13.8946	0.0268	0.3723	0.5960	0.9682	0.1003	0.5756	0.6759	0.0000	2,499.1235	2,499.1235	0.3640	0.0406	2,520.3295
Maximum	**2.0457**	**20.5035**	**15.0112**	**0.0268**	**2.8972**	**1.0421**	**3.8166**	**1.3716**	**0.9726**	**2.2176**	**0.0000**	**2,499.1235**	**2,499.1235**	**0.6534**	**0.0406**	**2,520.3295**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	56.93	0.00	47.45	58.67	0.00	41.93	0.00	0.00	0.00	0.00	0.00	0.00

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585
Total	**0.5830**	**0.6904**	**5.7036**	**0.0117**	**1.1995**	**0.0102**	**1.2097**	**0.3195**	**9.5100e-003**	**0.3290**		**1,200.0975**	**1,200.0975**	**0.0876**	**0.0553**	**1,218.7589**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585
Total	**0.5830**	**0.6904**	**5.7036**	**0.0117**	**1.1995**	**0.0102**	**1.2097**	**0.3195**	**9.5100e-003**	**0.3290**		**1,200.0975**	**1,200.0975**	**0.0876**	**0.0553**	**1,218.7589**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2021	11/19/2021	5	15	
2	Grading	Grading	11/20/2021	12/3/2021	5	10	
3	Demolition	Demolition	12/4/2021	12/17/2021	5	10	
4	Paving	Paving	12/18/2021	12/31/2021	5	10	
5	Architectural Coating	Architectural Coating	1/15/2022	1/28/2022	5	10	
6	Building Construction	Building Construction	1/1/2022	1/14/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

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

Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Air Compressors	1	6.00	78	0.48
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	13.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.2693	0.0000	5.2693	2.8965	0.0000	2.8965			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**5.2693**	**0.7654**	**6.0347**	**2.8965**	**0.7041**	**3.6006**		**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0321	0.0254	0.3164	8.0000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		81.0061	81.0061	2.5500e-003	2.3300e-003	81.7648
Total	**0.0321**	**0.0254**	**0.3164**	**8.0000e-004**	**0.0894**	**6.1000e-004**	**0.0900**	**0.0237**	**5.7000e-004**	**0.0243**		**81.0061**	**81.0061**	**2.5500e-003**	**2.3300e-003**	**81.7648**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0550	0.0000	2.0550	1.1296	0.0000	1.1296			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
Total	**1.5558**	**17.4203**	**7.5605**	**0.0172**	**2.0550**	**0.7654**	**2.8204**	**1.1296**	**0.7041**	**1.8338**	**0.0000**	**1,666.5174**	**1,666.5174**	**0.5390**		**1,679.9920**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0321	0.0254	0.3164	8.0000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		81.0061	81.0061	2.5500e-003	2.3300e-003	81.7648
Total	**0.0321**	**0.0254**	**0.3164**	**8.0000e-004**	**0.0894**	**6.1000e-004**	**0.0900**	**0.0237**	**5.7000e-004**	**0.0243**		**81.0061**	**81.0061**	**2.5500e-003**	**2.3300e-003**	**81.7648**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0837	0.0000	7.0837	3.4249	0.0000	3.4249			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**7.0837**	**0.9158**	**7.9995**	**3.4249**	**0.8425**	**4.2674**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.4500e-003	0.2582	0.0583	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	9.0000e-003		90.9262	90.9262	4.7500e-003	0.0144	95.3418
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0401	0.0318	0.3955	1.0000e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		101.2576	101.2576	3.1800e-003	2.9200e-003	102.2059
Total	**0.0485**	**0.2900**	**0.4538**	**1.8300e-003**	**0.1345**	**3.6500e-003**	**0.1382**	**0.0359**	**3.4700e-003**	**0.0394**		**192.1837**	**192.1837**	**7.9300e-003**	**0.0173**	**197.5478**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7627	0.0000	2.7627	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**2.7627**	**0.9158**	**3.6784**	**1.3357**	**0.8425**	**2.1782**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.4500e-003	0.2582	0.0583	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	9.0000e-003		90.9262	90.9262	4.7500e-003	0.0144	95.3418
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0401	0.0318	0.3955	1.0000e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		101.2576	101.2576	3.1800e-003	2.9200e-003	102.2059
Total	**0.0485**	**0.2900**	**0.4538**	**1.8300e-003**	**0.1345**	**3.6500e-003**	**0.1382**	**0.0359**	**3.4700e-003**	**0.0394**		**192.1837**	**192.1837**	**7.9300e-003**	**0.0173**	**197.5478**

