Professional Design Office
Air Quality and Greenhouse Gas inventory /Analysis Report

Subject:
Professional Design Office
57392 Primrose Drive
Yucca Valley California, 92284 (USA)

Prepared for:
HiTE
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PO Box 771
Yucca Valley California, 92284 (USA)

Prepared by:

K Shashikant, PhD

Date: 9/9/2023

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GLOSSARY OF TERMS

AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds

WRCC	Western Regional Climate Center

1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This air quality and greenhouse gas (GHG) analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by Mojave Desert Air Quality Management District (MDAQMD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

1.2 Project Summary

1.2.1 Site Location

The project site is 0.445 acres of vacant land bounded on the west by Old Woman Springs Road, on the north by Luna Vista Road, on the East by Sage Avenue, and on the south by Primrose Drive, in Yucca Valley California, 92284 (USA) as shown in Exhibit A. The parcel is located in Section 35, Township 2 North, Range 5 West, San Bernardino Baseline and Meridian (SBBM) USGE Yucca Valley North 7.5-minute topographical map. The site has a current land use and zoning designation of Homestead Valley/Rural Living (HV/RL) in the County of San Bernardino General Plan Land Use Plan on the Land Use Zoning Districts Map Yucca Valley North F121A. The project's proposed use is a professional design office.

1.2.2 Project Description

The Project proposes to develop the westerly approximately 0.092 acres (4000 sq ft) of a 0.445 acre (19434 sq ft.) acre site located at 57392, Primrose Drive, Springs Road in the unincorporated community of Flamingo Heights west of the Town of Yucca Valley, California. There is no development within the site with area of 15435 sq ft open area used for garden and other purposes are proposed as part of this project.

The project is proposed as a destination for professional office consisting of the following uses:

Accommodations:

Professional office and parking

Support Buildings/Areas (all area calculations are preliminary subject to refinement during architectural program development):

- Reception office – 495 square feet
- Conference area - 445 square feet

- Indoor parking area – 1915 square feet
- 2 storage space – 90 square feet
- Office storage area – 420 square feet
- Full bath room – 90 square feet
- Small bath room – 75 square feet
- Laundry – 70 square feet

Infrastructure:

- Parking space – as mentioned
- Retention Basin – to be determined
- Package Wastewater Treatment Plant (with leach field) - to be determined
- Dry Utilities – NA
- Wet Utilities – NA
- Reception area

Trails/Paths/Gardens:

- Internal Paths/Walkways between buildings/ site activities – to be determined
- External Trails within the rest of the site (wash, east side of wash) – to be determined

Exhibit B demonstrates the site plan for the project.

There are Construction activities within the Project area will consist of demolition, on-site grading, building, paving, and architectural coating. Table 1 summarizes the land use description for the Project Site.

1.2.3 Sensitive Receptors

There are sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. The Sensitive population groups include office staff in age group of 25 to 50. For CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 8-hours or longer as it is office use.

The closest existing sensitive receptors (to the site area) are the residential land uses located approximately 40 feet north (across Luna Vista Road), 100 feet west (across Old Woman Springs Road), and adjacent to the south of the total 0.445-acre project site.

1.3 Executive Summary of Findings and Mitigation Measures

The following is a summary of the analysis results:

Construction-Source Emissions

There are construction-source emissions which would not exceed applicable regional thresholds of significance established by the MDAQMD.

As discussed herein, the project will comply with all applicable MDAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

There are established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. There are Potential construction-source odor impacts are therefore considered less-than-significant.

Operational-Source Emissions

The project's emissions should meet MDAQMD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. There are Potential operational-source odor impacts are therefore considered less-than significant.

There are Project-related GHG emissions meet the MDAQMD and County of San Bernardino thresholds and are also considered to be less than significant. The project also complies with the goals of the CARB Scoping Plan, AB-32, SB-32 and County of San Bernardino Greenhouse Gas Emissions Reduction Plan.

Mitigation Measures

A. <u>Construction Measures</u>

The project applicant shall ensure that all applicable MDAQMD Rules and Regulations are complied with during construction.

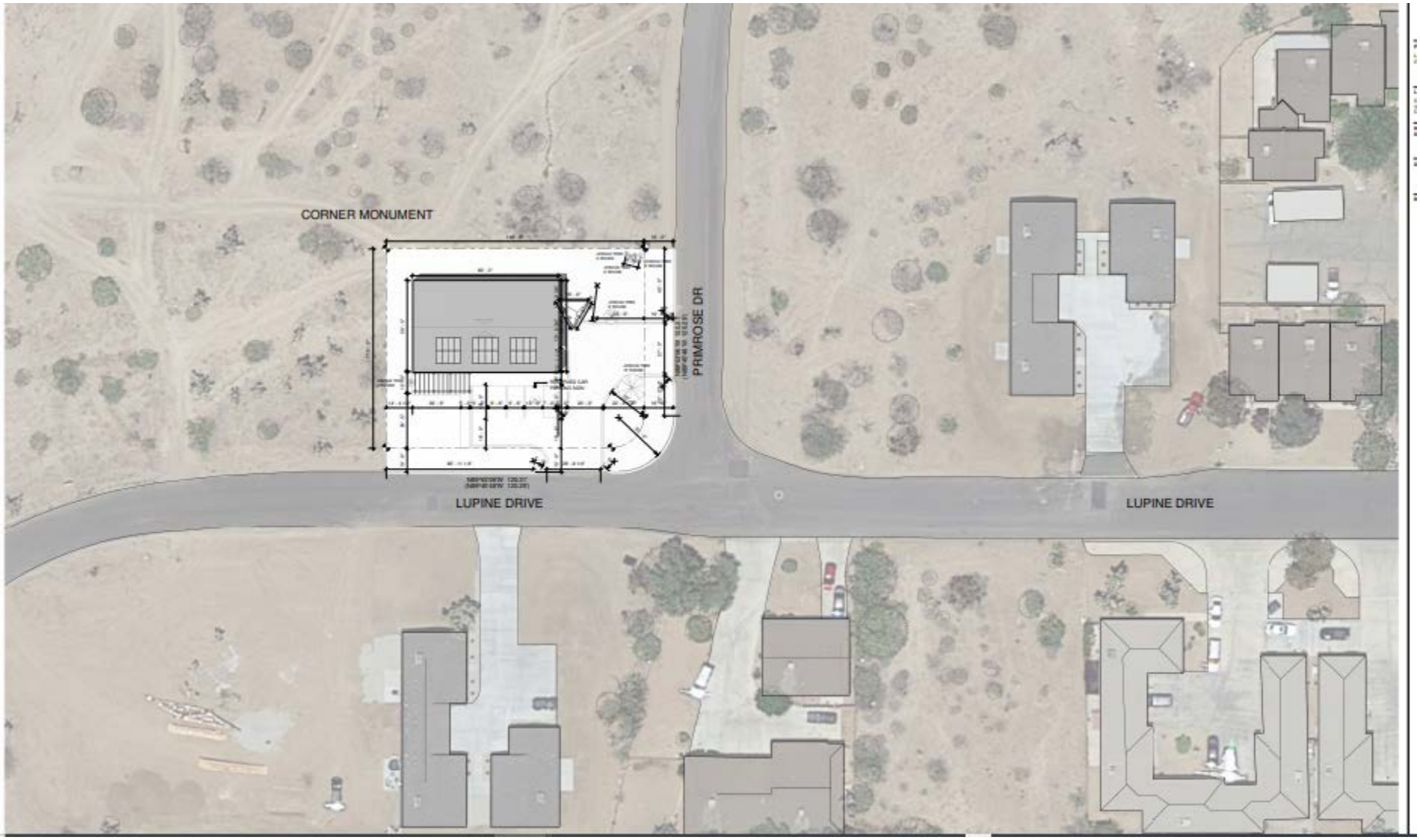
No construction measures are required.

B. <u>Operational Measures to Reduce GHG Emissions</u>

No operational measures are required.

Exhibit A

Location Map

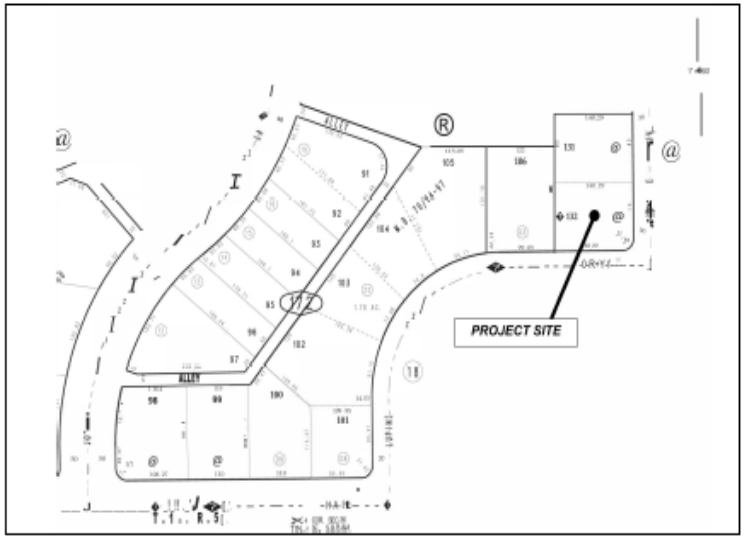

CORNER MONUMENT
PRIMROSE DR
LUPINE DRIVE
LUPINE DRIVE

Professional Design Office
57392, Primrose Drive
Yucca Valley California, 92284 (USA)

Exhibit B

Site Plan

VICINITY MAP



PROJECT INFORMATION

Property Address:
57392 Primrose Drive
Yucca Valley, California 92284

Legal Description:
Lot 132, Tract No. 4856, Joshua Forest Estates No. 2, In the City of Yucca Valley, County of San Bernardino, State of California, as per plat recorded in Book 70 if Maps, Pages 94 to 97, inclusive, records of said county.

APN :
0592-172-03-0-000

C-MU: Mixed use commercial

Type Of Use: Office (business, professional)

Ranch Style Architecture

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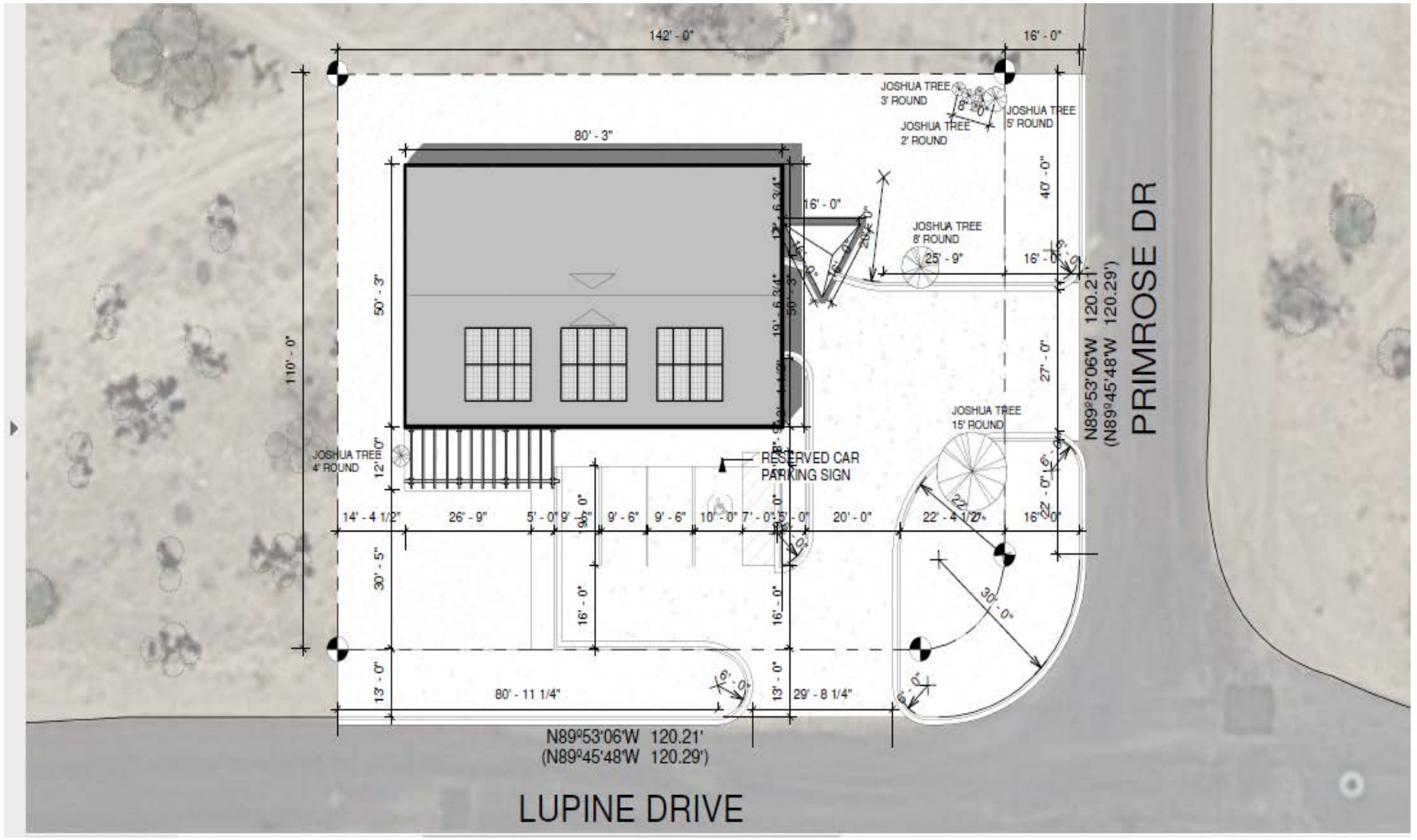
SITE PLAN AND DESIGN
07/25/2023


142' - 0"
16' - 0"
80' - 3"
JOSHUA TREE
3' ROUND
JOSHUA TREE
2' ROUND
JOSHUA TREE
5' ROUND
40' - 0"
16' - 0"
JOSHUA TREE
8' ROUND
25' - 9"
16' - 0"
50' - 3"
110' - 0"
27' - 0"
PRIMROSE DR
N89°53'06"W 120.21'
(N89°45'48"W 120.29')
JOSHUA TREE
15' ROUND
JOSHUA TREE
4' ROUND
RESERVED CAR
PARKING SIGN
14' - 4 1/2"
26' - 9"
5' - 0"
9' - 6"
9' - 6"
10' - 0"
7' - 0"
5' - 0"
20' - 0"
22' - 4 1/2"
16' - 0"
30' - 5"
16' - 0"
16' - 0"
30' - 0"
13' - 0"
80' - 11 1/4"
13' - 0"
29' - 8 1/4"
N89°53'06"W 120.21'
(N89°45'48"W 120.29')
LUPINE DRIVE

2.0 Regulatory Framework and Background

2.1 Air Quality Regulatory Setting

Since the air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The Mojave Desert Air Quality Management District (MDAQMD) regulates at the air basin level.

2.1.1 National and State

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970 as below :

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. There are some Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to project the public health.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. The Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. See http://www.arb.ca.gov/research/aaqs/aaqs.htm for additional information on criteria pollutants and air quality standards.

The federal and state ambient air quality standards are summarized in Table 2 and can also be found at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

Table 1: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentrations[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O3)	1-Hour	0.09 ppm	Ultraviolet Photometry	- -	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm		0.070 ppm (147 µg/m³)		
Respirable Particulate Matter (PM10)[8]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µ/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		- -		
Fine Particulate Matter (PM2.5)[8]	24-Hour	- -	- -	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 µg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 µg/m³)	- -	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 µg/m³)		9 ppm (10 µg/m³)	- -	
	8-Hour (Lake Tahoe)	6 ppm (7 µg/m³)		- -	- -	
Nitrogen Dioxide (NO_2)[9]	1-Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	- -	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (357 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	- -	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	- -		- -	0.5 ppm (1300 mg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[10]	- -	
	Annual Arithmetic Mean	- -		0.130ppm (for certain areas)[10]	- -	
Lead[11,12]	30 Day Average	1.5 µg/m³	Atomic Absorption	- -		
	Calendar Qrtr	- -		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	- -		0.15 µg/m³		
Visibility Reducing Particles[13]	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Notes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

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

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

10. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

2.1.2 Mojave Desert Air Quality Management District

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

The ARB is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval. The Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

California is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The State is currently divided into 15 air basins. The proposed project site is located within the Mojave Desert Air Basin (MDAB). The MDAQMD includes the desert portion of the San Bernardino County. The MDAQMD is responsible for controlling emissions primarily from stationary sources within the MDAQMD and also maintains air quality monitoring stations to document historical and current levels of air quality within the district. The MDAQMD is also responsible for developing, updating, and implementing the Ozone Attainment Plan (MDAQMD 2004) which establishes a plan to implement, maintain, and enforce a program of emission control measures to attain and maintain the federal ozone air quality standards. There are attainment plans prepared by the various air pollution control districts

throughout the state are used to develop the SIP for the State of California. The proposed project is located within the MDAQMD and, thus, is subject to the rules and regulations of the MDAQMD.

The MDAQMD and SCAG are responsible for formulating and implementing the air quality attainment plan (AQAP) for the Basin. Regional AQAPs were adopted in 1991, 1994, and 1997. The following SIP and AQAP are the currently approved plans for the Basin region:

- 1997 SIP for O_3, PM10, and NO_2
- 1995 Mojave Desert Planning Area Federal PM10 Attainment Plan; no formal action by the EPA

The MDAQMD completed the MDAQMD 2004 Ozone Attainment Plan (State and federal) in April 2004, which has been approved by the EPA.

The MDAQMD is downwind of the Los Angeles basin and the San Joaquin Valley. Prevailing winds transport ozone and ozone precursors from both regions into and through the MDAB during the summer ozone season. These transport couplings have been officially recognized by the CARB. There are Local MDAQMD emissions contribute to exceedances of both the NAAQS and CAAQS for ozone, but photochemical ozone modeling conducted by the MDAQMD and CARB indicates that the MDAB would be in attainment of both standards without the influence of this transported air pollution from upwind regions. Therefore, emissions reductions in the upwind area are critical to the attainment demonstration.

The following includes, but is not limited to, the MDAQMD rules that are applicable to the proposed project:

Rule 201 (Permit to Construct) requires written authorization to build, erect, install, alter, or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants. With respect to the proposed project, this rule would apply to any stationary equipment that is not otherwise exempt from this rule as an insignificant source of air pollutants (see Rule 219).

Rule 203 (Permit to Operate) requires written authorization to operate any equipment, the use of which may cause the issuance of air pollutants, or the use of which may reduce or control the issuance of air contaminants. With respect to the proposed project, this rule would apply to any stationary equipment that is not otherwise exempt from this rule as an insignificant source of air pollutants (see Rule 219).

Rule 219 (Equipment Not Requiring A Written Permit Pursuant to Regulation II) specifies stationary sources that the MDAQMD considers to be insignificant sources of air pollutants that are exempt from **Rules 201 and 202.** With respect to the proposed project, the following sources would be exempt from permit requirements:

- Comfort air conditioning or ventilating systems which are not designed or used to remove air contaminants generated by, or released from, specific equipment units;
- Space heaters;
- Equipment used exclusively for steam cleaning;

Rule 402 (Nuisance).
This rule specifies that a person may not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403.2 (Fugitive Dust Control for the Mojave Desert Planning Area).
This rule requires owners or operators of a construction or demolition fugitive dust source to implement the fugitive dust control measures listed in Rule 403.2. These measures include periodic watering for short-term stabilization of disturbed surface area to minimize visible dust emissions, stabilization of graded surfaces if no development is planned within 30 days, reducing non-essential earth moving activity under high wind conditions, and more. In addition, for sites over 100 acres such as the proposed project, the control measures in Rule 403.2 must also be implemented. The additional control measures include preparing and submitting a dust control plan to the MDAQMD prior to commencing earth-moving activities. The dust control plan must describe all applicable dust control measures that will be implemented at the project site. Other additional control measures to minimize visible fugitive dust for sites over 100 acres include stabilizing access routes, maintaining natural topography to the extent possible, and constructing paved roads and parking lots first where feasible.

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

Rule 1160 (Internal Combustion Engines).
This rule establishes limits for VOC, NOx, and CO emissions associated with stationary internal combustion engines. However, the provisions of the rule do not apply to the following engines:

- All internal combustion engines rated at less than 500 brake horsepower;
- All internal combustion engines operated less than 100 hours within any continuous four consecutive calendar quarter period; and
- Emergency internal combustion engines.

Regulation XIII (New Source Review).

In case of new and modified stationary sources subject to permitting requirements (see Rule 201), this series of rules prescribes the use of Best Available Control Technology and the provision of emission offsets (i.e., mitigation) for equipment whose emissions exceed specified thresholds. The applicability of these requirements would be determined upon submittal of an application for permit to construct under Rule 201.

2.1.3 County of San Bernardino

County of San Bernardino General Plan

The Local jurisdictions, such as the County of San Bernardino, has the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the County is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The County is also responsible for the implementation of transportation control measures as outlined in the 2016 AQMP and MDAQMD Attainment Plans. Examples of such measures include bus turnouts, energy efficient street lights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the County assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

In accordance with the CEQA requirements, the County does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the County and region will meet federal and state standards. Instead, the County relies on the expertise of the SCAQMD and MDAQMD and utilizes the SCAQMD CEQA Handbook and MDAQMD California Environmental Quality Act (CEQA) And Federal Conformity Guidelines (depending on the location/jurisdiction of the project) as

guidance documents for the environmental review of plans and development proposals within its jurisdiction.

The County of San Bernardino General Plan contains the following air quality-related goals and policies that are applicable to the proposed project:

Goal CO 4

The County will ensure good air quality for its residents, businesses, and visitors to reduce impacts on human health and the economy.

CO 4.1 Because developments can add to the wind hazard (due to increased dust, the removal of wind breaks, and other factors), the County will require either as mitigation measures in the appropriate environmental analysis required by the County for the development proposal or as conditions of approval if no environmental document is required, that developments in areas identified as susceptible to wind hazards to address site-specific analysis of:

a. Grading restrictions and/or controls on the basis of soil types, topography or season.
b. Landscaping methods, plant varieties, and scheduling to maximize successful revegetation.
c. Dust-control measures during grading, heavy truck travel, and other dust generating activities.

CO 4.2 Coordinate air quality improvement technologies with the South Coast Air Quality Management District (SCAQMD) and the Mojave Desert Air Quality Management District (MDAQMD) to improve air quality through reductions in pollutants from the region.

CO 4.4 Because congestion resulting from growth is expected to result in a significant increase in the air quality degradation, the County may manage growth by ensuring the timely provision of infrastructure to serve new development.

Programs

1. Consistent with the land use designations in the Land Use Policy Map (see the Land Use Element) that will improve growth management at a sub-regional level in relation to major activity centers, review new development to encourage new intensified development around transit nodes and along transit corridors.

2. Locate and design new development in a manner that will minimize direct and indirect emission of air contaminants through such means as:

    a. Promoting mixed-use development to reduce the length and frequency of vehicle trips;
    b. Providing for increased intensity of development along existing and proposed transit corridors; and
    c. Providing for the location of ancillary employee services (including but not limited to child care, restaurants, banking facilities, convenience markets) at major employment centers for the purpose of reducing midday vehicle trips.
    d. The County shall comply, to the extent feasible, with the recommendations on siting new sensitive land uses, as recommended in California Air Resources Board's Air Quality and Land Use Handbook: A Community Health Perspective, which includes the following:

Notable siting recommendations include avoiding siting new sensitive land uses within:

- 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day;
- 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration units exceed 300 hours per week);

- 1,000 feet of a chrome plater;
- 300 feet of any dry-cleaning operation; and 300 feet of a large gas station (defined as a facility with a through put of 3.6 million gallons per year or greater);
  - a 50-foot separation is recommended for typical gas dispensing facilities.

3. Incorporate phasing policies and requirements in the General Plan and development plans to achieve timely provision of infrastructure (particularly transportation facilities) to serve development through:

a. Tying growth to Level of Service (LOS) standards; and
b. Using phasing areas to manage growth.

County of San Bernardino Development Code

83.01.040 - Air Quality

(a) **Equipment permits and Inspection Requirements.**
There are Required permits which shall be obtained from either the Mojave Air Pollution Management District or the South Coast Air Quality Management District depending on the location of the subject property and equipment for equipment that may cause air pollution. Before the equipment may be constructed, plans and specifications shall be submitted to the appropriate District for approval.

(b) **Permits from Air Quality Management Districts.**
There are Permits which shall be obtained from either the Mojave Air Pollution Management District or the South Coast Air Quality Management District depending on the location of the subject property and equipment. If requested by the Director, uses, activities, or processes that require Air Quality Management District approval to operate shall file a copy of the permit with the Department within 30 days of its approval.

(c) **Diesel Exhaust Emissions Control Measures.**
The following emissions control measures shall apply to all discretionary land use projects approved by the County on or after January 15, 2009:

1. **On-Road Diesel Vehicles.**
   On-road diesel vehicles are regulated by the State of California Air Resources Board.

2. **Off-Road Diesel Vehicle/Equipment Operations.**
   All business establishments and contractors that use off-road diesel vehicle/equipment as part of their normal business operations shall adhere to the following measures during their operations in order to reduce diesel particulate matter emissions from diesel fueled engines:

   a. Off-road vehicles/equipment shall not be left idling on site for periods in excess of five minutes. The idling limit does not apply to:

      i. Idling when queuing,
      ii. Idling to verify that the vehicle is in safe operating condition,
      iii. Idling for testing, servicing, repairing, or diagnostic purposes, iv. Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane),
      v. Idling required to bring the machine system to operating temperature, and vi. Idling necessary to ensure safe operation of the vehicle

   b. Use reformulated ultra-low sulfur diesel fuel in equipment and use equipment certified by the U.S. Environmental Protection Agency (EPA) or that pre-dates EPA regulations.
   c. Maintain engines in good working order to reduce emissions.
   d. Signs shall be posted requiring vehicle drivers to turn off engines when parked.
   e. Any requirements or standards subsequently adopted by the South Coast Air Quality Management District, the Mojave Air Quality Management District, or the California Air Resources Board.
   f. Provide temporary traffic control during all phases of construction.
   g. Onsite electrical power connections shall be provided for electric construction tools to eliminate the need for diesel-powered electric generators, where feasible.

h. Maintain construction equipment engines in good working order to reduce emissions. The developer shall have each contractor certify that all construction equipment is properly serviced and maintained in good operating condition.
i. Contractors shall use ultra-low sulfur diesel fuel for stationary construction equipment as required by Air Quality Management District (AQMD) Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
j. Substitute electric and gasoline-powered equipment for diesel-powered equipment, where feasible.

3. **Project Design.**

Distribution centers, warehouses, truck stops and other facilities with loading docks where diesel trucks may reside overnight or for periods in excess of three hours shall be designed to enable any vehicle using these facilities to utilize onsite electrical connections to power the heating and air conditioning of the cabs of such trucks, instead of operating the diesel engines and diesel refrigeration units of such trucks and trailers for these purposes. This requirement shall also apply to Recreational Vehicle Parks (as defined in Section 810.01.200(k) of this title) and other development projects where diesel engines may reasonably be expected to operate on other than an occasional basis.

2.2 Greenhouse Gas Regulatory Setting

2.2.1 International

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

Intergovernmental Panel on Climate Change.

In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations.

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

Kyoto Protocol.

The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

The Paris Agreement.

The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework. The Trump administration has recently indicated the United States federal government will no longer participate in the Paris agreement. However, the U.S. cannot technically withdraw from the Agreement until November 4, 2020.

2.2.2 National

Greenhouse Gas Endangerment.

On December 2, 2009, the EPA announced that GHGs threaten the public health and welfare of the American people. The EPA also states that GHG emissions from on-road vehicles contribute to that threat. The decision was based on *Massachusetts v. EPA* (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

Clean Vehicles.

The Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in

the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Mandatory Reporting of Greenhouse Gases.

On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

Climate Adaption Plan.

The EPA Plan identifies priority actions the Agency will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic

conditions. The following link provides more information on the EPA Plan: https://www.epa.gov/arc-x/planning-climate-change-adaptation

Energy Independence Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.
- Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[1]

Executive Order 13432

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of

[1] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)[2] and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[3] In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

In August 2018, the USEPA and NHTSA proposed the Safer Affordable Fuel-Efficient Vehicles Rule that would, if adopted, maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal, if adopted, would also exclude CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[4]

[2] The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

[3] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/ Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.

[4] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

2.2.3 California

California Code of Regulations (CCR) Title 24, Part 6.

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013 and 2016 standards have been approved and became effective July 1, 2014 and January 1, 2016, respectively. 2019 standards were published July 1, 2019 and became effective January 1, 2020.

California Code of Regulations (CCR) Title 24, Part 11.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. Since the Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The following links provide more information on Title 24, Part 11: https://www.dgs.ca.gov/BSC/Codes https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

California Green Building Standards.

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle, during the 2016 to 2017 fiscal year. During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle.

The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective in 2001 in response to continued efforts to reduce GHG emissions associated with energy consumption. CCR Title 24, Part 11 now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation

measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings, a 50 percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

The 2019 CalGreen Code includes the following changes and/or additional regulations:

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades[5].

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the post-construction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges
Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require post-construction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of post-construction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regards to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

[5] https://ww2.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regards to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regards to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regards to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided, they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official. The following link provides more on CalGreen Building Standards:
http://www.bsc.ca.gov/Home/CALGreen.aspx

Executive Order S-3-05.

California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following targets:

- By 2010, California shall reduce greenhouse gas emissions to 2000 levels;
- By 2020, California shall reduce greenhouse gas emissions to 1990 levels.
- By 2050, California shall reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-01-07.

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

The Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

SB 97.

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Resource Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

In Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance are provided and no specific mitigation measures are identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- There are Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- The Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.

- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

AB 32.

The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

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

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO2e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO2e. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 MMTCO2e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO2e by 2020, representing approximately 25 percent of the 2020 target.

The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 (California Air Resources Board 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As

stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, Including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.[4]

Senate Bill 100.

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-1408,

which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 350.

Senate has Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

SB 375.

The Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable community's strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities' strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG), which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 13 percent below 2005 per capita GHG emissions levels by 2035. On April 4, 2012, SCAG adopted the 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements. The Housing Element Update is required by the State to be completed within 18 months after RTP/SCS adoption or by October 2013.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Senate Bill X7-7.

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. In addition, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

Assembly Bill 939 and Senate Bill 1374.

There is Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Executive Order S-13-08.

Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resource Agency 2009) was adopted, which is the "… first statewide, multi-sector, region-specific, and information-based climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15.

Executive Order B-30-15, establishing a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, was signed by Governor Brown in April 2015.

Executive Order B-29-15.

Executive Order B-29-15, mandates a statewide 25% reduction in potable water usage and was signed into law on April 1, 2015.

Executive Order B-37-16.
Executive Order B-37-16, continuing the State's adopted water reduction, was signed into law on May 9, 2016. The water reduction builds off the mandatory 25% reduction called for in EO B-29-15.

SBX1 2.

Signed into law in April 2011, SBX1 2, requires one-third of the State's electricity to come from renewable sources. The legislation increases California's current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

2.2.4 Mojave Desert Air Quality Management District

The project is within the MDAB, which is under the jurisdiction of the MDAQMD.

As shown in Table 3, the MDAQMD has identified thresholds of 100,000 tons per year or 548,000 pounds per day of CO2e emissions for individual projects.

Table 2: MDAQMD Air Quality Significance Thresholds

Pollutant	Annual Thresholds (tons/year)	Daily Thresholds (pounds/day)
NOx	25	137
VOC	25	137
PM10	15	82
PM2.5	15	82
SOx	25	137
CO	100	548
Lead	0.6	3
Greenhouse Gases (CO2e)	100,000	548,000

Source: http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=2910

2.2.5 County of San Bernardino

County of San Bernardino Greenhouse Gas Emissions Reduction Plan

The County of San Bernardino adopted its "Greenhouse Gas Emissions Reduction Plan" in December 2011. The purpose of the GHG Reduction Plan is to reduce the County's internal and external GHG emissions by 15 percent below current (2011) levels by year 2020. The GHG Reduction Plan includes a two-tiered development review procedure to determine if a project could result in a significant impact related greenhouse gas emissions or otherwise comply with the Plan pursuant to Section 15183.5 of the state CEQA Guidelines.

The initial screening procedure is to determine if a project will emit 3,000 metric tons of carbon dioxide equivalents (MTCO2e) per year or more. Projects that do not exceed this threshold require no further climate change analysis. Projects exceeding this threshold must meet a minimum 31 percent emissions reduction in order to garner a less than significant determination. This can be met by either (1) achieving 100 points from a menu of mitigation options provided in the GHG Plan or (2) quantifying proposed reduction measures. Projects failing to meet the 31 percent reduction threshold would have a potentially significant impact related to climate change and greenhouse gas emissions.

According to the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan*, "all development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions." The Reduction Plan also states that "a review standard of 3,000 MTCO2e per year will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions."
Furthermore, "for projects exceeding 3,000 MTCO2e per year of GHG emissions, the County will use Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner a 100 or greater points would not require quantification of project specific GHG emissions. The point system was devised to ensure to Project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those existing development, will allow the County to meet its 2020 target and support reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions.

County of San Bernardino General Plan

The County of San Bernardino General Plan contains the following greenhouse gas related policies and programs that are applicable to the proposed project:

CO 4.5 Reduce emissions through reduced energy consumption.

Programs

1. Implement programs to phase in energy conservation improvements through the annual budget process.

CO 4.6 Provide incentives such as preferential parking for alternative-fuel vehicles (e.g., CNG or hydrogen).

CO 4.10 Support the development of alternative fuel infrastructure that is publicly accessible.

CO 4.12 Provide incentives to promote siting or use of clean air technologies (e.g., fuel cell technologies, renewable energy sources, UV coatings, and hydrogen fuel).

CO 4.13 Reduce Greenhouse Gas (GHG) emissions within the County boundaries.

Programs

1. Emission Inventories. The County will prepare GHG emissions inventories including emissions produced by: (1) the County's operational activities, services and facilities, over which the County has direct responsibility and control, and (2) private industry and development, that is located within the area subject to the County's discretionary land use authority.

    a. Establish an inventory of existing GHG emissions.
    b. Establish a projected inventory for year 2020.

2. GHG Emissions Reduction Plan. The County will adopt a GHG Emissions Reduction Plan that includes:

    a. Measures to reduce GHG emissions attributable to the County's operational activities, services and facilities, over which the County has direct responsibility and control; and,

b. Measures to reduce GHG emissions produced by private industry and development that is located within the area subject to the County's discretionary land use authority and ministerial building permit authority; and,
c. Implementation and monitoring procedures to provide periodic review of the plan's progress and allow for adjustments overtime to ensure fulfillment of the plan's objectives.

3.0 Setting

3.1 Existing Physical Setting

The project site is located in the unincorporated community of Flamingo Heights in the western portion of the County of San Bernardino, which is part of the Mojave Desert Air Basin (MDAB) that includes the desert portion of San Bernardino County and the far eastern end of Riverside County.

3.1.1 Local Climate and Meteorology

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevada's in the north by the Tehachapi Pass (3,800-foot elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel's by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time the reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The MDAB is classified as a dry hot desert climate (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least three months have maximum average temperatures over 100.4° F.

The temperature and precipitation levels for Joshua Tree, the closest monitoring station to the project site, are in Table 4. Table 4 shows that July is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 3: Meteorological Summary

Month	Temperature (F)		Average Precipitation (inches)
	Average High	Average Low	
January	60.6	38.3	2.08
February	59.9	37.6	0.81
March	67.6	39.6	0.12
April	75.4	45.3	0.03
May	86.2	53.8	0.04
June	91.8	59.5	0.01
July	101.3	70.6	0.00
August	99.4	68.3	0.05
September	94.3	63.0	0.02
October	81.6	53.8	0.15
November	67.9	42.5	0.36
December	59.1	36.8	1.22
Annual Average	**79.0**	**50.9**	**4.9**

Notes:
[1] Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4405

3.1.2 Local Air Quality

The MDAQMD maintains an air-monitoring network that measures levels of several air pollutants throughout the air basin. Since not all air monitoring stations measure all of the tracked pollutants, the data from the following two monitoring stations, listed in the order of proximity to the project site have been used. The nearest air monitoring station to the project site is the Joshua Tree – National Monument monitoring station (Joshua Tree Station) located approximately 9.71 miles southeast of the project site. The next nearest monitoring station to the project site is the Palm Springs – Fire Station monitoring station (Palm Springs Station) located approximately 25.2 miles southwest of the project site at 590 Racquet Club Ave, Palm Springs. Table 5 presents the monitored pollutant levels within the vicinity.

However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

Table 4: Local Area Air Quality Levels

Pollutant (Standard)[2]	Year		
	2016	**2017**	**2018**
Ozone:			
Maximum 1-Hour Concentration (ppm)	0.107	0.117	0.110
Days > CAAQS (0.09 ppm)	**4**	**15**	**11**
Maximum 8-Hour Concentration (ppm)	0.088	0.098	0.096
Days > NAAQS (0.07 ppm)	**38**	**52**	**65**
Days > CAAQS (0.070 ppm)	**40**	**56**	**71**
Carbon Monoxide:			
Maximum 8-Hour Concentration (ppm)	*	*	*
Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:			
Maximum 1-Hour Concentration (ppm)	0.043	0.043	0.043
Days > NAAQS (0.25 ppm)	0	0	0
Inhalable Particulates (PM10):			
Maximum 24-Hour Concentration (ug/m^3)	447.2	105.6	422.3
Days > NAAQS (150 ug/m^3)	**1**	0	**2**
Days > CAAQS (50 ug/m^3)	**3**	**1**	0
Annual Average (ug/m^3)	23.1	22.1	22.9
Annual > NAAQS (50 ug/m^3)	No	No	No
Annual > CAAQS (20 ug/m^3)	**Yes**	**Yes**	**Yes**
Ultra-Fine Particulates (PM2.5):			
Maximum 24-Hour Concentration (ug/m^3)	14.7	14.5	30.2
Days > NAAQS (35 ug/m^3)	0	0	0
Annual Average (ug/m^3)	5.4	6.0	6.0
Annual > NAAQS (15 ug/m3)	No	No	No
Annual > CAAQS (12 ug/m^3)	No	No	No

[1] Source: obtained from https://www.arb.ca.gov/adam/topfour/topfour1.php
[2] CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million
[3] No data available.

The monitoring data presented in Table 5 shows that ozone and particulate matter (PM10) are the air pollutants of primary concern in the project area, which are detailed below.

Ozone

During the 2016 to 2018 monitoring period, the State 1-hour concentration standard for ozone were exceeded between four and 15 days each year at the Joshua Tree Station. The State 8-hour ozone standard has been exceeded between 40 and 71 days each year over the past three years at the Joshua Tree Station. The Federal 8-hour ozone standard has been exceeded between 38 and 65 days each year of the past three years at the Joshua Tree Station.

Carbon Monoxide

The CO is another important pollutant that is due mainly to motor vehicles. The Palm Springs Station did not record an exceedance of the state or federal 8-hour CO standards for the last three years.

Nitrogen Dioxide

The Palm Springs Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Particulate Matter

During the 2016 to 2018 monitoring period, the State 24-hour concentration standard for PM10 was exceeded for three days in 2016 and one day in 017 at the Palm Springs Station. Over the same time period the Federal 24-hour and annual standards for PM10 have been exceeded for one day in 2016 and two days in 2018 at the Palm Springs Station.

The Federal 24-hour standard for PM2.5 has not been exceeded over the last three years at the Palm Springs Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

3.1.3 Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard. Table 6 lists the attainment status for the criteria pollutants in the basin.

As indicated below in Table 3, the MDAB has been designated by the EPA as a non-attainment area for ozone (O3) and suspended particulates (PM10). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO2), nitrogen dioxide (NO2) and particulate matter (PM2.5).

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Table 5: Attainment Status of MDAQMD[1] – Portion of Mojave Desert Air Basin

Pollutant	Federal Designation	State Designation
1-Hour Ozone	--	Nonattainment
8-Hour Ozone	Nonattainment	Nonattainment
CO	Unclassified/Attainment	Attainment
PM10	Nonattainment	Nonattainment
PM2.5	Unclassified/Attainment	Nonattainment
Lead	Unclassified/Attainment	Attainment
SO2	Unclassified/Attainment	Attainment
NO2	Unclassified/Attainment	Attainment

Notes:

[1] MDAQMD = Mojave Desert Air Quality Management District

[2] Source: California Air Resources Board (2019) (https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations) and MDAQMD (https://www.mdaqmd.ca.gov/air-quality/mdaqmd-attaiment-status).

3.2 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO_2 and nitrous oxide (NO_2) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. Table 7 provides a description of each of the greenhouse gases and their global warming potential.

Additional information is available: https://www.arb.ca.gov/cc/inventory/data/data.htm

<Table 7 on next page>

Table 6: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (N_20), also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N_20.
Methane	Methane (CH_4) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	A natural source of CH_4 is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming.
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or methane with chlorine and/or fluorine atoms. Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone, therefore their production was stopped as required by the Montreal Protocol.
Hydrofluorocarbons	Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.

	have a lifetime 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500.	
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.
Notes: 1. Sources: Intergovernmental Panel on Climate Change 2014a and Intergovernmental Panel on Climate Change 2014b. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html		

4.0 Modeling Parameters and Assumptions

4.1 Construction

Emissions are estimated using the CalEEMod (Version 2022.8.1) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. The software CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.

The CalEEMod program uses the EMFAC2014 computer program to calculate the emission rates specific for the MDAQMD portion of San Bernardino County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2014 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. The Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak daily air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed project as indicated in Table 1. As stated above, in Table 1, CalEEMod does not have a Campground/Recreational Vehicle Park (ITE 416) land use in its database. Therefore, the next closest land use available in CalEEMod, City Park (ITE 411), was utilized in the modeling. Furthermore, as the proposed project is a campground, the majority of the project site is anticipated to remain undisturbed. Therefore, per the site plan and the use of Google Earth, the overall area to be disturbed during construction of the proposed project was estimated to be approximately 0.092 acres of the total proposed 0.445-acre Professional office. As Per the project applicant, the proposed project is to be operational in 2024 and construction is estimated to start no sooner than Summer 2023 and be completed by Winter 2024. The phases of the construction activities which have been analyzed below are:

1) demolition
2) Site preparation
3) grading,
4) building construction
5) paving, and
6) architectural coating.

For details on construction modeling and construction equipment for each phase, please see Appendix A.

4.2 Operations

There are Operational or long-term emissions which occur over the life of the Project. There are both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, from landscaping emissions, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. Per the Trip Generation Memorandum prepared by Integrated Engineering Group (August 3, 2020), the proposed project is anticipated to generate approximately 16 AM peak hour vehicle trips and 20 PM peak hour vehicle trips. As a daily trip generation rate is not provided for Campground/ Recreational Vehicle Ground (ITE 416) land use in either the Trip Generation Memorandum prepared for the proposed project nor the ITE 10th Trip Generation Manual,[6] for purposes of this analysis the PM peak hour rate of 20 vehicle trips was utilized to calculate an estimated 20 daily vehicle trips per day[7].

Table 8: Details of trips

Type	Demolition		Site preparation		Grading		Building construction		Paving		Architectural coating	
	One way trip per day	Trip length /trip	One way trip per day	Trip length /trip	One way trip per day	Trip length /trip	One way trip per day	Trip length /trip	One way trip per day	Trip length /trip	One way trip per day	Trip length /trip
Worker	10	18.5	5	18.5	8	18.5	8	18.5	18	18.5	0	0
Vendor	1	10.2	---	10.2		10.2	1	10.2		10.2	0	0
Hauling				20		20		20		20		

[6] Institute of Engineers, Trip Generation Manual, 10 th Edition, 2017, Land Use Code 416. [7] 20 trips/hour x 10 hours = 200 trips per day.

The program then applies the emission factors for each trip which is provided by the EMFAC2014 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A and B for details.

Area Sources

The Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

Per MDAQMD Rule 1113 as amended on April 23, 2012, the architectural coatings that would be applied after January 1, 2013 will be limited to an average of 150 grams per liter or less.

Energy Usage

2022.1.1 CalEEMod defaults were utilized.

5.0 Thresholds of Significance

5.1 Air Quality Thresholds of Significance

5.1.1 CEQA Guidelines for Air Quality

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

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

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by MDAQMD in their CEQA Guidelines.

5.1.2 Regional Significance Thresholds

According to the MDAQMD, a project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and it is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan).

Violation of Air Quality Standards or Substantial Contribution to Air Quality Violations.
The MDAQMD currently recommends that projects with construction-related and/or operational emissions that exceed any of the following emissions thresholds should be considered significant:

- 25 tons per year or 137 pounds per day pounds per day of VOC

- 25 tons per year or 137 pounds per day of NOx
- 100 tons per year or 548 pounds per day of CO
- 25 tons per year or 137 pounds per day of Sox
- 15 tons per year or 82 pounds per day of PM10
- 12 tons per year or 65 pounds per day of PM2.5

For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the MDAQMD significance thresholds identified above and in Table 5.

5.2 Greenhouse Gas Thresholds of Significance

5.2.1 CEQA Guidelines for Greenhouse Gas

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on
March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

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

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

However, despite this, currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency. As previously discussed, (Section 2.2.4 of this report), MDAQMD has identified thresholds of 100,000 tons per year or 548,000 pounds per day of CO2e emissions for individual projects. The MDAQMD thresholds were used in this analysis.

The project's emissions will be compared to a screening threshold of 3,000 MTCO2e/year and the project is expected to comply with the performance standards for commercial uses, as detailed in the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan.*

6.0 Air Quality Emissions Impact

6.1 Construction Air Quality Emissions Impact

The latest version of CalEEMod was used to estimate the onsite and offsite construction emissions. The emissions incorporate Rule 403.2. Rule 403.2 (fugitive dust) is not considered a mitigation measure as the project by default is required to incorporate this rule during construction.

6.1.1 Regional Construction Emissions

The construction emissions for the project would not exceed MDAQMD's daily emissions thresholds as demonstrated in Table 8, and therefore would be considered less than significant.

Table 8: Regional Significance - Construction Emissions (pounds/day)

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO_2	PM10	PM2.5
Grading						
On-Site[2]	2.33	24.99	16.87	0.03	3.71	2.37
Off-Site[3]	0.08	0.06	0.70	0.00	0.19	0.05
Total	**2.42**	**25.05**	**17.57**	**0.03**	**3.90**	**2.43**
Building Construction						
On-Site[2]	1.61	14.59	13.43	0.02	0.78	0.73
Off-Site[3]	6.14	37.23	49.12	0.21	14.01	3.85
Total	**7.75**	**51.83**	**62.55**	**0.23**	**14.78**	**4.59**
Paving						
On-Site[2]	0.55	5.56	7.29	0.01	0.28	0.26
Off-Site[3]	0.04	0.03	0.34	0.00	0.10	0.03
Total	**0.59**	**5.59**	**7.63**	**0.01**	**0.39**	**0.29**
Architectural Coating						
On-Site[2]	45.14	1.41	1.81	0.00	0.08	0.08
Off-Site[3]	0.97	0.61	7.86	0.02	2.35	0.63
Total	**46.11**	**2.02**	**9.67**	**0.03**	**2.43**	**0.71**
Total of overlapping phases[4]	**54.45**	**59.44**	**79.86**	**0.27**	**17.60**	**5.59**
MDAQMD Thresholds	**137**	**137**	**548**	**137**	**82**	**65**

Exceeds Thresholds	No	No	No	No	No	No

Notes:
[1] Source: CalEEMod Version 2016.3.2
[2] On-site emissions from equipment operated on-site that is not operated on public roads. On-site grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with MDAQMD Rule 403.
[3] Off-site emissions from equipment operated on public roads.
[4] Construction, architectural coatings and paving phases may overlap.

6.1.3 Odors

There are Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. The Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

6.1.4 Construction-Related Toxic Air Contaminant Impact

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. The Hazard identification includes identifying all substances that are evaluated for cancer risk and/or non-cancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure.

Given the relatively limited number of heavy-duty construction equipment and construction schedule, the proposed project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

6.2 Operational Air Quality Emissions Impact

6.2.1 Regional Operational Emissions

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2022, which is the anticipated opening year for the project. The summer and winter emissions created by the proposed project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 9.

Table 9: Regional Significance - Operational Emissions (tons/year)

Activity	Pollutant Emissions (tons/year)[1]					
	VOC	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources[2]	0.26	0.00	0.00	0.00	0.00	0.00
Energy Usage[3]	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Sources[4]	0.06	0.44	0.64	0.00	0.19	0.05
Total Emissions	**0.31**	**0.44**	**0.64**	**0.00**	**0.19**	**0.05**
MDAQMD Annual Thresholds	**25**	**25**	**100**	**25**	**15**	**12**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] Source: CalEEMod Version 2016.3.2
[2] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
[3] Energy usage consists of emissions from on-site natural gas usage.
[4] Mobile sources consist of emissions from vehicles and road dust.

Table 9 provides the project's unmitigated operational emissions. Table 9 shows that the project does not exceed the MDAQMD regional emissions thresholds. Therefore, operational emissions are considered to be less than significant.

6.2.2 Operations-Related Toxic Air Contaminant Impacts

MDAQMD recommends avoiding siting new sensitive land uses such as residences, schools, daycare centers, playgrounds, or medical facilities within 1,000 feet of a major transportation project (50,000 or more vehicles per day).

The proposed project involves the construction of a commercial professional office facility and is not considered to be a sensitive receptor (as no permanent residential housing is being established on-site).

Furthermore, the project is not considered a major transportation project and road segment of SR 247 north of Yucca Valley, junction Route 62, has an ADT of 11,800 vehicles[7]. As Per the project-specific Traffic Generation Memorandum (IEG 2020) the project is only anticipated to generate approximately 20 daily vehicle trips (20 PM peak hour volume trips).

The closest existing sensitive receptors (to the site area) are the residential land uses located approximately 40 feet north (across Luna Vista Road), 100 feet west (across Old Woman Springs Road), and adjacent to the south of the total 640-acre project site.

Therefore, as the proposed project is not a sensitive receptor, does not generate more than 50,000 vehicles per day, and will not be exposed to roadways carrying 50,000 or more vehicles per day; a project-specific health risk assessment is not required or warranted. Impacts to nearby sensitive receptors are considered to be less than significant.

6.2.3 Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from vehicular emissions, fire pits, and trash storage areas. As the project is that of a commercial use (destination glamping facility) and the nearest sensitive receptors are located approximately 40 feet from the project boundaries, no significant impact related to odors would occur during the on-going operations of the proposed project.

6.3 Cumulative Regional Air Quality Impacts

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the project's air quality must be generic by nature.

The project area is out of attainment for both ozone and particulate matter. Construction and operation of cumulative projects will further degrade the air quality of the Mojave Desert Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance

[7] Source 2018 Caltrans Traffic Counts (https://dot.ca.gov/programs/traffic-operations/census)

with the MDAQMD methodology, projects that do not exceed the MDAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact.

Project operations would generate emissions of NOx, ROG, CO, PM10, and PM2.5, which would not exceed the MDAQMD regional thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors. As a result, the project would result in a less than significant cumulative impact for operational emissions.

6.4 Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). According to the MDAQMD, a project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan.

A project is conforming if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. An example of a non-conforming project would be one that increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan). The "one map approach" is employed by the County of San Bernardino, as it permits the use of a single map showing both General Plan land use designations and zoning classifications. The one-map approach assures that there will always be land use consistency between the County's General Plan and its Zoning Code.

The project site is located within unincorporated San Bernardino County. The proposed project includes a campground that includes 20 glamping lofts, 20 teepee sites, and 35 glamping sites. Per the County's Land Use Zoning District map – Yucca Valley North F121A, the current land use zoning district is Homestead Valley/Rural Living (HV/RL). As shown by the results of this air analysis, the project's emissions do not exceed any MDAQMD thresholds during either short-term construction or long-term operation of the project. Therefore, as the project is a campground use, the proposed project is not anticipated to exceed the Attainment Plan assumptions for the project site.

Based on the above, the proposed project would not conflict with implementation of the MDAQMD Attainment Plans, impacts are considered to be less than significant.

7.0 Greenhouse Gas Impact Analysis

7.1 Construction Greenhouse Gas Emissions Impact

The greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 10. The emissions are from all phases of construction. The total construction emissions amortized over a period of 30 years are estimated at 2.26 metric tons of CO_2e per year. The annual CalEEMod output calculations are provided in Appendix B.

Table 10: Construction Greenhouse Gas Emissions

Activity	**Emissions ($MTCO_2e$)[1] Total**
Demolition	3.879
Site Preparation	0.390
Grading	1.559
Building Construction[2] -2023	30.54
Building Construction[2] - 2024	29.27
Paving	1.874
Architectural Coating	0.304
Total	67.816
Averaged over 30 years	2.26

Notes:
1. $MTCO_2e$=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane and nitrous oxide).
The emissions are averaged over 30 years because the average is added to the operational emissions, pursuant to * CalEEMod output (Appendix B)

7.2 Operational Greenhouse Gas Emissions Impact

Operational emissions occur over the life of the project. Table 11 below shows that the subtotal for the proposed project would result in annual emissions of 450.51 MT CO2e per year (without the addition of amortized construction emissions which would add an additional 107.48 MT CO2e per year; see Appendix C CalEEMod Annual Output for details). The total emissions of 557.99 MTCO2e/year (450.51 MT plus 107.48 MT) would not exceed the San Bernardino County screening threshold of 3,000 metric tons per year of CO2e. As shown in Table 11, the project's total GHG emissions would also not exceed the MDAQMD annual threshold of 100,000 MTCO2e or the MDAQMD daily threshold of 548,000 pounds of CO2e.

According to the San Bernardino County thresholds of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations would exceed 3,000 metric tons per year of CO2e. Therefore, as the project's total emissions do not exceed 3,000 metric tons per year of CO2e, operation of the proposed project would not create a significant cumulative impact to global climate change.

Table 11: Opening Year Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)[1]						CO_2e	(lbs/day)
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	R		CO2e
Area Sources[2]	—	0.06	0.06	< 0.005	< 0.005	—	0.06	0.72
Energy Usage[3]	—	22.7	22.7	< 0.005	< 0.005	—	22.7	137
Mobile Sources[4]	—	71.0	71.0	< 0.005	< 0.005	0.13	72.2	619
Solid Waste[5]	0.33	0.00	0.33	0.03	0.00	—	1.16	7.01
Water[6]	0.23	0.99	1.21	0.02	< 0.005	—	1.96	11.8
Construction[7]	—	37.9	37.9	< 0.005	< 0.005	< 0.005	38.1	3169
Total Emissions	0.56	132.6	133.2	0.06	< 0.005	0.13	136.2	**3944.53**
MDAQMD GHG Thresholds							**100,000**	**548,000**
County of San Bernardino GHG Emissions Reduction Plan Threshold							**3,000**	**-**
Exceeds Threshold?						**No**		**No**

Notes:
[1] Source: CalEEMod Version 2016.3.2
[2] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.
[3] Energy usage consist of GHG emissions from electricity and natural gas usage.
[4] Mobile sources consist of GHG emissions from vehicles.
[5] Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
[6] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[7] Construction GHG emissions based on a 30 year amortization rate.

7.3 Greenhouse Gas Plan Consistency

The proposed project would have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

According to the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan*, "all development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000

MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions." The Reduction Plan also states that "the 3,000 MTCO2e per year value was chosen as the medial value and is used in defining small projects that must include the Performance Standards as described in Attachment B (of the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan*), but do not need to use the Screening Tables or alternative GHG mitigation analysis described in Attachment D (of the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan*)."

The project's total net operational GHG emissions do not exceed the County's screening threshold of 3,000 MTCO2e per year. Therefore, the project does not need to accrue points using the screening tables and is consistent with the GHG Plan, pursuant to Section 15183.5 of the State CEQA Guidelines. As mentioned above, the project is expected to comply with the performance standards for commercial uses as detailed in the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan* (see Appendix B for details on the performance standards for commercial projects). The proposed project will not result in substantial emissions of greenhouse gases and will not conflict with the Green County initiatives.

7.4 Cumulative Greenhouse Gas Impacts

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[9] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Currently, the County of San Bernardino Greenhouse Gas Emissions Reduction Plan's initial screening procedure is to determine if a project will emit 3,000 metric tons of carbon dioxide equivalents (MTCO2E) per year or more. Projects that do not exceed this threshold require no further climate change analysis. Therefore, consistent with CEQA Guidelines Section 15064h(3),[10] the County, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change

would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As discussed in Section 7.3 above, the project is consistent with the goals and objectives of the County of San Bernardino Greenhouse Gas Emissions Reduction Plan. Therefore, the project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

9 Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

10 The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan,
[and] plans or regulations for the reduction of greenhouse gas emissions."

8.0 References

The following references were used in the preparing this analysis.

California Air Pollution Control Officers Association

2009 Health Risk Assessments for Proposed Land Use Projects

California Air Resources Board

2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document

2013 Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities

2014 First Update to the Climate Change Scoping Plan, building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2017 California's 2017 Climate Change Scoping Plan. November.

2020 Historical Air Quality, Top 4 Summary

County of San Bernardino

2011 County of San Bernardino Greenhouse Gas Emissions Reduction Plan. September.

2007 County of San Bernardino 2007 General Plan

2007 County of San Bernardino 2007 Development Code. March 13.

Governor's Office of Planning and Research

2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

CEQA Guideline Sections to be Added or Amended

Integrated Engineering Group (IEG)

2020 2107 Old Woman Springs Road Trip Generation Memorandum. August 3.

Mojave Desert Air Quality Management District (MDAQMD)

2016 California Environmental Quality Act (CEQA) And Federal Conformity Guidelines. August

Office of Environmental Health Hazard Assessment

2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

Appendix A:

CalEEMod Daily Emission Output

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Yucca Valley California, 92284 (USA)

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05512022 Professional design office

57392 ,Primrose Drive , Yucca Valley California, 92284 (USA)

There are input values given to CcalmodeEE software as below :

1.0 Project Characteristics

- County: San Bernardino-Mojave Desert
- City: Yucca Valley
- TAZ: 5142
- Locational Context: Rural
- Air Basin: Mojave Desert
- Air District: Mojave Desert AQMD
- Gas Utility: Southern California Gas
- Electric Utility: Southern California Edison

Sea Level Rise : 0 m

Wildfire : 0.57 ha

Type	Subtype	unit	Size	Lot Acreage	Building sq ft	Land scape area (sq ft)
commercial	General office building	1000 sq ft	4	0.0918	4000	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	14.4
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.983	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.00400

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1.3 Construction Phases

Phase Name	Phase Type	Start Date	End Date	Days/Week	Work Days per Phase	Phase Description
Demolition	Demolition	10/01/23	10/15/23	5 Days/Week	10	This is demolition of existing structure
Site Preparation	Site Preparation	10/16/23	10/17/23	5 Days/Week	1	This is preparation of site for construction
Grading	Grading	10/18/23	10/20/23	5 Days/Week	2	This is grading work for site
Building Construction	Building Construction	10/21/23	03/09/24	5 Days/Week	100	Construction of building work
Paving	Paving	03/10/24	03/15/24	5 Days/Week	5	This pavement work for road
Architectural Coating	Architectural Coating	03/16/24	03/21/24	5 Days/Week	5	Architectural coating work

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1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use – Professional office with 4000 sq ft area

Construction Phase - Construction anticipated to begin Oct 2023 & be completed in March 2024 and Site is vacant, no demo/site prep.

Grading - Site anticipated to balance. Minimal grading anticipated to occur on-site.

Demolition

Equipment Type	Fuel Type	Engine Tier	Number/Day	Hours/Day	Horsepower	Load Factor
Equipment Type Tractors/Loaders/Backhoes	Diesel	Average	2	6	84	0.37
Equipment Type Rubber Tired Dozers	Diesel	Average	1	1	367	0.40
Equipment Type Concrete/Industrial Saws	Diesel	Average	1	8	33	0.73

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Site Preparation

Equipment Type	Fuel Type	Engine Tier	Number/ Day	Hours/ Day	Horsepower	Load Factor
Equipment Type Graders	Diesel	Average	1	8	148	0.41
Equipment Type Tractors/Loaders/Backhoes	Diesel	Average	1	8	84	0.37

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Grading

Equipment Type	Fuel Type	Engine Tier	Number/ Day	Hours /Day	Horsepower	Load Factor
Equipment Type Graders	Diesel	Average	1	6	148	0.41
Equipment Type Rubber Tired Dozers	Diesel	Average	1	6	367	0.40
Equipment Type Tractors/Loaders/Backhoes	Diesel	Average	1	7	84	0.37

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Building Construction

Equipment Type	Fuel Type	Engine Tier	Number/ Day	Hours /Day	Horsepower	Load Factor
Equipment Type Cranes	Diesel	Average	1	4	367	0.29
Equipment Type Forklifts	Diesel	Average	2	6	82	0.20
Equipment Type Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37

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Paving

Equipment Type	Fuel Type	Engine Tier	Number/Day	Hours/Day	Horsepower	Load Factor
Equipment Type Tractors/Loaders/Backhoes	Diesel	Average	1	7	84	0.37
Equipment Type Cement and Mortar Mixers	Diesel	Average	4	6	10	0.56
Equipment Type Pavers	Diesel	Average	1	7	81	0.42
Equipment Type Rollers	Diesel	Average		7	36	0.38

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Architectural Coating

Equipment Type	Fuel Type	Engine Tier	Number/Day	Hours/Day	Horsepower	Load Factor
Equipment Type Air Compressors	Diesel	Average	1	6	37	0.48

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Emission factor units are in g/bhp-hr FOR 2023 YEAR

Equipment	Fuel	Tier	HP	TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5 E	CO_2	CH_4	N_2O
Tractors/Loaders/Backhoes	Diesel	Average	75–99.9	0.268	0.225	2.32	3.49	0.005	0.111	0.102	530	0.021	
Rubber Tired Dozers	Diesel	Average	300–599.9	0.529	0.445	4.46	3.58	0.005	0.201	0.185	532	0.022	
Concrete/Industrial Saws	Diesel	Average	25–49.9	0.614	0.507	3.86	4.43	0.007	0.137	0.126	575	0.023	0.005
Site preparation													
Graders	Diesel	Average	100–174.9	0.458	0.385	3.51	3.42	0.005	0.193	0.177	530	0.021	
Tractors/Loaders/Backhoes	Diesel	Average	75–99.9	0.268	0.225	2.32	3.49	0.005	0.111	0.102	530	0.021	
Grading													
Graders	Diesel	Average	100–174.9	0.458	0.385	3.51	3.42	0.005	0.193	0.177	530	0.021	
Rubber Tired Dozers	Diesel	Average	300–599.9	0.529	0.445	4.46	3.58	0.005	0.201	0.185	532	0.022	
Tractors/Loaders/Backhoes	Diesel	Average	75–99.9	0.268	0.225	2.32	3.49	0.005	0.111	0.102	530	0.021	
Building construction													
Cranes	Diesel	Average	300–599.9	0.253	0.213	2.23	1.70	0.005	0.089	0.082	528	0.021	
Forklifts	Diesel	Average	75–99.9	0.377	0.316	2.98	3.63	0.005	0.182	0.168	527	0.021	
Tractors/Loaders/Backhoes	Diesel	Average	75–99.9	0.268	0.225	2.32	3.49	0.005	0.111	0.102	530	0.021	

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Emission factor units are in g/bhp-hr FOR 2024 YEAR

Equipment	Fuel	Tier	HP	TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	CO_2	CH_4	N_2O
Cranes	Diesel	Average	300–599.9	0.250	0.210	2.13	1.68	0.005	0.086	0.079	528	0.021	0.004
Forklifts	Diesel	Average	75–99.9	0.347	0.292	2.75	3.61	0.005	0.157	0.145	527	0.021	0.004
Tractors/Loaders/Backhoes	Diesel	Average	75–99.9	0.256	0.215	2.19	3.49	0.005	0.097	0.089	530	0.021	0.004
Paving													
Tractors/Loaders/Backhoes	Diesel	Average	75–99.9	0.256	0.215	2.19	3.49	0.005	0.097	0.089	530	0.021	
Cement and Mortar Mixers	Diesel	Average	0–24.9	0.670	0.554	4.20	3.26	0.009	0.164	0.151	570	0.023	
Pavers	Diesel	Average	75–99.9	0.295	0.248	2.71	3.42	0.005	0.144	0.133	526	0.021	
Rollers	Diesel	Average	25–49.9	0.736	0.618	3.81	4.19	0.005	0.192	0.177	587	0.024	
Architectural Coating													
Air Compressors	Diesel	Average	25–49.9	0.703	0.581	3.86	4.88	0.007	0.136	0.125	568	0.023	

Construction
Trips and VMT

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Demolition

Trip Type	# One-Way Trips/day	Trip Length (miles/one-way trip)	Vehicle Class
Worker	10	18.50	LDA,LDT1,LDT2
Vendor	Recommended	10.20	HHDT,MHDT
Hauling	0	20.00	HHDT
Onsite truck	Recommended		HHDT

Site Preparation

Trip Type	# One-Way Trips/day	Trip Length (miles/one-way trip)	Vehicle Class
Worker	5	18.50	LDA,LDT1,LDT2
Vendor	Recommended	10.20	HHDT,MHDT
Hauling	0	20.00	HHDT
Onsite truck	Recommended		HHDT

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Grading

Trip Type	# One-Way Trips/day	Trip Length (miles/one-way trip)	Vehicle Class
Worker	8	18.50	LDA,LDT1,LDT2
Vendor	Recommended	10.20	HHDT,MHDT
Hauling	0	20.00	HHDT
Onsite truck	Recommended		HHDT

Building Construction

Trip Type	# One-Way Trips/day	Trip Length (miles/one-way trip)	Vehicle Class
Worker	1	18.50	LDA,LDT1,LDT2
Vendor	1	10.20	HHDT,MHDT
Hauling	0	20.00	HHDT
Onsite truck	Recommended		HHDT

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Paving

Trip Type	# One-Way Trips/day	Trip Length (miles/one-way trip)	Vehicle Class
Worker	18	18.50	LDA,LDT1,LDT2
Vendor	Recommended	10.20	HHDT,MHDT
Hauling	0	20.00	HHDT
Onsite truck	Recommended		HHDT

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Architectural Coating

Trip Type	# One-Way Trips/day	Trip Length (miles/one-way trip)	Vehicle Class
Worker	0	18.50	LDA,LDT1,LDT2
Vendor	Recommended	10.20	HHDT,MHDT
Hauling	0	20.00	HHDT
Onsite truck	Recommended		HHDT

Construction

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	Percent (%) of Travel on Paved Roads				Roadway Characteristics			Vehicle Characteristics	
Phase Name	% Pave Worker	% Pave Vendor	% Pave Hauling	% Pave Onsite Truck	Road Silt Loading (g/m²)	Material Silt Content (%)	Material Moisture Content (%)	Average Vehicle Weight (tons)	Mean Vehicle Speed (mph)
Demolition	100	100	100	0	0.1	8.5	0.5	2.4	40
Site Preparation	100	100	100	0	0.1	8.5	0.5	2.4	40
Grading	100	100	100	0	0.1	8.5	0.5	2.4	40
Building Construction	100	100	100	0	0.1	8.5	0.5	2.4	40
Paving	100	100	100	0	0.1	8.5	0.5	2.4	40
Architectural Coating	100	100	100	0	0.1	8.5	0.5	2.4	40

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		VOC Content (g/L) by Building and Surface Type					Coated Area (sqft)				
Phase Name	Phase Type	Residential Interior VOC	Non Residential Interior VOC	Residential Exterior VOC	Non Residential Exterior VOC	VOC for Parking Paint	Residential Interior Area	Non Residential Interior Area	Residential Exterior Area	Non Residential Exterior Area	Parking Area
Architectural Coating	Architectural Coating	50	50	50	50	100	0	6,000	0	2,000	Parking A

Add Phase

Land Use Type	Land Use Subtype	Paved Area (acres)	% Asphalt	VOC Off-Gassing Emissions Factor (lb/ac)
Commercial	General Office Building	0	0	2.62

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Southern California Edison

2019 Emissions Factors | Forecasted Factors

Construction Year	CO2 Intensity Factor (lb/MWh)	CH4 Intensity Factor (lb/MWh)	N2O Intensity Factor (lb/MWh)	Electricity (kWh/yr)
2023	531.983	0.033	0.004000000189989805	0
2024	531.983	0.033	0.004000000189989805	0

Your project is located in an area for which default trip purpose splits and trip lengths are available from the local Metropolitan Planning Organization (MPO) or Regional Transportation Planning Agency (RTPA). Would you like to use the MPO/RTPA data to estimate VMT?

CSTDM | MPO/RTPA

Enter VMT and Trips Manually Instead

Rates and Lengths

Land Use Sub Type	Size	Weekday Trip Rate (size/day)	Saturday Trip Rate (size/day)	Sunday Trip Rate (size/day)	Res H-W Trip Length (miles)	Res H-S Trip Length (miles)	Res H-O Trip Length (miles)	Non Res H-W Trip Length (miles)	Non Res W-O Trip Length (miles)	Non Res O-O Trip Length (miles)
General Office Building	4	9.73999977111	2.21000003814	0.69999998807	0	0	0	33.30678525	19.80218964	3.830813187

Purpose and Percentages

Land Use Sub Type	Size	Weekday Primary Trip (%)	Weekday Divert Trip (%)	Weekday Pass-By Trip (%)	Saturday Primary Trip (%)	Saturday Divert Trip (%)	Saturday Pass-By Trip (%)	Sunday Primary Trip (%)	Sunday Divert Trip (%)	Sunday Pass-By Trip (%)	Res H-W T (%)
General Office Building	4	100	0	0	100	0	0	100	0	0	0

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Land Use Subtype	Season	HHD%	LDA%	LDT1%	LDT2%	LHD1%	LHD2%	MCY%	MDV%	MH%	MHD%
General Office Building	Annual	1.9053725525	48.664328455	4.5873429626	20.496889948	3.5384513437	0.9469783864	2.6590250432	15.850318968	0.6395449861	0.531
General Office Building	Summer	1.9053725525	48.664328455	4.5873429626	20.496889948	3.5384513437	0.9469783864	2.6590250432	15.850318968	0.6395449861	0.531
General Office Building	Winter	1.9053725525	48.664328455	4.5873429626	20.496889948	3.5384513437	0.9469783864	2.6590250432	15.850318968	0.6395449861	0.531

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2.0 Emissions Summary

2.1 Overall Construction

Operational Year	Vehicle Type	TOG RUNEX (g/mi)	TOG IDLEX (g/trip)	TOG STREX (g/trip)	TOG DIURN (g/trip)	TOG HOTSOAK (g/trip)	TOG RUNLOSS (g/trip)	ROG RUNEX (g/mi)	ROG IDLEX (g/trip)	ROG STREX (g/trip)	ROG DIURN (g/trip)	ROG HOTSOAK (g/trip)	ROG RUNLOSS (g/trip)	NOx RUNEX (g/mi)	NOx IDLEX (g/trip)	NOx STREX (g/trip)	CO RUNE (g/mi)
2024	HHDT	0.015	0.528	0.000	-	-	-	0.013	0.454	0.000	-	-	-	1.494	5.429	2.417	0.057
2024	LDA	0.013	0.000	0.339	0.336	0.089	0.168	0.009	0.000	0.310	0.336	0.089	0.168	0.042	0.000	0.243	0.698
2024	LDT1	0.061	0.000	0.822	1.024	0.248	0.566	0.042	0.000	0.751	1.024	0.248	0.566	0.205	0.000	0.502	1.966
2024	LDT2	0.018	0.000	0.440	0.365	0.091	0.196	0.012	0.000	0.402	0.365	0.091	0.196	0.079	0.000	0.353	0.873
2024	LHDT1	0.091	0.027	0.116	0.152	0.035	0.124	0.074	0.020	0.106	0.152	0.035	0.124	1.207	0.081	0.384	1.039
2024	LHDT2	0.086	0.018	0.056	0.066	0.015	0.052	0.074	0.014	0.052	0.066	0.015	0.052	1.276	0.125	0.202	0.479
2024	MCY	1.456	0.000	1.613	2.666	3.552	3.717	1.225	0.000	1.484	2.666	3.552	3.717	0.646	0.000	0.155	14.90
2024	MDV	0.032	0.000	0.631	0.493	0.117	0.297	0.022	0.000	0.577	0.493	0.117	0.297	0.143	0.000	0.488	1.164
2024	MH	0.092	0.000	0.125	39.994	9.552	0.164	0.069	0.000	0.114	39.994	9.552	0.164	1.745	0.000	0.298	1.429
2024	MHDT	0.035	0.045	0.094	0.055	0.012	0.040	0.026	0.028	0.086	0.055	0.012	0.040	0.719	0.976	1.067	0.410
2024	OBUS	0.107	0.055	0.191	0.168	0.036	0.092	0.078	0.040	0.175	0.168	0.036	0.092	1.065	0.175	0.573	1.529
2024	SBUS	0.091	0.527	0.019	0.023	0.005	0.096	0.073	0.363	0.018	0.023	0.005	0.096	2.572	1.270	0.568	0.643
2024	UBUS	1.609	0.000	0.227	0.048	0.014	0.026	0.029	0.000	0.207	0.048	0.014	0.026	0.355	0.000	0.345	20.43

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Operational Year	Vehicle Type	CO IDLEX (g/trip)	CO STREX (g/trip)	SOx RUNEX (g/mi)	SOx IDLEX (g/trip)	SOx STREX (g/trip)	PM2.5 RUNEX (g/mi)	PM2.5 IDLEX (g/trip)	PM2.5 STREX (g/trip)	PM2.5 PMTW (g/mi)	PM2.5 PMBW (g/mi)	PM10 RUNEX (g/mi)	PM10 IDLEX (g/trip)	PM10 STREX (g/trip)	PM10 PMTW (g/mi)	PM10 PMBW (g/mi)	CO_2 RUNEX (g/mi)
2024	HHDT	6.684	0.001	0.014	0.010	0.000	0.033	0.002	0.000	0.009	0.025	0.034	0.002	0.000	0.036	0.070	1527.646
2024	LDA	0.000	3.023	0.003	0.000	0.001	0.001	0.000	0.002	0.002	0.002	0.001	0.000	0.002	0.008	0.005	270.134
2024	LDT1	0.000	7.225	0.003	0.000	0.001	0.002	0.000	0.003	0.002	0.002	0.002	0.000	0.004	0.008	0.007	345.451
2024	LDT2	0.000	3.804	0.003	0.000	0.001	0.001	0.000	0.002	0.002	0.002	0.001	0.000	0.002	0.008	0.006	351.942
2024	LHDT1	0.169	1.797	0.006	0.000	0.000	0.014	0.001	0.000	0.002	0.027	0.015	0.001	0.000	0.010	0.078	574.053
2024	LHDT2	0.120	0.897	0.006	0.000	0.000	0.019	0.002	0.000	0.003	0.032	0.020	0.002	0.000	0.011	0.091	624.317
2024	MCY	0.000	8.318	0.002	0.000	0.001	0.002	0.000	0.003	0.001	0.004	0.002	0.000	0.003	0.004	0.012	192.413
2024	MDV	0.000	4.333	0.004	0.000	0.001	0.001	0.000	0.002	0.002	0.002	0.001	0.000	0.002	0.008	0.007	435.714
2024	MH	0.000	2.500	0.015	0.000	0.000	0.053	0.000	0.000	0.003	0.015	0.055	0.000	0.000	0.013	0.042	1560.577
2024	MHDT	0.657	1.847	0.012	0.001	0.000	0.009	0.002	0.000	0.003	0.015	0.009	0.002	0.000	0.012	0.042	1241.175
2024	OBUS	0.385	3.704	0.016	0.000	0.000	0.016	0.001	0.000	0.003	0.016	0.017	0.001	0.000	0.012	0.045	1606.184
2024	SBUS	3.036	0.441	0.011	0.002	0.000	0.014	0.001	0.000	0.003	0.016	0.015	0.001	0.000	0.011	0.047	1138.784
2024	UBUS	0.000	3.486	0.006	0.000	0.000	0.001	0.000	0.000	0.005	0.038	0.001	0.000	0.000	0.022	0.110	1974.200

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Operational Year	Vehicle Type	PM10 RUNEX (g/mi)	PM10 IDLEX (g/trip)	PM10 STREX (g/trip)	PM10 PMTW (g/mi)	PM10 PMBW (g/mi)	CO_2 RUNEX (g/mi)	CO_2 IDLEX (g/trip)	CO_2 STREX (g/trip)	CH_4 RUNEX (g/mi)	CH_4 IDLEX (g/trip)	CH_4 STREX (g/trip)	N_2O RUNEX (g/mi)	N_2O IDLEX (g/trip)	N_2O STREX (g/trip)	HFC RUNEX (g/mi)
2024	HHDT	0.034	0.002	0.000	0.036	0.070	1527.646	1049.011	0.010	0.001	0.032	0.000	0.241	0.165	0.000	0.001
2024	LDA	0.001	0.000	0.002	0.008	0.005	270.134	0.000	67.252	0.002	0.000	0.069	0.005	0.000	0.032	0.000
2024	LDT1	0.002	0.000	0.004	0.008	0.007	345.451	0.000	92.250	0.009	0.000	0.139	0.014	0.000	0.044	0.000
2024	LDT2	0.001	0.000	0.002	0.008	0.006	351.942	0.000	88.132	0.003	0.000	0.086	0.007	0.000	0.038	0.000
2024	LHDT1	0.015	0.001	0.000	0.010	0.078	574.053	9.306	14.899	0.007	0.004	0.021	0.043	0.001	0.030	0.002
2024	LHDT2	0.020	0.002	0.000	0.011	0.091	624.317	15.042	7.737	0.004	0.002	0.011	0.072	0.002	0.016	0.002
2024	MCY	0.002	0.000	0.003	0.004	0.012	192.413	0.000	52.399	0.182	0.000	0.198	0.043	0.000	0.009	0.000
2024	MDV	0.001	0.000	0.002	0.008	0.007	435.714	0.000	107.901	0.005	0.000	0.114	0.011	0.000	0.044	0.000
2024	MH	0.055	0.000	0.000	0.013	0.042	1560.577	0.000	22.446	0.011	0.000	0.028	0.065	0.000	0.031	0.001
2024	MHDT	0.009	0.002	0.000	0.012	0.042	1241.175	154.950	15.317	0.004	0.012	0.016	0.128	0.024	0.011	0.001
2024	OBUS	0.017	0.001	0.000	0.012	0.045	1606.184	47.020	27.807	0.013	0.008	0.034	0.072	0.005	0.028	0.001
2024	SBUS	0.015	0.001	0.000	0.011	0.047	1138.784	218.078	2.399	0.007	0.084	0.003	0.148	0.024	0.003	0.001
2024	UBUS	0.001	0.000	0.000	0.022	0.110	1974.200	0.000	41.042	1.569	0.000	0.048	0.282	0.000	0.030	0.000

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Operations

Road Dust

UPDATE DEFAULTS

CARB Unmitigated Unpaved Road Statewide Emission Inventory Method: Use CARB's 2.0 (lbs PM10/VMT) and 0.2 (lbs PM2.5/VMT)

Roadway Characteristics			Vehicle Characteristics		
% Paved	Road Silt Loading (g/m²)	Average Vehicle Weight (tons)	Material Silt Content (%)	Material Moisture Content (%)	Mean Vehicle Speed (mph)
100	0.1	2.4	4.3	0.5	40

Operations

Consumer Products

UPDATE DEFAULTS

Emission Factors (lb VOC/sq ft/day)

General Category	City Park/Golf Course, Pesticides/Fertilizers	Parking Degreaser
0.0000214	0.000000568334408260447	0.0000000786483312738307

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Operations

Architectural Coatings

UPDATE DEFAULTS

Reapplication Rate Per Year (%) *

10

VOC Content (g/L) by Building and Surface Type					Coated Area (sqft)				
Residential Interior	Non Residential Interior	Residential Exterior	Non Residential Exterior	Parking Paint	Residential Interior	Non Residential Interior	Residential Exterior	Non Residential Exterior	Parking
50	50	50	50	100	0	6,000	0	2,000	-

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Operations

Solid Waste

UPDATE DEFAULTS

					Landfill Gas Treatment		
Land Use Subtype	Unit	Size	Solid Waste Generation Rate (tons/unit/yr)	Solid Waste Generation Rate (tons/year)	No Gas Capture (%)	Capture Gas Flare (%)	Capture Gas Energy Recovery (%)
General Office Buildin	1000sqft	4	0.93	3.72	6	94	0

Operations

Refrigerants

UPDATE DEFAULTS

All

General Office Building

Equipment Type	Refrigerant	GWP	Quantity Installed per Land Use Area (kg/KSF)	Operations Leak Rate (%)	Service Leak Rate (%)	Times Serviced/Equipment Lifetime	Equipment Lifetime
Household refrigerators and/or freezers	R-134a	1430	0.0167910	0.6	0	1	14
Other commercial A/C and heat pumps	R-410A	2088	0.00180000	4	4	18	25

ADD EQUIPMENT

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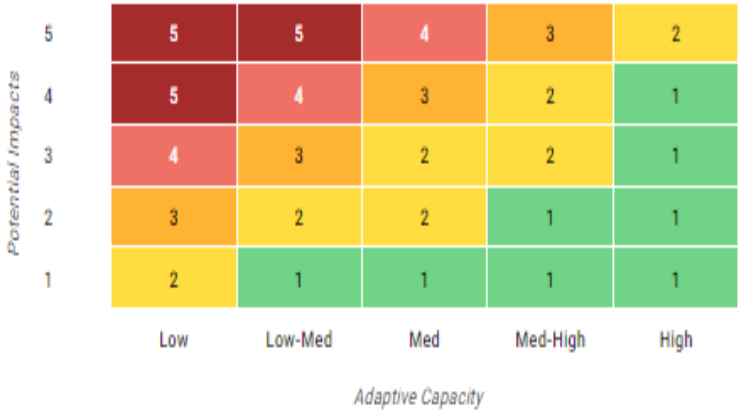
Climate Risk

Develop Overall Vulnerability Score

UPDATE DEFAULTS

This screen presents the overall vulnerability scores for the climate risk analysis. The overall vulnerability scores are calculated based on your potential impacts and adaptative capacity assessments for each hazard, as determined in the prior screens. The matrix shown below illustrates how the model converts the results of the two assessments into a single score.



The calculated scores for your selected hazards are shown below. Hazards that were not selected for analysis on the Introduction screen are excluded from this screen. Because the overall vulnerability scores are based on the previously calculated potential impacts and adaptive capacity scores, they cannot be modified on this screen. If after review, you would like to refine the calculated score(s), please return to the prior screens, and review your responses.

Hazard	Adaptive Capacity	Potential Impact	Score
Temperature and Extreme Heat	N/A	1	N/A
Drought	N/A	N/A	N/A

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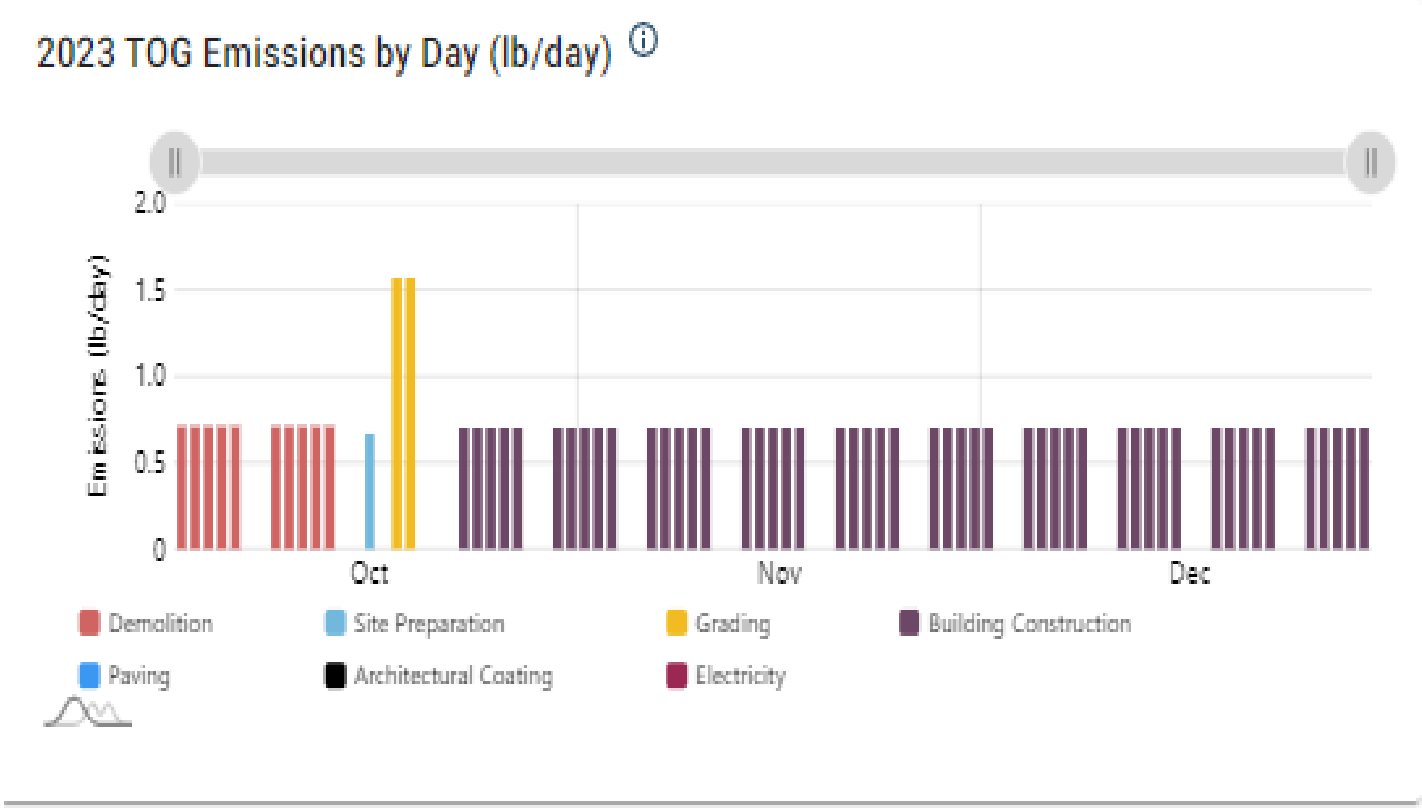
2.0 Emissions Summary



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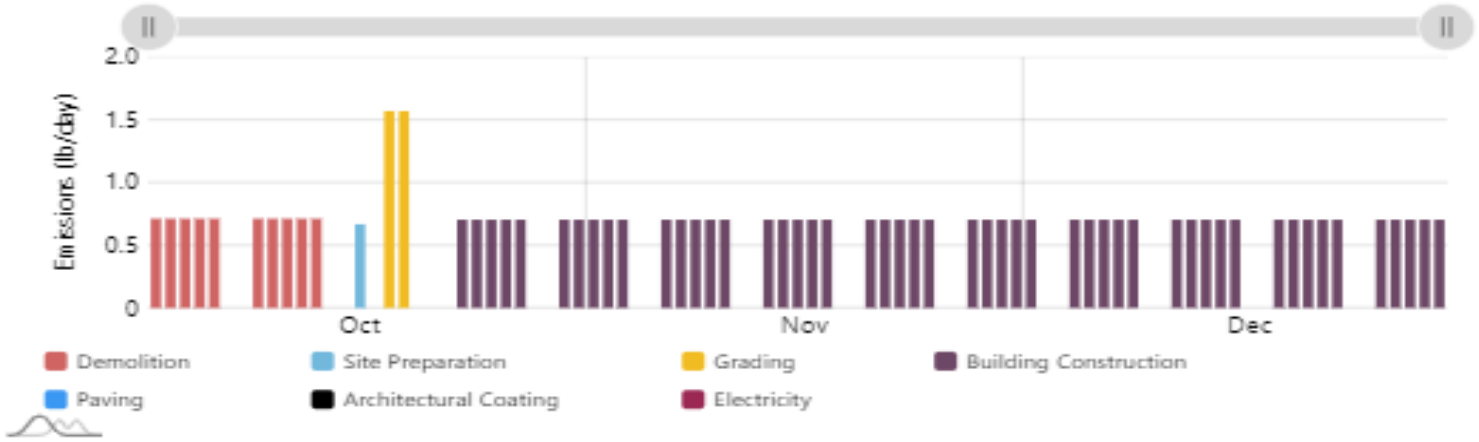
2023 Criteria Pollutant Daily - Summer (Max) Emissions

Pollutant emissions shown as proportion of total emissions.
There are no project phases that occur during the summer of 2023 when this is the case

2023 TOG Emissions by Day (lb/day)



2023 TOG Daily (Average) (lb/day) Emissions by Construction Category

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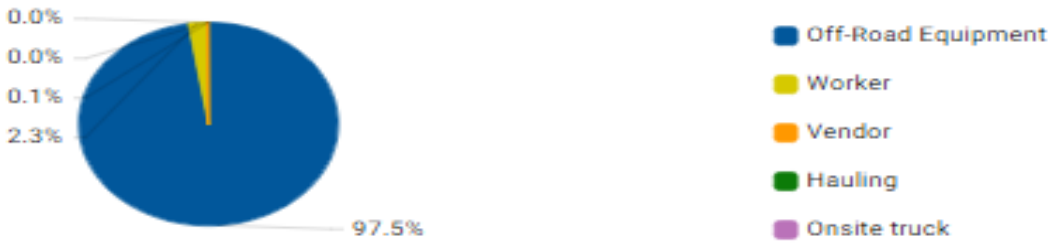
2023 TOG Daily (Average) (lb/day) Emissions by Construction Category



Top Performing User-Selected TOG Measures

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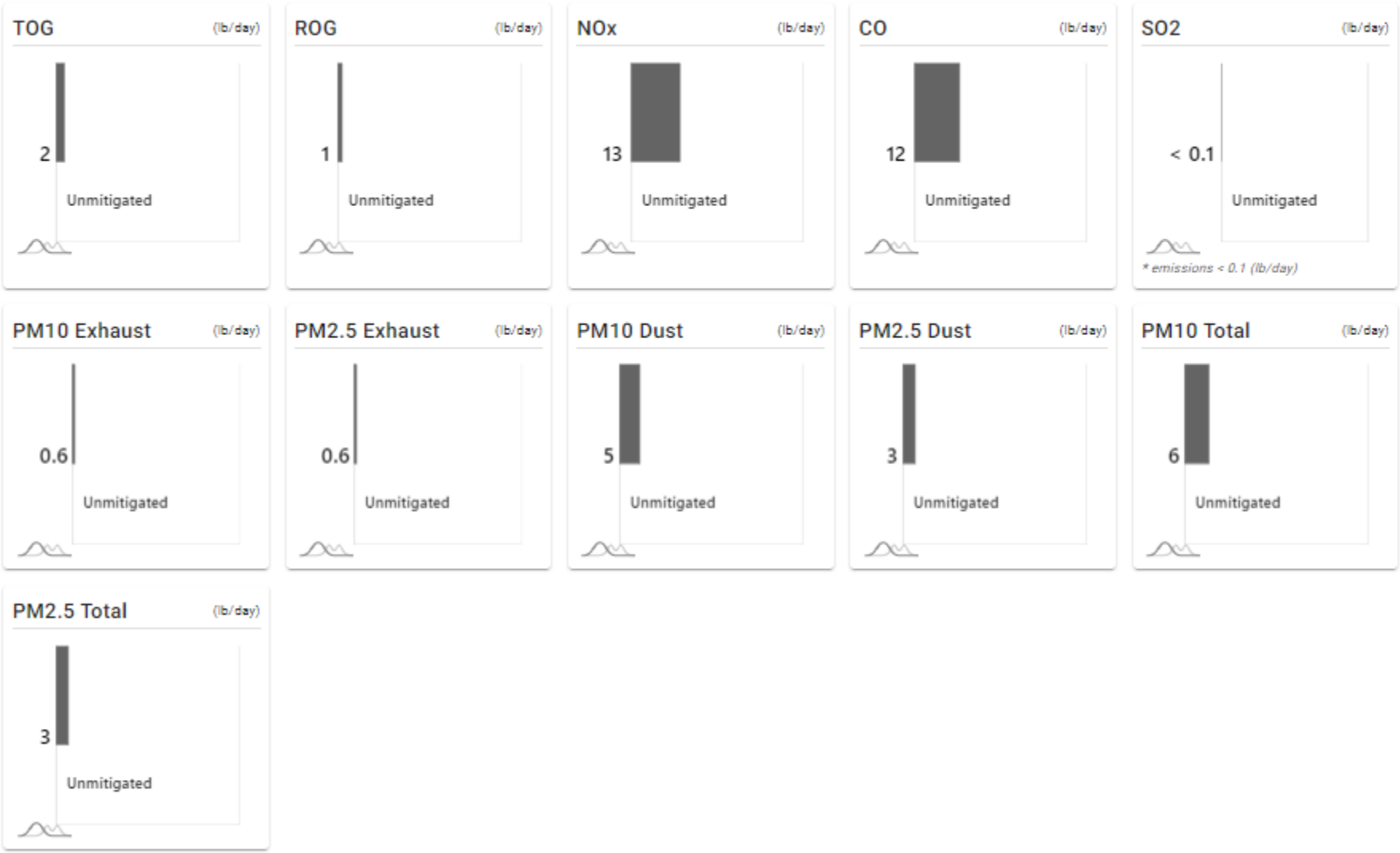
2023 Criteria Pollutant Daily - Winter (Max) Emissions

Pollutant emissions shown as proportion of total emissions.



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2023 Criteria Pollutant Average Daily Emissions

Pollutant emissions shown as proportion of total emissions.

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2023 Criteria Pollutant Annual Emissions

Pollutant emissions shown as proportion of total emissions.

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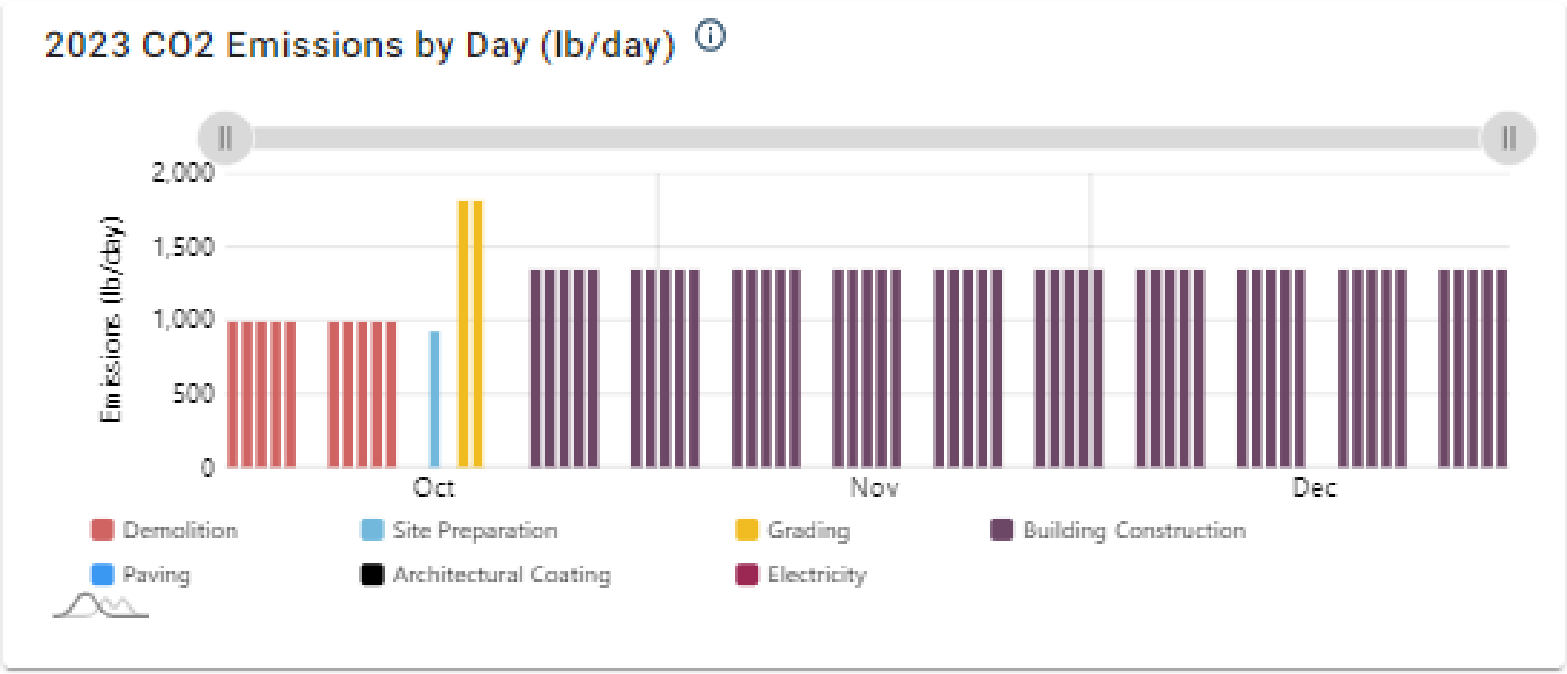

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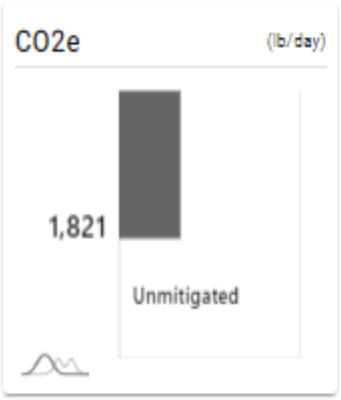
2023 Greenhouse Gas Daily - Winter (Max) Emissions

Pollutant emissions shown as proportion of total emissions.



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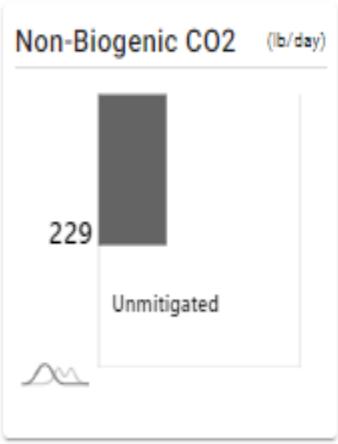
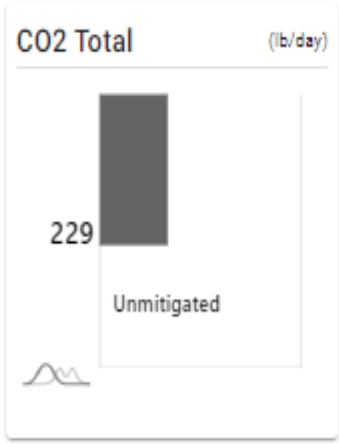
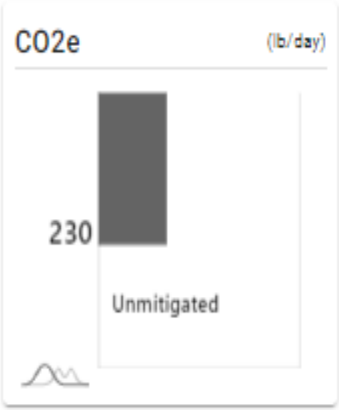
2023 Greenhouse Gas Average Daily Emissions

Pollutant emissions shown as proportion of total emissions.







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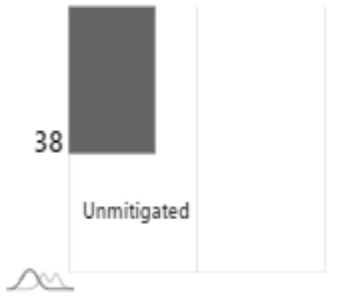
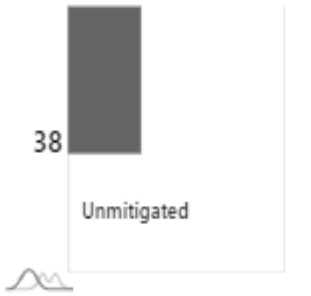
2023 Greenhouse Gas Annual Emissions

Pollutant emissions shown as proportion of total emissions.

Non-Biogenic CO2 (metric ton/year)



CO2 Total (metric ton/year)



CH4 (metric ton/year)

* emissions < 0.1 (metric ton/year)

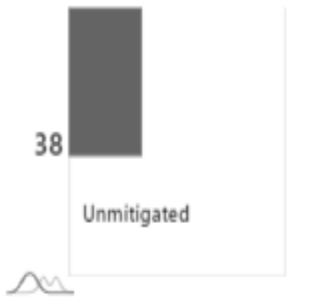
N2O (metric ton/year)

* emissions < 0.1 (metric ton/year)

R (CO2e) (metric ton/year)

* emissions < 0.1 (metric ton/year)

CO2e (metric ton/year)



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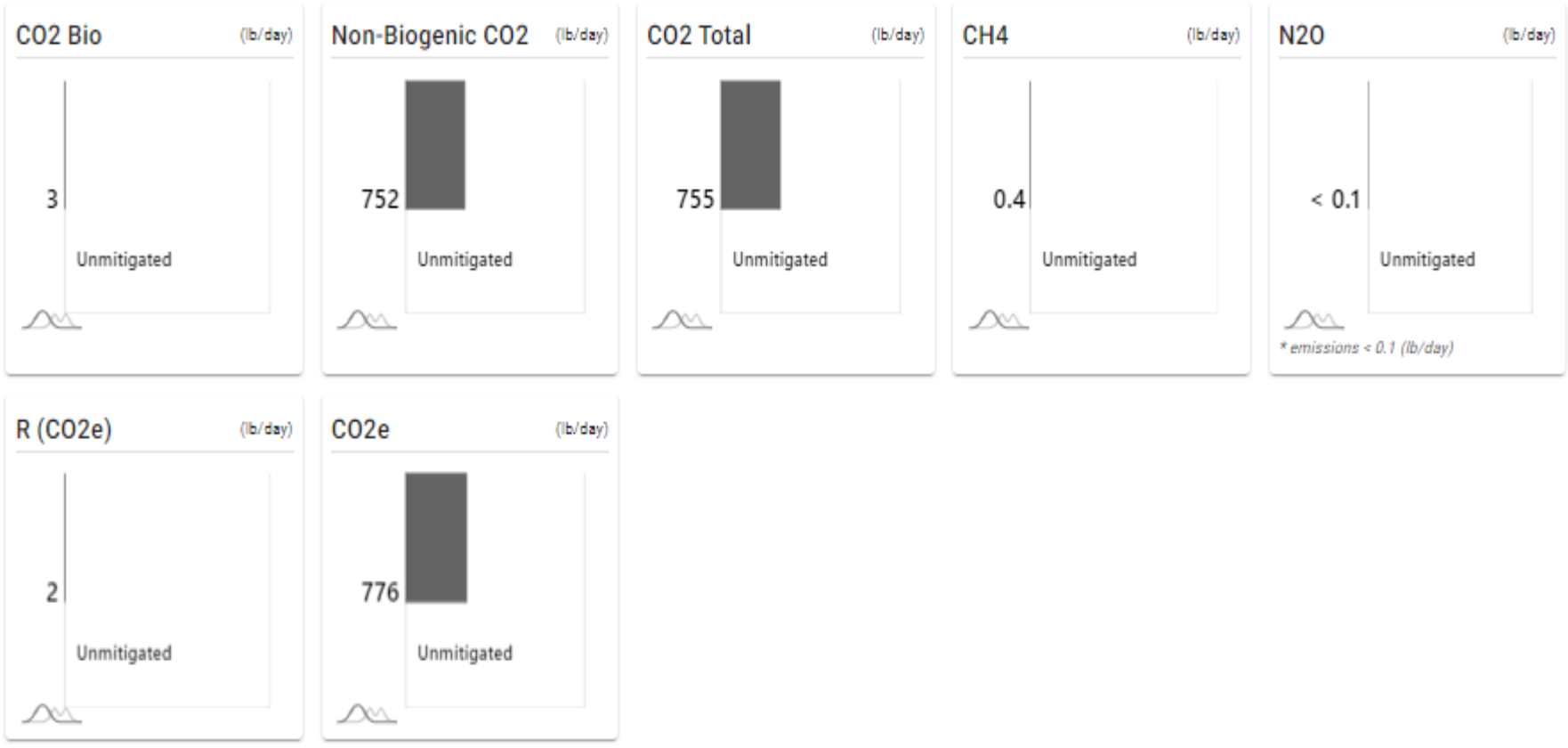
Mitigated results cannot be generated because you have not selected any measures. Please return to the Measures screen to make measure selections.

2024 Greenhouse Gas Daily - Summer (Max) Emissions

Pollutant emissions shown as proportion of total emissions.



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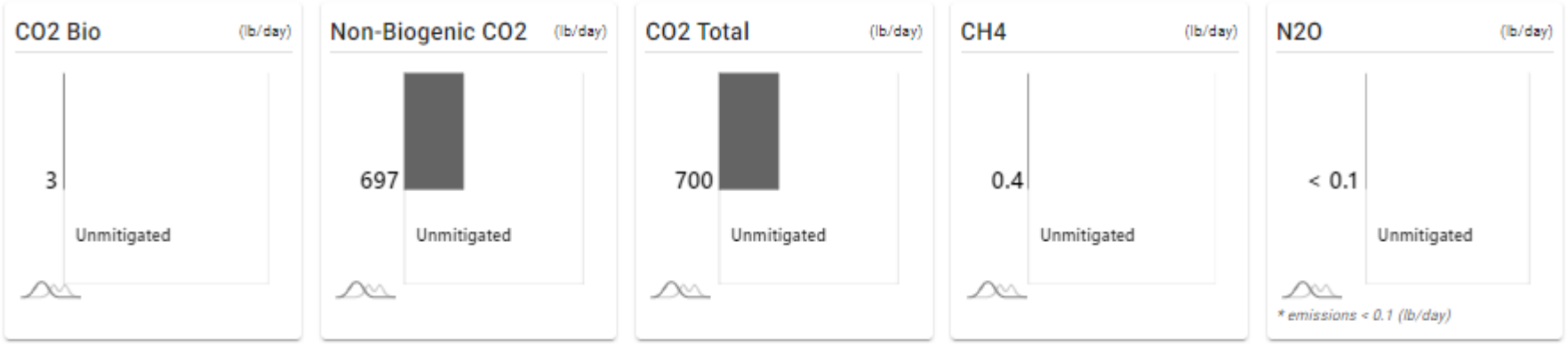
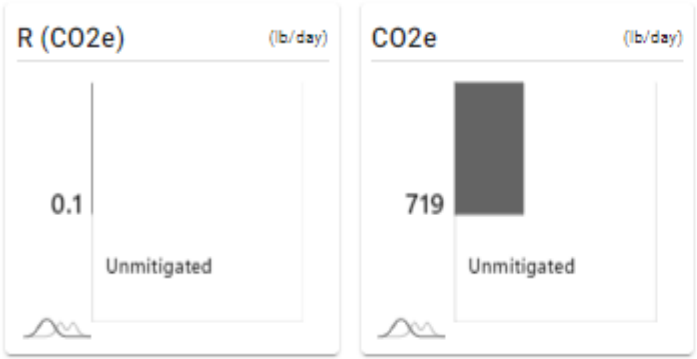
Mitigated results cannot be generated because you have not selected any measures. Please return to the Measures screen to make measure selections.

2024 Greenhouse Gas Daily - Winter (Max) Emissions

Pollutant emissions shown as proportion of total emissions.





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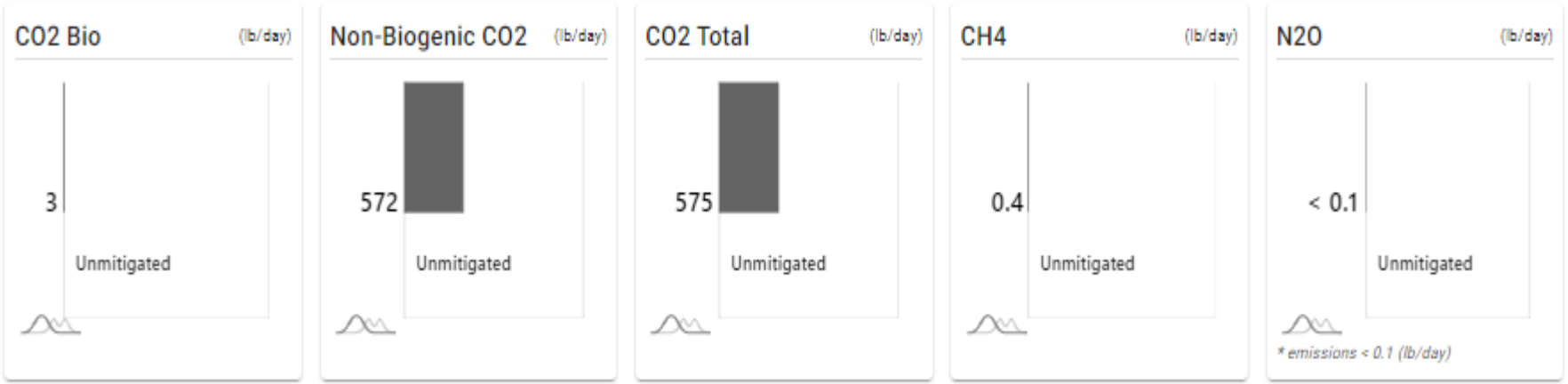
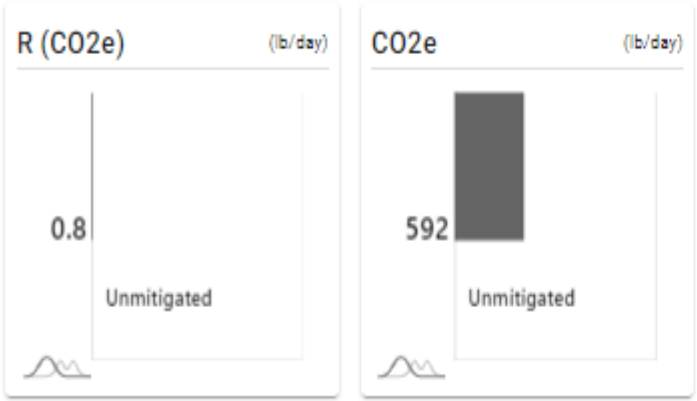
Mitigated results cannot be generated because you have not selected any measures. Please return to the Measures screen to make measure selections.

2024 Greenhouse Gas Average Daily Emissions

Pollutant emissions shown as proportion of total emissions.





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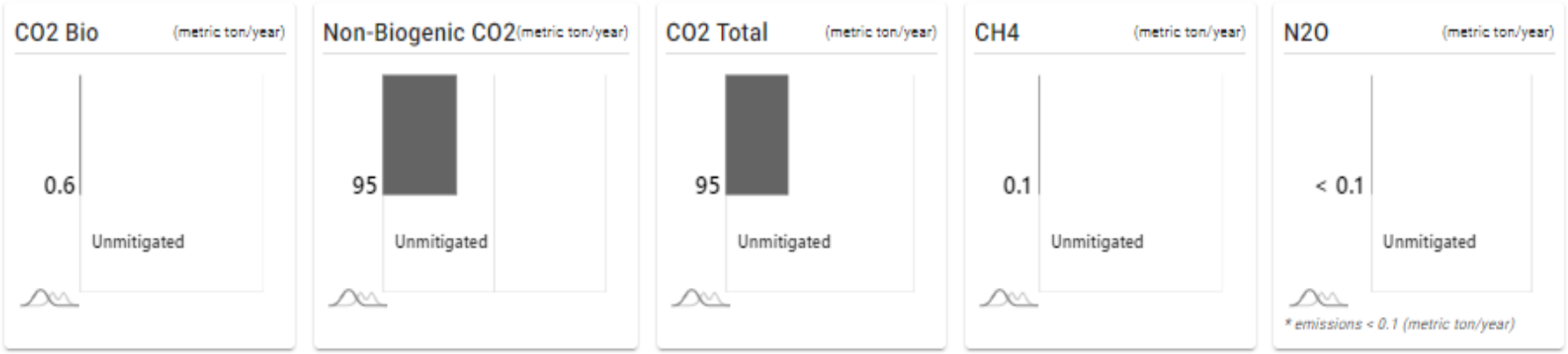
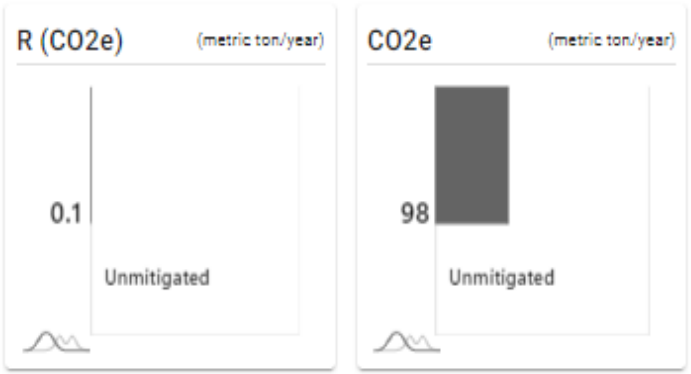
Mitigated results cannot be generated because you have not selected any measures. Please return to the Measures screen to make measure selections.

2024 Greenhouse Gas Annual Emissions

Pollutant emissions shown as proportion of total emissions.





2024 CO2 Daily (Average) (lb/day) Emissions by Operational Source

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Health & Equity

Health and Equity Metrics

CalEnviroScreen 4.0 Score	28 ⓘ	As defined by CalEnviroScreen, the overall CalEnviroScreen score is calculated by multiplying the pollution burden and population characteristics scores.
Healthy Places Index Score	25 ⓘ	Represents the composite score of all HPI indicators.

2.0 Emissions Summary

Construction calculations of emissions

These are pounds on daily calculations and tons on annual calculations

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Off-Road Equipment

Year	Construction Phase	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition	0.003	0.003	0.025	0.030	< 0.0005	0.001	0.001			4.261	< 0.0005	< 0.0005			4.276
2023	Site Preparation	< 0.0005	< 0.0005	0.003	0.003	< 0.0005	< 0.0005	< 0.0005			0.429	< 0.0005	< 0.0005			0.430
2023	Grading	0.002	0.001	0.013	0.011	< 0.0005	0.001	0.001			1.713	< 0.0005	< 0.0005			1.719
2023	Building Construction	0.018	0.015	0.152	0.180	< 0.0005	0.007	0.007			33.55	0.001	< 0.0005			33.66
2024	Building Construction	0.016	0.014	0.138	0.172	< 0.0005	0.006	0.006			32.15	0.001	< 0.0005			32.26
2024	Paving	0.002	0.001	0.011	0.013	< 0.0005	0.001	< 0.0005			2.058	< 0.0005	< 0.0005			2.065
2024	Architectural Coating	< 0.0005	< 0.0005	0.002	0.003	< 0.0005	< 0.0005	< 0.0005			0.334	< 0.0005	< 0.0005			0.335

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Dust From Material Movement

Year	Construction Phase															
Total		TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	CO_2	CH_4	N_2O	HFC	R	CO_2e
2023	Site Preparation								< 0.0005	< 0.0005						
2023	Grading								0.005	0.003						
Haul Road Grading		TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	CO_2	CH_4	N_2O	HFC	R	CO_2e
2023	Site Preparation								< 0.0005	< 0.0005						
2023	Grading								0.001	< 0.0005						
Truck Loading		TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	CO_2	CH_4	N_2O	HFC	R	CO_2e
2023	Site Preparation								0.000	0.000						
2023	Grading								0.000	0.000						
Earth Truck Bulldozing		TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	CO_2	CH_4	N_2O	HFC	R	CO_2e
2023	Grading								0.005	0.002						

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Demolition

Year	Construction Phase															
Total		TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition								0.000	0.000						
Dismemberment		TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition								0.000	0.000						
Debris Loading		TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition								0.000	0.000						

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Mobile Exhaust

Year	Construction Phase														
Total		TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	CO_2	CH_4	N_2O	HFC	R	CO_2e
2023	Demolition	< 0.0005	< 0.0005	< 0.0005	0.004	0.000	0.000	0.000	< 0.0005	0.000	0.693	< 0.0005	< 0.0005	< 0.0005	0.001	0.702
2023	Site Preparation	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000	< 0.0005	0.000	0.035	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.035
2023	Grading	< 0.0005	< 0.0005	< 0.0005	0.001	0.000	0.000	0.000	< 0.0005	0.000	0.104	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.105
2023	Building Construction	< 0.0005	< 0.0005	0.001	0.003	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	1.012	< 0.0005	< 0.0005	< 0.0005	0.002	1.042
2024	Building Construction	< 0.0005	< 0.0005	0.001	0.002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.953	< 0.0005	< 0.0005	< 0.0005	0.001	0.980
2024	Paving	< 0.0005	< 0.0005	< 0.0005	0.003	0.000	0.000	0.000	< 0.0005	0.000	0.594	< 0.0005	< 0.0005	< 0.0005	0.001	0.602
2024	Architectural Coating	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000	< 0.0005	0.000	0.009	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.009

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VMT		TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition	< 0.0005	< 0.0005	< 0.0005	0.003	0.000	0.000	0.000	< 0.0005	0.000	0.683	< 0.0005	< 0.0005	< 0.0005	0.001	0.691
2023	Site Preparation	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000	< 0.0005	0.000	0.034	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.035
2023	Grading	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000	< 0.0005	0.000	0.102	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.104
2023	Building Construction	< 0.0005	< 0.0005	0.001	0.002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.983	< 0.0005	< 0.0005	< 0.0005	0.002	1.010
2024	Building Construction	< 0.0005	< 0.0005	0.001	0.002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.925	< 0.0005	< 0.0005	< 0.0005	0.001	0.950
2024	Paving	< 0.0005	< 0.0005	< 0.0005	0.002	0.000	0.000	0.000	< 0.0005	0.000	0.586	< 0.0005	< 0.0005	< 0.0005	0.001	0.593
2024	Architectural Coating	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000	< 0.0005	0.000	0.009	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.009

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Trips		TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition	< 0.0005	< 0.0005	< 0.0005	0.001	0.000	0.000	0.000			0.010	< 0.0005	< 0.0005			0.011
2023	Site Preparation	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000			< 0.0005	< 0.0005	< 0.0005			0.001
2023	Grading	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000			0.001	< 0.0005	< 0.0005			0.002
2023	Building Construction	< 0.0005	< 0.0005	< 0.0005	0.001	< 0.0005	0.000	0.000			0.029	< 0.0005	< 0.0005			0.032
2024	Building Construction	< 0.0005	< 0.0005	< 0.0005	0.001	< 0.0005	0.000	0.000			0.028	< 0.0005	< 0.0005			0.030
2024	Paving	< 0.0005	< 0.0005	< 0.0005	0.001	0.000	0.000	0.000			0.008	< 0.0005	< 0.0005			0.010
2024	Architectural Coating	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.000	0.000	0.000			< 0.0005	< 0.0005	< 0.0005			< 0.0005

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On-Road Fugitive Dust

Year	Construction Phase															
Total		TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	CO_2	CH_4	N_2O	HFC	R	CO_2e
2023	Demolition								0.001	< 0.0005						
2023	Site Preparation								< 0.0005	< 0.0005						
2023	Grading								< 0.0005	< 0.0005						
2023	Building Construction								0.001	< 0.0005						
2024	Building Construction								< 0.0005	< 0.0005						
2024	Paving								0.001	< 0.0005						
2024	Architectural Coating								< 0.0005	< 0.0005						

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Paved		TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition								0.001	< 0.0005						
2023	Site Preparation								< 0.0005	< 0.0005						
2023	Grading								< 0.0005	< 0.0005						
2023	Building Construction								0.001	< 0.0005						
2024	Building Construction								< 0.0005	< 0.0005						
2024	Paving								0.001	< 0.0005						
2024	Architectural Coating								< 0.0005	< 0.0005						

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Unpaved		TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition								0.000	0.000						
2023	Site Preparation								0.000	0.000						
2023	Grading								0.000	0.000						
2023	Building Construction								0.000	0.000						
2024	Building Construction								0.000	0.000						
2024	Paving								0.000	0.000						
2024	Architectural Coating								0.000	0.000						

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Architectural Coatings

Year	Construction Phase	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2024	Architectural Coating		0.009													

Paving

Year	Construction Phase	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2024	Paving		0.000													

Electricity

Year	Construction Phase	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	N/A (Electricity)										0.000	0.000	0.000			0.000
2024	N/A (Electricity)										0.000	0.000	0.000			0.000

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Total Emissions by Construction Phase

Year	Construction Phase	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Demolition	0.004	0.003	0.025	0.033	< 0.0005	0.001	0.001	0.001	< 0.0005	4.954	< 0.0005	< 0.0005	< 0.0005	0.001	4.978
2023	Site Preparation	< 0.0005	< 0.0005	0.003	0.003	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.463	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.465
2023	Grading	0.002	0.001	0.013	0.012	< 0.0005	0.001	0.001	0.005	0.003	1.817	< 0.0005	< 0.0005	< 0.0005	< 0.0005	1.824
2023	Building Construction	0.018	0.015	0.153	0.183	< 0.0005	0.007	0.007	0.001	< 0.0005	34.56	0.001	< 0.0005	< 0.0005	0.002	34.70
2023	N/A										0.000	0.000	0.000			0.000
2024	Building Construction	0.017	0.014	0.139	0.174	< 0.0005	0.006	0.006	0.001	< 0.0005	33.11	0.001	< 0.0005	< 0.0005	0.001	33.24
2024	Paving	0.002	0.002	0.012	0.016	< 0.0005	0.001	< 0.0005	0.001	< 0.0005	2.652	< 0.0005	< 0.0005	< 0.0005	0.001	2.668
2024	Architectural Coating	< 0.0005	0.010	0.002	0.003	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.342	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.344
2024	N/A										0.000	0.000	0.000			0.000

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Emissions by Day

Year	Season	Construction Phases	Dates	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	BCO₂	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Winter	Demolition	10/1/2023–10/15/2023	0.711	0.598	5.057	6.566	0.009	0.214	0.197	0.131	0.031		986.8	0.041	0.012	**< 0.0005**	**0.017**	991.4
2023	Winter	Site Preparation	10/16/2023–10/17/2023	0.666	0.562	5.056	5.901	0.008	0.267	0.246	0.596	0.073		924.9	0.038	0.009	< 0.0005	0.008	928.6
2023	Winter	Grading	10/18/2023–10/20/2023	**1.568**	**1.321**	**12.64**	**11.87**	**0.016**	**0.598**	**0.551**	**5.410**	**2.592**		**1,814**	**0.074**	**0.018**	< 0.0005	0.012	**1,821**
2023	Winter	Building Construction	10/21/2023–12/31/2023	0.703	0.591	5.962	7.092	0.012	0.284	0.262	0.022	0.005		1,343	0.054	0.014	< 0.0005	0.004	1,349
2024	Winter	Building Construction	1/1/2024–3/9/2024	0.674	0.567	**5.627**	**7.064**	**0.012**	**0.256**	**0.235**	0.022	0.005		**1,343**	**0.054**	0.014	< 0.0005	0.003	**1,348**
2024	Winter	Paving	3/10/2024–3/17/2024	**0.730**	0.617	4.631	6.384	0.009	0.212	0.195	**0.229**	**0.054**		1,054	0.045	**0.015**	**< 0.0005**	**0.027**	1,060
2024	Winter	Architectural Coating	3/18/2024–3/25/2024	0.167	**3.847**	0.910	1.162	0.002	0.032	0.029	0.003	0.001		136.9	0.006	0.001	< 0.0005	< 0.0005	137.4

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,

Emissions by Calculation Type

Year	Calculation Type	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	BCO₂	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Daily - Winter (Max)	1.568	1.321	12.64	11.87	0.016	0.598	0.551	5.410	2.592		1,814	0.074	0.018	< 0.0005	0.017	1,821
2024	Daily - Winter (Max)	0.730	3.847	5.627	7.064	0.012	0.256	0.235	0.229	0.054		1,343	0.054	0.015	< 0.0005	0.027	1,348
2023	Annual (ton)	0.024	0.020	0.194	0.231	< 0.0005	0.009	0.008	0.007	0.003		41.79	0.002	< 0.0005	< 0.0005	0.003	41.97
2024	Annual (ton)	0.019	0.025	0.153	0.194	< 0.0005	0.007	0.006	0.001	< 0.0005		36.10	0.001	< 0.0005	< 0.0005	0.003	36.25
2023	Average Daily	0.129	0.109	1.062	1.264	0.002	0.050	0.046	0.038	0.016		229.0	0.009	0.002	< 0.0005	0.018	230.0
2024	Average Daily	0.103	0.138	0.836	1.060	0.002	0.038	0.035	0.006	0.001		197.8	0.008	0.002	< 0.0005	0.014	198.7

Annual emission (mitigated) in tons

05512022 Professional Design Office
57392, Primrose Drive
Yucca Valley California, 92284 (USA)

Emissions by Day

Year	Season	Construction Phases	Dates	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	BCO₂	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Winter	Demolition	10/1/2023–10/15/2023	0.711	0.598	5.057	6.566	0.009	0.214	0.197	0.131	0.031		986.8	0.041	0.012	**< 0.0005**	**0.017**	991.4
2023	Winter	Site Preparation	10/16/2023–10/17/2023	0.666	0.562	5.056	5.901	0.008	0.267	0.246	0.596	0.073		924.9	0.038	0.009	< 0.0005	0.008	928.6
2023	Winter	Grading	10/18/2023–10/20/2023	**1.568**	**1.321**	**12.64**	**11.87**	**0.016**	**0.598**	**0.551**	**5.410**	**2.592**		**1,814**	**0.074**	**0.018**	< 0.0005	0.012	**1,821**
2023	Winter	Building Construction	10/21/2023–12/31/2023	0.703	0.591	5.962	7.092	0.012	0.284	0.262	0.022	0.005		1,343	0.054	0.014	< 0.0005	0.004	1,349
2024	Winter	Building Construction	1/1/2024–3/9/2024	0.674	0.567	**5.627**	**7.064**	**0.012**	**0.256**	**0.235**	0.022	0.005		**1,343**	**0.054**	0.014	< 0.0005	0.003	**1,348**
2024	Winter	Paving	3/10/2024–3/17/2024	**0.730**	0.617	4.631	6.384	0.009	0.212	0.195	**0.229**	**0.054**		1,054	0.045	**0.015**	**< 0.0005**	**0.027**	1,060
2024	Winter	Architectural Coating	3/18/2024–3/25/2024	0.167	**3.847**	0.910	1.162	0.002	0.032	0.029	0.003	0.001		136.9	0.006	0.001	< 0.0005	< 0.0005	137.4

Annual emission (mitigated) in tons

05512022 Professional Design Office
57392, Primrose Drive
Yucca Valley California, 92284 (USA)

Emissions by Calculation Type

Year	Calculation Type	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	BCO₂	CO₂	CH₄	N₂O	HFC	R	CO₂e
2023	Daily - Winter (Max)	1.568	1.321	12.64	11.87	0.016	0.598	0.551	5.410	2.592		1,814	0.074	0.018	< 0.0005	0.017	1,821
2024	Daily - Winter (Max)	0.730	3.847	5.627	7.064	0.012	0.256	0.235	0.229	0.054		1,343	0.054	0.015	< 0.0005	0.027	1,348
2023	Annual (ton)	0.024	0.020	0.194	0.231	< 0.0005	0.009	0.008	0.007	0.003		41.79	0.002	< 0.0005	< 0.0005	0.003	41.97
2024	Annual (ton)	0.019	0.025	0.153	0.194	< 0.0005	0.007	0.006	0.001	< 0.0005		36.10	0.001	< 0.0005	< 0.0005	0.003	36.25
2023	Average Daily	0.129	0.109	1.062	1.264	0.002	0.050	0.046	0.038	0.016		229.0	0.009	0.002	< 0.0005	0.018	230.0
2024	Average Daily	0.103	0.138	0.836	1.060	0.002	0.038	0.035	0.006	0.001		197.8	0.008	0.002	< 0.0005	0.014	198.7

Daily emission (mitigated) in tons

05512022 Professional Design Office
57392, Primrose Drive
Yucca Valley California, 92284 (USA)

Total Emissions by Land Use

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	BCO_2	CO_2	CH_4	N_2O	HFC	R	CO_2e
General Office Building	0.301	0.359	0.323	2.906	0.006	0.007	0.007	0.486	0.123	3.367	751.9	0.369	0.029	0.002	2.439	775.6
N/A		0.005														

Emissions by Calculation Type

Year	Calculation Type	TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	PM10D	PM2.5D	BCO_2	CO_2	CH_4	N_2O	HFC	R	CO_2e
2024	Daily - Summer (Max)	0.301	0.364	0.323	2.906	0.006	0.007	0.007	0.486	0.123	3.367	751.9	0.369	0.029	0.002	2.439	775.6
2024	Daily - Winter (Max)	0.241	0.307	0.346	2.058	0.006	0.007	0.007	0.486	0.123	3.367	696.9	0.370	0.030	< 0.0005	0.073	718.6
2024	Annual (lb)	73.09	98.75	101.0	652.5	1.603	2.209	2.116	132.9	33.70	1,229	208,774	133.3	8.810	0.203	293.4	216,253
2024	Average Daily	0.200	0.271	0.277	1.788	0.004	0.006	0.006	0.364	0.092	3.367	572.0	0.365	0.024	0.001	0.804	592.5

Annual emission (mitigated) in tons

05512022 Professional Design Office
57392, Primrose Drive
Yucca Valley California, 92284 (USA)

,

Total Emissions by Land Use

Land Use	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	BCO₂	CO₂	CH₄	N₂O	HFC	R	CO₂e
General Office Building	73.09	96.89	101.0	652.5	1.603	2.209	2.116	132.9	33.70	1,229	208,774	133.3	8.810	0.203	293.4	216,253
N/A		1.855														

Emissions by Calculation Type

Year	Calculation Type	TOG	ROG	NOx	CO	SO₂	PM10E	PM2.5E	PM10D	PM2.5D	BCO₂	CO₂	CH₄	N₂O	HFC	R	CO₂e
2024	Daily - Summer (Max)	0.301	0.364	0.323	2.906	0.006	0.007	0.007	0.486	0.123	3.367	751.9	0.369	0.029	0.002	2.439	775.6
2024	Daily - Winter (Max)	0.241	0.307	0.346	2.058	0.006	0.007	0.007	0.486	0.123	3.367	696.9	0.370	0.030	< 0.0005	0.073	718.6
2024	Annual (lb)	73.09	98.75	101.0	652.5	1.603	2.209	2.116	132.9	33.70	1,229	208,774	133.3	8.810	0.203	293.4	216,253
2024	Average Daily	0.200	0.271	0.277	1.788	0.004	0.006	0.006	0.364	0.092	3.367	572.0	0.365	0.024	0.001	0.804	592.5

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2.1. Construction Emissions Compared Against Thresholds

	Criteria Pollutants (lb/day for daily, ton/yr for annual)											GHGs (lb/day for daily, MT/yr for annual)						
						PM10			PM2.5			CO_2						
Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Winter (Max)																		
Unmit.	1.5679	3.8468	12.641	11.868	0.0158	0.5985	5.4100	6.0084	0.5506	2.5915	3.1421	-	1,813.9	1,813.9	0.0744	0.0176	0.0265	1,821.0
Average Daily (Max)																		
Unmit.	0.1290	0.1377	1.0619	1.2643	0.0021	0.0500	0.0379	0.0879	0.0460	0.0160	0.0620	-	229.00	229.00	0.0092	0.0024	0.0176	229.98
Annual (Max)																		
Unmit.	0.0235	0.0251	0.1938	0.2307	0.0004	0.0091	0.0069	0.0160	0.0084	0.0029	0.0113	-	37.913	37.913	0.0015	0.0004	0.0029	38.075

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57392, Primrose Drive
Yucca Valley California, 92284 (USA)

2.4. Operations Emissions Compared Against Thresholds

	Criteria Pollutants (lb/day for daily, ton/yr for annual)											GHGs (lb/day for daily, MT/yr for annual)						
						PM10			PM2.5			CO_2						
Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Unmit.	0.3011	0.3645	0.3235	2.9064	0.0062	0.0074	0.4856	0.4930	0.0070	0.1231	0.1301	3.3672	751.86	755.23	0.3692	0.0291	2.4394	775.58
Daily, Winter (Max)																		
Unmit.	0.2408	0.3069	0.3460	2.0582	0.0056	0.0071	0.4856	0.4927	0.0068	0.1231	0.1299	3.3672	696.93	700.30	0.3697	0.0301	0.0727	718.58
Average Daily (Max)																		
Unmit.	0.2002	0.2705	0.2766	1.7876	0.0044	0.0061	0.3642	0.3703	0.0058	0.0923	0.0981	3.3672	571.98	575.35	0.3651	0.0241	0.8039	592.47
Annual (Max)																		
Unmit.	0.0365	0.0494	0.0505	0.3262	0.0008	0.0011	0.0665	0.0676	0.0011	0.0169	0.0179	0.5575	94.698	95.256	0.0604	0.0040	0.1331	98.091

05512022 Professional Design Office
57392, Primrose Drive
Yucca Valley California, 92284 (USA)

Appendix B:

CalEEMod Annual Emission Output

05512022 Professional design office
57392, Primrose Drive, Yucca Valley California, 92284 (USA)

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	yucca valey
Construction Start Date	10/1/2023
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	14.4
Location	57392 Primrose Dr, Yucca Valley, CA 92284, USA
County	San Bernardino-Mojave Desert
City	Yucca Valley
Air District	Mojave Desert AQMD

Air Basin	Mojave Desert
TAZ	5142
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.18

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	4.00	1000sqft	0.09	4,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	3.85	12.6	11.9	0.02	0.60	5.41	6.01	0.55	2.59	3.14	—	1,814	1,814	0.07	0.02	0.03	1,821
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.14	1.06	1.26	< 0.005	0.05	0.04	0.09	0.05	0.02	0.06	—	229	229	0.01	< 0.005	0.02	230
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.03	0.19	0.23	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	37.9	37.9	< 0.005	< 0.005	< 0.005	38.1

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.57	1.32	12.6	11.9	0.02	0.60	5.41	6.01	0.55	2.59	3.14	—	1,814	1,814	0.07	0.02	0.02	1,821
2024	0.73	3.85	5.63	7.06	0.01	0.26	0.23	0.44	0.24	0.05	0.25	—	1,343	1,343	0.05	0.02	0.03	1,348
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.13	0.11	1.06	1.26	< 0.005	0.05	0.04	0.09	0.05	0.02	0.06	—	229	229	0.01	< 0.005	0.02	230
2024	0.10	0.14	0.84	1.06	< 0.005	0.04	0.01	0.04	0.03	< 0.005	0.04	—	198	198	0.01	< 0.005	0.01	199
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.02	0.02	0.19	0.23	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	37.9	37.9	< 0.005	< 0.005	< 0.005	38.1
2024	0.02	0.03	0.15	0.19	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	32.7	32.7	< 0.005	< 0.005	< 0.005	32.9

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.36	0.32	2.91	0.01	0.01	0.49	0.49	0.01	0.12	0.13	3.37	752	755	0.37	0.03	2.44	776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.31	0.35	2.06	0.01	0.01	0.49	0.49	0.01	0.12	0.13	3.37	697	700	0.37	0.03	0.07	719
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.27	0.28	1.79	< 0.005	0.01	0.36	0.37	0.01	0.09	0.10	3.37	572	575	0.37	0.02	0.80	592
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.05	0.05	0.33	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.56	94.7	95.3	0.06	< 0.005	0.13	98.1

2.5. Operations Emissions by Sector, Unmitigated

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

CalEEMod Version: CalEEMod.2022.1.1.18

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.27	0.24	0.29	2.71	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	608	608	0.02	0.02	2.43	619
Area	0.03	0.12	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.72	0.72	< 0.005	< 0.005	—	0.72
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	137	137	0.01	< 0.005	—	137
Water	—	—	—	—	—	—	—	—	—	—	—	1.36	5.97	7.33	0.14	< 0.005	—	11.8
Waste	—	—	—	—	—	—	—	—	—	—	—	2.00	0.00	2.00	0.20	0.00	—	7.01
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	0.30	0.36	0.32	2.91	0.01	0.01	0.49	0.49	0.01	0.12	0.13	3.37	752	755	0.37	0.03	2.44	776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.21	0.32	2.03	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	554	554	0.02	0.03	0.06	562
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	137	137	0.01	< 0.005	—	137
Water	—	—	—	—	—	—	—	—	—	—	—	1.36	5.97	7.33	0.14	< 0.005	—	11.8
Waste	—	—	—	—	—	—	—	—	—	—	—	2.00	0.00	2.00	0.20	0.00	—	7.01
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	0.24	0.31	0.35	2.06	0.01	0.01	0.49	0.49	0.01	0.12	0.13	3.37	697	700	0.37	0.03	0.07	719
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.18	0.16	0.25	1.68	< 0.005	< 0.005	0.36	0.37	< 0.005	0.09	0.10	—	429	429	0.02	0.02	0.79	436
Area	0.02	0.10	< 0.005	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.35	0.35	< 0.005	< 0.005	—	0.35
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	137	137	0.01	< 0.005	—	137
Water	—	—	—	—	—	—	—	—	—	—	—	1.36	5.97	7.33	0.14	< 0.005	—	11.8
Waste	—	—	—	—	—	—	—	—	—	—	—	2.00	0.00	2.00	0.20	0.00	—	7.01
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	0.20	0.27	0.28	1.79	< 0.005	0.01	0.36	0.37	0.01	0.09	0.10	3.37	572	575	0.37	0.02	0.80	592
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.03	0.04	0.31	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	71.0	71.0	< 0.005	< 0.005	0.13	72.2
Area	< 0.005	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.06	0.06	< 0.005	< 0.005	—	0.06
Energy	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.7
Water	—	—	—	—	—	—	—	—	—	—	—	0.23	0.99	1.21	0.02	< 0.005	—	1.96
Waste	—	—	—	—	—	—	—	—	—	—	—	0.33	0.00	0.33	0.03	0.00	—	1.16
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.04	0.05	0.05	0.33	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.56	94.7	95.3	0.06	< 0.005	0.13	98.1

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.54	4.99	5.91	0.01	0.21	—	0.21	0.20	—	0.20	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88

Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.07	0.66	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	135	135	0.01	< 0.005	0.02	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.80	3.80	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.3. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.54	5.02	5.57	0.01	0.27	—	0.27	0.25	—	0.25	—	858	858	0.03	0.01	—	861
Dust From Material Movemen	—	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movemen	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39

Equipment																		
Dust From Material Movemen	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	67.3	67.3	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.52	1.28	12.6	11.4	0.02	0.60	—	0.60	0.55	—	0.55	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movemen	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56
Dust From Material Movemen	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	101	101	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.7. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.84	0.99	< 0.005	0.04	—	0.04	0.04	—	0.04	—	184	184	0.01	< 0.005	—	184
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.4	30.4	< 0.005	< 0.005	—	30.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.2	17.2	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.6	21.6	< 0.005	< 0.005	< 0.005	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.05	3.05	< 0.005	< 0.005	< 0.005	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.9. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.76	0.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	176	176	0.01	< 0.005	—	177
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.2	29.2	< 0.005	< 0.005	—	29.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.3	21.3	< 0.005	< 0.005	< 0.005	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.35	2.35	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.87	2.87	< 0.005	< 0.005	< 0.005	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	—
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.48	0.48	< 0.005	< 0.005	< 0.005	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.11. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.52	5.32	0.01	0.21	—	0.21	0.19	—	0.19	—	823	823	0.03	0.01	—	826
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87

Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.06	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	231	231	0.01	0.01	0.03	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.25	3.25	< 0.005	< 0.005	0.01	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.13. Architectural Coating (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	3.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.38	3.38	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.27	0.24	0.29	2.71	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	608	608	0.02	0.02	2.43	619
Total	0.27	0.24	0.29	2.71	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	608	608	0.02	0.02	2.43	619
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.24	0.21	0.32	2.03	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	554	554	0.02	0.03	0.06	562
Total	0.24	0.21	0.32	2.03	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	554	554	0.02	0.03	0.06	562
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.03	0.03	0.04	0.31	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	71.0	71.0	< 0.005	< 0.005	0.13	72.2
Total	0.03	0.03	0.04	0.31	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	71.0	71.0	< 0.005	< 0.005	0.13	72.2

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	102
Total	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	102
Total	—	—	—	—	—	—	—	—	—	—	—	—	102	102	0.01	< 0.005	—	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	16.8	16.8	< 0.005	< 0.005	—	16.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	16.8	16.8	< 0.005	< 0.005	—	16.9

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.2	35.2	< 0.005	< 0.005	—	35.3
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.2	35.2	< 0.005	< 0.005	—	35.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.2	35.2	< 0.005	< 0.005	—	35.3
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.2	35.2	< 0.005	< 0.005	—	35.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.82	5.82	< 0.005	< 0.005	—	5.84
Total	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.82	5.82	< 0.005	< 0.005	—	5.84

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.72	0.72	< 0.005	< 0.005	—	0.72
Total	0.03	0.12	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.72	0.72	< 0.005	< 0.005	—	0.72
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.06	0.06	< 0.005	< 0.005	—	0.06
Total	< 0.005	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.06	0.06	< 0.005	< 0.005	—	0.06

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.36	5.97	7.33	0.14	< 0.005	—	11.8
Total	—	—	—	—	—	—	—	—	—	—	—	1.36	5.97	7.33	0.14	< 0.005	—	11.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.36	5.97	7.33	0.14	< 0.005	—	11.8
Total	—	—	—	—	—	—	—	—	—	—	—	1.36	5.97	7.33	0.14	< 0.005	—	11.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.23	0.99	1.21	0.02	< 0.005	—	1.96
Total	—	—	—	—	—	—	—	—	—	—	—	0.23	0.99	1.21	0.02	< 0.005	—	1.96

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.00	0.00	2.00	0.20	0.00	—	7.01
Total	—	—	—	—	—	—	—	—	—	—	—	2.00	0.00	2.00	0.20	0.00	—	7.01
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.00	0.00	2.00	0.20	0.00	—	7.01
Total	—	—	—	—	—	—	—	—	—	—	—	2.00	0.00	2.00	0.20	0.00	—	7.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.33	0.00	0.33	0.03	0.00	—	1.16
Total	—	—	—	—	—	—	—	—	—	—	—	0.33	0.00	0.33	0.03	0.00	—	1.16

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1 Construction schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	10/1/2023	10/15/2023	5.00	10.0	—
Site Preparation	Site Preparation	10/16/2023	10/17/2023	5.00	1.00	—
Grading	Grading	10/18/2023	10/20/2023	5.00	2.00	—
Building Construction	Building Construction	10/21/2023	3/9/2024	5.00	100	—
Paving	Paving	3/10/2024	3/17/2024	5.00	5.00	—
Architectural Coating	Architectural Coating	3/18/2024	3/25/2024	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3 Construction Vehicles

5.3.1 Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.28	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	0.66	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.26	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4 Vehicles

5.4.1 Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	6,000	2,000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	0.50	0.00	—
Grading	—	—	1.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%

5.8. Construction Electricity Consumption and Emissions FactorskWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	39.0	8.84	2.80	10,764	688	156	49.4	190,075

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	6,000	2,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	69,808	532	0.0330	0.0040	109,760

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	69,808	532	0.0330	0.0040	109,760

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	710,935	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	3.72	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00

General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pu

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.3	annual days of extreme heat
Extreme Precipitation	0.80	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.57	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	93.6
AQ-PM	0.92
AQ-DPM	2.80
Drinking Water	50.3

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

CalEEMod Version: CalEEMod.2022.1.1.18

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	93.6
AQ-PM	0.92
AQ-DPM	2.80
Drinking Water	50.3
Lead Risk Housing	35.9
Pesticides	0.00
Toxic Releases	3.78
Traffic	11.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	4.42
Haz Waste Facilities/Generators	39.8
Impaired Water Bodies	0.00
Solid Waste	39.0
Sensitive Population	—
Asthma	61.8

Cardio-vascular	95.6
Low Birth Weights	63.3
Socioeconomic Factor Indicators	—
Education	26.4
Housing	57.4
Linguistic	7.38
Poverty	56.1
Unemployment	59.4

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	33.01680996
Employed	22.3662261
Median HI	26.52380341
Education	—
Bachelor's or higher	23.67509303

High school enrollment	14.38470422
Preschool enrollment	8.507635057
Transportation	—
Auto Access	60.64416784
Active commuting	29.26985756
Social	—
2-parent households	28.19196715
Voting	69.12613884
Neighborhood	—
Alcohol availability	82.54844091
Park access	10.6249198
Retail density	13.01167715
Supermarket access	27.64018991
Tree canopy	0.384960862
Housing	—
Homeownership	61.36276145
Housing habitability	67.11151033
Low-inc homeowner severe housing cost burden	37.71333248

Low-inc renter severe housing cost burden	53.27858334
Uncrowded housing	88.2586937
Health Outcomes	—
Insured adults	30.60438855
Arthritis	0.0
Asthma ER Admissions	34.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0

Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	5.2
Cognitively Disabled	15.9
Physically Disabled	28.8
Heart Attack ER Admissions	5.9
Mental Health Not Good	0.0

Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	41.8
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	44.4
Elderly	28.7
English Speaking	74.7
Foreign-born	3.4
Outdoor Workers	28.1
Climate Change Adaptive Capacity	—

Impervious Surface Cover	93.6
Traffic Density	39.1
Traffic Access	23.0
Other Indices	—
Hardship	52.0
Other Decision Support	—
2016 Voting	68.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	28.0
Healthy Places Index Score for Project Location (b)	25.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

CalEEMod Version: CalEEMod.2022.1.1.18

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PERFORMANCE STANDARDS

The GHG reducing performance standards were developed by the County to improve the energy efficiency, water conservation, vehicle trip reduction potential, and other GHG reducing impacts from all new development approved within the unincorporated portions of San Bernardino County. As such, the following Performance Standards establish the minimum level of compliance that development must meet to assist in meeting the 2020 GHG reduction target identified in the in the County GHG Emissions Reduction Plan. These Performance Standards apply to all Projects, including those that are exempt under CEQA, and will be included as Conditions of Approval for development projects.

The following are the Performance Standards (Conditions of Approval) used for Industrial, Commercial and Residential projects in the County:

COMMERCIAL AND INDUSTRIAL PROJECTS

1. *GHG – Operational Standards. The developer shall implement the following as greenhouse gas (GHG) mitigation during the operation of the approved project:*
    a) *Waste Stream Reduction. The "developer" shall provide to all tenants and project employees County-approved informational materials about methods and need to reduce the solid waste stream and listing available recycling services.*
    b) Vehicle Trip Reduction. The "developer" shall provide to all tenants and project employees County-approved informational materials about the need to reduce vehicle trips and the program elements this project is implementing. Such elements may include: participation in established ride-sharing programs, creating a new ride-share employee vanpool, designating preferred parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles with benches in waiting areas, and/or providing a web site or message board for coordinating rides.
    c) Provide Educational Materials. The developer shall provide to all tenants and staff education materials and other publicity about reducing waste and available recycling services. The education and publicity materials/program shall be submitted to County Planning for review and approval. The developer shall also provide to all tenants and require that the tenants shall display in their stores

current transit route information for the project area in a visible and convenient location for employees and customers. The specific transit routes displayed shall include Omni Trans Route 8, San Bernardino-Mentone-Yucaipa.

d) Landscape Equipment. The developer shall require in the landscape maintenance contract and/or in onsite procedures that a minimum of 20% of the landscape maintenance equipment shall be electric-powered.

2. *GHG – Construction Standards. The "developer" shall submit for review and obtain approval from County Planning of a signed letter agreeing to include as a condition of all construction contracts/subcontracts requirements to reduce GHG emissions and submitting documentation of compliance. The developer/construction contractors shall do the following:*
   - *a) Implement the approved Coating Restriction Plans.*
   - *b) Select construction equipment based on low GHG emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or CNG equipment.*
   - *c) Grading contractor shall provide the implement the following when possible:* 1) training operators to use equipment more efficiently.
     2) identifying the proper size equipment for a task can also provide fuel savings and associated reductions in GHG emissions
     3) replacing older, less fuel-efficient equipment with newer models
     4) use GPS for grading to maximize efficiency
   - *d) Grading plans shall include the following statements:*
     - x *"All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration."*
     - x *"All construction equipment (including electric generators) shall be shut off by work crews when not in use and shall not idle for more than 5 minutes."*
   - e) *Schedule construction traffic ingress/egress to not interfere with peak-hour traffic and to minimize traffic obstructions. Queuing of trucks on and off site shall be firmly discouraged and not scheduled. A flagperson shall be retained to maintain efficient traffic flow and safety adjacent to existing roadways.*
   - f) *Recycle and reuse construction and demolition waste (e.g. soil, vegetation, concrete, lumber, metal, and cardboard) per County Solid Waste procedures.*

g) *The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew and educate all construction workers about the required waste reduction and the availability of recycling services.*

3. *GHG – Design Standards. The developer shall submit for review and obtain approval from County Planning that the following measures have been incorporated into the design of the project. These are intended to reduce potential project greenhouse gas (GHGs) emissions. Proper installation of the approved design features and equipment shall be confirmed by County Building and Safety prior to final inspection of each structure.*

   a) Meet Title 24 Energy Efficiency requirements implemented July 1, 2014 The Developer shall document that the design of the proposed structures meets the current Title 24 energy-efficiency requirements. County Planning shall coordinate this review with the County Building and Safety. Any combination of the following design features may be used to fulfill this requirement, provided that the total increase in efficiency meets or exceeds the cumulative goal (100%+ of Title 24) for the entire project (Title 24, Part 6 of the California Code of Regulations; Energy Efficiency Standards for Residential and Non Residential Buildings, as amended January 24, 2013; Cool Roof Coatings performance standards as amended January 24, 2013): x *Incorporate dual paned or other energy efficient windows,* x *Incorporate energy efficient space heating and cooling equipment,* x *Incorporate energy efficient light fixtures, photocells, and motion detectors,* x *Incorporate energy efficient appliances,* x *Incorporate energy efficient domestic hot water systems,* x *Incorporate solar panels into the electrical system,* x *Incorporate cool roofs/light colored roofing,* x *Incorporate other measures that will increase energy efficiency.* x *Increase insulation to reduce heat transfer and thermal bridging.*

   x *Limit air leakage throughout the structure and within the heating and cooling distribution system to minimize energy consumption.*

   b) Plumbing. All plumbing shall incorporate the following: x *All showerheads, lavatory faucets, and sink faucets shall comply with the California Energy Conservation flow rate standards.* x *Low flush toilets shall be installed where applicable as specified in California State Health and Safety Code Section 17921.3.*

   x *All hot water piping and storage tanks shall be insulated. Energy efficient boilers shall be used.*

   c) Lighting. Lighting design for building interiors shall support the use of:

x *Compact fluorescent light bulbs or equivalently efficient lighting.* x *Natural day lighting through site orientation and the use of reflected light.* x *Skylight/roof window systems.*

x *Light colored building materials and finishes shall be used to reflect natural and artificial light with greater efficiency and less glare.*

x *A multi-zone programmable dimming system shall be used to control lighting to maximize the energy efficiency of lighting requirements at various times of the day.*

x *Provide a minimum of 2.5 percent of the project's electricity needs by on-site solar panels.*

d) *Building Design. Building design and construction shall incorporate the following elements:*

x *Orient building locations to best utilize natural cooling/heating with respect to the sun and prevailing winds/natural convection to take advantage of shade, day lighting and natural cooling opportunities.*

x *Utilize natural, low maintenance building materials that do not require finishes and regular maintenance.*

x *Roofing materials shall have a solar reflectance index of 78 or greater.*

x *All supply duct work shall be sealed and leak-tested. Oval or round ducts shall be used for at least 75 percent of the supply duct work, excluding risers.*

x *Energy Star or equivalent appliances shall be installed.*

x *A building automation system including outdoor temperature/humidity sensors will control public area heating, vent, and air conditioning units*

e) *Landscaping. The developer shall submit for review and obtain approval from County Planning of landscape and irrigation plans that are designed to include drought tolerant and smog tolerant trees, shrubs, and groundcover to ensure the long-term viability and to conserve water and energy. The landscape plans shall include shade trees around main buildings, particularly along southern and western elevations, where practical.*

f) *Irrigation. The developer shall submit irrigation plans that are designed, so that all common area irrigation areas shall be capable of being operated by a computerized irrigation system, which includes either an on-site weather station, ET gauge or ETbased controller capable of reading current weather data and making automatic adjustments to independent run times for each irrigation valve based on changes in temperature, solar radiation, relative humidity, rain and wind. In addition, the*

computerized irrigation system shall be equipped with flow sensing capabilities, thus automatically shutting down the irrigation system in the event of a mainline break or broken head. These features will assist in conserving water, eliminating the potential of slope failure due to mainline breaks and eliminating over-watering and flooding due to pipe and/or head breaks.

g) *Recycling. Exterior storage areas for recyclables and green waste shall be provided. Where recycling pickup is available, adequate recycling containers shall be located in public areas. Construction and operation waste shall be collected for reuse and recycling.*

h) *Transportation Demand Management (TDM) Program. The project shall include adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. Preferred carpool/vanpool spaces shall be provided and, if available, mass transit facilities shall be provided (e.g. bus stop bench/shelter). The developer shall demonstrate that the TDM program has been instituted for the project or that the buildings will join an existing program located within a quarter mile radius from the project site* that provides a cumulative 20% reduction in unmitigated employee commute trips*. The TDM Program shall publish ride-sharing information for ride-sharing vehicles and provide a website or message board for coordinating rides. The Program shall ensure that appropriate bus route information is placed in each building.*

4. *GHG – Installation/Implementation Standards. The developer shall submit for review and obtain approval from County Planning of evidence that all applicable GHG performance standards have been installed, implemented properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. These installations/ procedures include the following:*

   a) *Design features and/or equipment that cumulatively increases the overall compliance of the project to exceed Title 24 minimum standards by five percent.*

   b) *All interior building lighting shall support the use of fluorescent light bulbs or equivalent energy-efficient lighting.*

   c) *Installation of both the identified mandatory and optional design features or equipment that have been constructed and incorporated into the facility/structure.*