3.4 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0197	0.0000	0.0197	2.9800e-003	0.0000	2.9800e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.0197**	**1.0409**	**1.0606**	**2.9800e-003**	**0.9715**	**0.9745**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.4 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0199	4.4800e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9943	6.9943	3.7000e-004	1.1100e-003	7.3340
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0521	0.0413	0.5142	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		131.6348	131.6348	4.1400e-003	3.7900e-003	132.8677
Total	**0.0527**	**0.0612**	**0.5187**	**1.3600e-003**	**0.1471**	**1.2200e-003**	**0.1483**	**0.0390**	**1.1300e-003**	**0.0401**		**138.6292**	**138.6292**	**4.5100e-003**	**4.9000e-003**	**140.2017**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6800e-003	0.0000	7.6800e-003	1.1600e-003	0.0000	1.1600e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**7.6800e-003**	**1.0409**	**1.0486**	**1.1600e-003**	**0.9715**	**0.9726**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.4 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.5000e-004	0.0199	4.4800e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9943	6.9943	3.7000e-004	1.1100e-003	7.3340
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0521	0.0413	0.5142	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		131.6348	131.6348	4.1400e-003	3.7900e-003	132.8677
Total	**0.0527**	**0.0612**	**0.5187**	**1.3600e-003**	**0.1471**	**1.2200e-003**	**0.1483**	**0.0390**	**1.1300e-003**	**0.0401**		**138.6292**	**138.6292**	**4.5100e-003**	**4.9000e-003**	**140.2017**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770		1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9928**	**9.2691**	**10.6744**	**0.0165**		**0.5094**	**0.5094**		**0.4770**	**0.4770**		**1,578.3145**	**1,578.3145**	**0.4304**		**1,589.0752**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0601	0.0477	0.5933	1.5000e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		151.8864	151.8864	4.7800e-003	4.3700e-003	153.3089
Total	**0.0601**	**0.0477**	**0.5933**	**1.5000e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**151.8864**	**151.8864**	**4.7800e-003**	**4.3700e-003**	**153.3089**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770	0.0000	1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9928**	**9.2691**	**10.6744**	**0.0165**		**0.5094**	**0.5094**		**0.4770**	**0.4770**	**0.0000**	**1,578.3145**	**1,578.3145**	**0.4304**		**1,589.0752**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0601	0.0477	0.5933	1.5000e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		151.8864	151.8864	4.7800e-003	4.3700e-003	153.3089
Total	**0.0601**	**0.0477**	**0.5933**	**1.5000e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**151.8864**	**151.8864**	**4.7800e-003**	**4.3700e-003**	**153.3089**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**0.2045**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0185	0.0140	0.1809	4.8000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.2567	49.2567	1.4200e-003	1.3400e-003	49.6907
Total	**0.0185**	**0.0140**	**0.1809**	**4.8000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**49.2567**	**49.2567**	**1.4200e-003**	**1.3400e-003**	**49.6907**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**0.2045**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0185	0.0140	0.1809	4.8000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.2567	49.2567	1.4200e-003	1.3400e-003	49.6907
Total	**0.0185**	**0.0140**	**0.1809**	**4.8000e-004**	**0.0559**	**3.6000e-004**	**0.0563**	**0.0148**	**3.3000e-004**	**0.0152**		**49.2567**	**49.2567**	**1.4200e-003**	**1.3400e-003**	**49.6907**

3.7 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.7 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0214	0.5610	0.1911	2.1600e-003	0.0705	5.1500e-003	0.0756	0.0203	4.9300e-003	0.0252		231.5947	231.5947	7.7100e-003	0.0334	241.7418
Worker	0.1000	0.0754	0.9771	2.6100e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		265.9860	265.9860	7.6900e-003	7.2200e-003	268.3296
Total	**0.1214**	**0.6364**	**1.1682**	**4.7700e-003**	**0.3723**	**7.0800e-003**	**0.3793**	**0.1003**	**6.7100e-003**	**0.1070**		**497.5807**	**497.5807**	**0.0154**	**0.0406**	**510.0715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

3.7 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0214	0.5610	0.1911	2.1600e-003	0.0705	5.1500e-003	0.0756	0.0203	4.9300e-003	0.0252		231.5947	231.5947	7.7100e-003	0.0334	241.7418
Worker	0.1000	0.0754	0.9771	2.6100e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		265.9860	265.9860	7.6900e-003	7.2200e-003	268.3296
Total	**0.1214**	**0.6364**	**1.1682**	**4.7700e-003**	**0.3723**	**7.0800e-003**	**0.3793**	**0.1003**	**6.7100e-003**	**0.1070**		**497.5807**	**497.5807**	**0.0154**	**0.0406**	**510.0715**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585
Unmitigated	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	198.00	198.00	198.00	569,753	569,753
Total	198.00	198.00	198.00	569,753	569,753

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546774	0.061880	0.186704	0.127505	0.022909	0.005912	0.010702	0.008032	0.000940	0.000617	0.023937	0.000692	0.003397

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Unmitigated	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Total	**3.3800e-003**	**0.0000**	**1.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.3000e-004**	**3.3000e-004**	**0.0000**		**3.5000e-004**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Total	**3.3800e-003**	**0.0000**	**1.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.3000e-004**	**3.3000e-004**	**0.0000**		**3.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation