Fontana Citrus Industrial Building

Energy and Greenhouse Gas Impact Analysis Report

July 2023

CEQA Lead Agency:

City of Fontana
Planning Department
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List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
§	Section
°C	Degrees Celsius
°F	Degrees Fahrenheit
AB	Assembly Bill
ACC	Advanced Clean Cars
ACT	Advanced Clean Trucks
APN	Assessor Parcel Number
BAU	Business As Usual
BOE	Board of Equalization
Btu	British Thermal Unit
CalEEMod	California Emissions Estimator Model
Cal-EPA	California Environmental Protection Agency
CalGreen Code	California Green Building Standards Code
CARB	California Air Resources Board
CAFE	Corporate Average Fuel Economy
CAT	Climate Action Team
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
CI	Carbon Intensity
CNRA	California Natural Resources Agency
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
EISA	Energy Independency and Security Act
GHG	Greenhouse Gas
GW	Gigawatt
GWh	Gigawatt-hours
GWP	Global Warming Potential
HFC	Hydrofluorocarbon
HHDT	Heavy Heavy-Duty Trucks
HQTA	High Quality Transit Area

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
IPCC	Intergovernmental Panel on Climate Change
kW	Kilowatt
kWh	Kilowatt-hour
LCFS	Low Carbon Fuel Standard
LDA	Light Duty Auto
LDT1 / LDT2	Light Duty Trucks
LEV	Low-Emissions Vehicle
LHDT	Light Heavy-Duty Truck
MHDT	Medium Heavy-Duty Truck
MPO	Metropolitan Planning Organization
MT	Metric Ton
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
MW	Megawatt
NHTSA	National Highway Safety Administration
N_2O	Nitrous Oxide
NMA	Neighborhood Mobility Area
PFC	Perfluorocarbon
PGA	Priority Growth Area
ppm	Parts Per Million
PRC	Public Resources Code
PSI	Pounds Per Square Inch
PV	Photovoltaic
Report	Energy and Greenhouse Gas Impact Analysis Report
RFS	Renewable Fuel Standards
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient Vehicles Rule
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SoCalGas	Southern California Gas Company

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
SOI	Sphere of Influence
TPA	Transit Priority Area
U.S.	United States
U.S. EIA	United State Energy Information Administration
U.S. EPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

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EXECUTIVE SUMMARY

This Energy and Greenhouse Gas Impact Analysis Report ("**Report**") evaluates and documents the potential energy and greenhouse gas ("**GHG**") impacts associated with the construction and operation of the proposed Fontana Citrus Industrial Building Project (proposed "**Project**") located at the northeast corner of the intersection of Citrus Avenue and Slover Avenue and at the southwest corner of the intersection of Oleander Avenue and Boyle Avenue, in the in the south-central part of the City of Fontana, in San Bernardino County.

This Report is consistent with the guidance and recommendations contained in the South Coast Air Quality Management District's ("**SCAQMD**") California Environmental Quality Act ("**CEQA**") Air Quality Handbook, as amended and supplemented (SCAQMD, 2018). This Report is intended to assist the CEQA Lead Agency (City of Fontana, "**City**") with its review of potential Project-related GHG and energy impacts in compliance with the State CEQA Statutes and Guidelines, particularly in respect to the energy and GHG issues identified in Appendix G of the State CEQA Guidelines.

S.1 PROPOSED PROJECT DESCRIPTION

CHIPT Fontana Citrus Avenue, L.P. ("**CHIPT**") is proposing to develop the proposed Project, which would consist of consolidating 15 parcels into 1 parcel, demolishing 25 small existing structures, and constructing a new, all-electric industrial building with approximately 360,500 square feet of gross building space (the "**Building**"). The approximately 16.12-acre rectangular Project site is bound by Boyle Avenue to the north, Slover Avenue and existing commercial development (an Arco fuel service station) to the south, existing non-conforming residential development to the east, and Citrus Avenue and existing commercial development (the same Arco fuel service station) to the west. The Project site is approximately 485 feet (0.9 miles) south of a Union Pacific Railroad ("**UPRR**") line and 575 feet (0.11 miles) south of Interstate 10 (I-10).

The Building would include 55 truck docks located mainly at the southern portion of the site, with additional docks located at the western portion of the site. Truck access would be provided along three driveways on the southern side of the site and one driveway in the northwestern corner of the site. Truck movements would generally occur along the southern side of the site and potentially from the northwestern truck dock to the southern docks via an internal driveway. Parking space for commuter vehicles (e.g., cars and pick-up trucks) would be present on the western and eastern perimeters of the Building.

The proposed Project would involve construction and operational activities that would generate GHG emissions from construction equipment, area sources, energy use and consumption, water consumption, wastewater and solid waste generation, mobile sources including trucks, and off-road equipment. Construction activities are anticipated to last approximately 10 months and begin in early 2024. The building could operate 24-hours per day, 7 days per week.

S.2 POTENTIAL ENERGY IMPACTS

The proposed Project would result in electricity, gasoline, and diesel fuel consumption during construction activities, and electricity, gasoline, and diesel consumption during operation. Energy consumption during construction would not be wasteful, unnecessary, or inefficient since these energy demands are necessary components of development activities. The proposed Project would be subject to 2022 CalGreen Code energy efficiency standards, which would help reduce the Project's operation energy consumption. The proposed Project would not conflict with or obstruct a state or local plan adopted for the

purposes of reducing energy consumption. The proposed Project would not result in a significant energy impact.

S.3 POTENTIAL GHG EMISSION IMPACTS

The proposed Project's GHG emissions were estimated using the California Emissions Estimator Model ("**CalEEMod**"). The Project's GHG emissions were found to be below the 3,000 metric tons of carbon dioxide equivalents ("**$MTCO_2e$**") threshold utilized by the City for assessing the significance of GHG emissions from warehouse projects.

S.4 CONSISTENCY WITH APPLICABLE PLANS

The proposed Project would not result in population or employment growth or associated emissions that conflict with the California Air Resources Board ("**CARB**") *2022 Climate Change Scoping Plan*; CARB Sustainable Freight Plan, CARB Advanced Clean Trucks Program; Connect SoCal, the Southern California Association of Government's ("**SCAG**") Regional Transportation Plan/Sustainable Communities Strategy for 2020-2045; or the San Bernardino County Regional Greenhouse Gas Reduction Plan. These plans generally call on state, regional, and local government entities to establish state, regional, community wide, and municipal programs to promote energy efficiency, reduce vehicle trips and/or reduce air pollutant emissions, including GHG emissions. The proposed Project would not interfere with any state, regional, or local planning processes or the implementation of any state, regional, or local policies intended to promote energy efficiency and reduce vehicle trips and/or emissions.

1 INTRODUCTION

CHIPT Fontana Citrus Avenue, L.P., (the "**Applicant**") has applied to the City of Fontana for a design review, general plan amendment, zone change, and tentative parcel map for its proposed Fontana Citrus Industrial Building Project. The proposed Project would be located at the northeast corner of the intersection of Citrus Avenue and Slover Avenue and at the southwest corner of the intersection of Oleander Avenue and Boyle Avenue, in the in the south-central part of the City, and would include the development of a new, all-electric industrial building consisting of approximately 360,500 gross square feet of building space with 55 truck docks.

MIG, Inc. ("**MIG**") has prepared this Energy and Greenhouse Gas Impact Analysis Report to evaluate the potential construction and operation related energy and GHG impacts of the proposed Project. MIG has prepared this Report using Project-specific information contained in the Site Plan for the proposed Project, as well as the Transportation Study prepared by Ganddini (Ganddini, 2023a and 2023b). Where necessary, MIG has supplemented available information with standardized sources of information, such as model assumptions pertaining to construction equipment activity levels. In general, this Report evaluates the potential "worst-case" conditions associated with the proposed Project's construction and operational emissions levels to ensure a conservative (i.e., likely to overestimate) assessment of potential energy and GHG impacts are presented.

This Report is intended for use by the Lead Agency to assess the potential energy and GHG impacts of the proposed Project in compliance with the California Environmental Quality Act (CEQA; PRC §21000 et seq.) and the State CEQA Guidelines (14 CCR §15000 et seq.), particularly in respect to the energy and GHG issues identified in Appendix G of the State CEQA Guidelines.

1.1 REPORT ORGANIZATION

This Report is organized as follows:

- **Chapter 1, Introduction,** explains the contents of this Report and its intended use.
- **Chapter 2, Proposed Project Description**, provides an overview of the construction and operational activities associated with the proposed Project.
- **Chapter 3, Energy Setting and Regulatory Framework,** provides pertinent background information on energy, describes the existing energy setting of the proposed Project, and provides information on the federal, state, and local regulations that govern the proposed Project's energy setting and potential energy impacts.
- **Chapter 4, GHG Setting and Regulatory Framework,** provides pertinent background information on GHG and climate change, describes the existing GHG setting of the proposed Project, and provides information on the federal, state, and local regulations that govern the proposed Project's GHG setting and potential GHG impacts.
- **Chapter 5, Energy Impact Assessment,** identifies the potential construction and operational energy impacts of the proposed Project and evaluates these effects in accordance with Appendix G of the State CEQA Guidelines.

- **Chapter 6, GHG Impact Assessment,** identifies the potential construction and operational GHG impacts of the proposed Project and evaluates these effects in accordance with Appendix G of the State CEQA Guidelines.
- **Chapter 7, Report Preparers and References,** list the individuals involved, and the references used, in the preparation of this Report.

2 PROPOSED PROJECT DESCRIPTION

The following describes the Building and activities proposed by the Project.

2.1 PROJECT LOCATION

The proposed Project would be located at the northeast corner of the intersection of Citrus Avenue and Slover Avenue and at the southwest corner of the intersection of Oleander Avenue and Boyle Avenue in the south-central part of the City of Fontana, San Bernardino County. The Project site is a partially developed, approximately 16.12-acre (gross), irregularly shaped area that consists of 15 parcels of land (Assessor's Parcel Numbers 0251-151-03, 07, -09, -10, -14, -15, -16, -21, -22 and -39 to -44). The site is bound by Boyle Avenue to the north, Slover Avenue and existing commercial development (an Arco fuel service station) to the south, existing non-conforming residential development to the east, and Citrus Avenue and existing commercial development (the same Arco fuel service station) to the west (see Figure 2-1 Aerial View of the Project Site).

The Project site is, at closest, approximately 485 feet (0.9 miles) south of a UPRR line and 575 feet (0.11 miles) south of Interstate 10 (I-10).[1]

2.1.1 SITE LAND USE AND ZONING

The City's General Plan primarily designates the site as Light Industrial (I-L); however, a single parcel in the southern portion of the site (APN 251-151-10) is designated Community Commercial (C-C; (City of Fontana, 2022a). The City's Zoning Map also designates the Project site as Light Industrial (M-1) and Community Commercial (C-1; City of Fontana, 2022b). Per the Zoning Map, the Project site is not located within any Specific Plan area or zoning overlay district.

2.1.2 SURROUNDING LAND USES

The proposed Project site is surrounded by a mix of non-conforming residential and light industrial uses to the north (across Boyle Avenue); non-conforming residential uses to the east; commercial uses to the southeast (across Oleander Avenue); commercial, light industrial, educational, and residential land uses to the south (across Slover Avenue); and commercial and residential land uses to the west (primarily across Citrus Avenue).

[1] Unless otherwise indicated, reported distances are measured between the edge of the listed feature (e.g., road or rail right-of-way, land use property boundary, etc.) and the Project's closest property line.

Figure 2-1 Aerial View of the Project Site

Source: MIG 2023

2.2 EXISTING SITE DESCRIPTION AND OPERATIONS

The Project site includes occupied and vacated residences, ancillary residential structures (e.g., garages, sheds, and other structures), and a retail building. The site includes 13 single-family residences and 12 ancillary structures occupying approximately 31,359 feet, a metal building occupying 19,445 square feet, and a plant nursery occupying approximately 950 square feet. A majority of the site is undeveloped and consists of crushed aggregate/ruderal vegetation.

2.3 PROPOSED SITE DEVELOPMENT AND OPERATIONS

The proposed Project would involve the development of a new, all-electric approximately 360,500 square foot industrial building. Approximately 5,500 square feet of the building's total area would consist of office space. The entire approximately 16.12-acre site would be graded; the portions of the site not developed with the Building would either be hardscaped (e.g., parking or sidewalks) or landscaped. The proposed Project site plan is shown in Figure 2-2.

2.3.1 SITE LAYOUT AND BUILDING DESCRIPTION

The proposed rectangular building would reach a height of 50 feet above ground level. The long axis of the building, like the site, would be west to east, with the front of the building on the eastern perimeter. The building's office space would be located at the southeastern corner of the building. Employee parking areas would generally be located along the site's western and eastern perimeters.

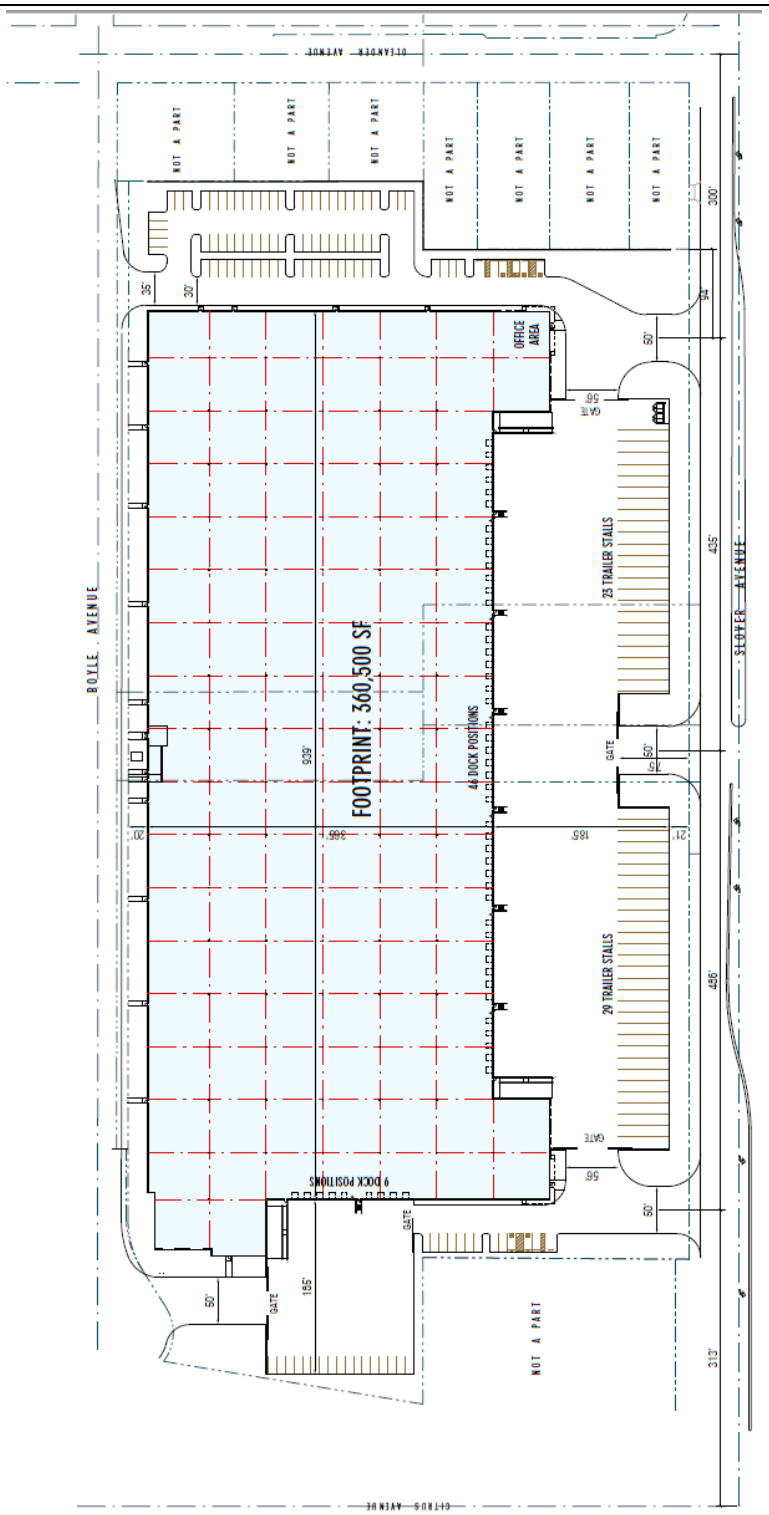
The Building would include 55 truck docks located mainly at the southern portion of the site, with additional docks located at the western portion of the site. The building's southern façade would include 46 truck docks that would be set back from the site's southern property line by approximately 206 feet and the building's western façade would include 9 truck docks that would be set back from the northwestern property boundary by at least 185 feet. The building would be screened from view by a 10-foot-high concrete screening wall at the eastern property line. The building's façade would be set back approximately 146 feet from the site's southern property line at the southernmost point and set back approximately 206 feet at the dock doors. The façade would also be set back approximately 58 feet from the eastern property line, and 20 feet from the site's northern property line. An existing 6-foot-tall concrete wall located along a portion of the shared property line with the Arco fuel station adjacent to the southwest corner of the site would also remain in place.

2.3.2 SITE ACCESS AND PARKING

Access to the site would be provided via five driveways: two along the northern portion of the site on Boyle Avenue and three along the southern portion of the site on Slover Avenue. There would be drive aisles along the western, southern, and eastern portions of the site that would connect these five driveways. The southwest, southcentral, and southeast driveways would be connected by a 56-foot wide drive aisle while the drive aisles along the western and eastern portions of the site would be as narrow as 30 feet wide. The three southern driveways would provide access to the 46 docks along the building's southern façade. The northwestern driveway would provide access to the 9 docks along the building's western façade and employee parking in the western portion of the site and the northeastern driveway would provide access to employee parking in the eastern portion of the site. There would be a total of 111 employee parking spaces, which would be located along the western portion of the site (30 stalls) and the eastern portion of the site (81 stalls). In addition, there would be 52 trailer stalls, which would be located

along the southern boundary of the site. A median in Slover Avenue would prevent trucks from turning left into the site's southern driveways.

Figure 2-2: Site Plan



Source: RGA, 2023

2.3.3 PROJECT OPERATIONS

The proposed Project is considered a speculative industrial building because tenants/end users have not been identified. In general, industrial warehouse buildings generate emissions from sources such as on- and off-site vehicle trips, on-site truck maneuvering, loading and unloading activities, on-site parking, and other on-site operations. With regards to potential Project operations that could generate emission, this Report assumes:

- **Hours of Operation:** The Project could operate up to 24 hours per day, 7 days per week. Employee shift changes would occur in the morning (approximately 7 AM to 8 AM), afternoon (approximately 3 PM to 4 PM), and nighttime (approximately 11 PM to 12 AM), with most employees working a daytime shift.
- **Vehicle Trip Generation:** The proposed Project's trip generation potential, as estimated in the Site Access Memorandum prepared for the Project, is summarized in Table 2-1 (Ganddini Group, 2023a). As shown in Table 2-1, the proposed Project would result in 505 total vehicle trips per day, including 425 passenger vehicle trips and 80 truck trips. The closest highway / freeway to the Project site is the I-10, which can be accessed via Citrus Avenue on- and off-ramps located approximately 1,595 feet (0.3 road miles) from the site (via westbound Slover Avenue to northbound Citrus Avenue, to the I-10 eastbound ramp).

  The site memorandum assumed that 95% of inbound trucks would access and exit the site from the southern driveways on Slover Avenue and 5% would access and exit the site from the northern driveway on Boyle Avenue. The following describes the specific inbound and outbound truck travel patterns that are anticipated for the Project.

  - **Inbound Truck Trips.** Sixty percent (60%) of inbound truck trips would access the site by traveling southbound on Citrus Avenue and eastbound on Slover Avenue and turning into southcentral driveway. Forty percent (40%) of inbound truck trips would access the site by traveling westbound on Slover Avenue. Five percent (5%) of the truck trips would divert to the north on Oleander Avenue (i.e., at the Slover Avenue and Oleander intersection) before turning west on Boyle Avenue and accessing the site through the northeast driveway. The remaining 35% of truck trips from westbound Solver Avenue (prior to the Solve Avenue and Oleander Avenue intersection) would continue westbound on Slover Avenue and access the site via the southwestern driveway (10% of truck trips), the southcentral driveway (15% of truck trips), or the southeast driveway (10% of truck trips). See Figure 2-3 and Table 2-2 for inbound truck trip distribution.
  - **Outbound Truck Trips.** Sixty percent (60%) of outbound truck trips would exit by traveling westbound on Slover Avenue from the southern driveways (30% from the southwest, 25% from the southcentral, and 5% from the southeast) and turning north on Citrus Avenue at the Citrus-Slover intersection. Forty percent (40%) of outbound truck trips would travel eastbound on Slover Avenue, with 35% of truck trips exiting the site by traveling eastbound on Slover Avenue from the southcentral driveway and 5% of truck trips exiting the site by traveling eastbound on Boyle Avenue from the northwest driveway, turning south on Oleander Avenue, and then turning east on Slover Avenue. See Figure 2-4 and Table 2-2 for outbound truck trip distribution.

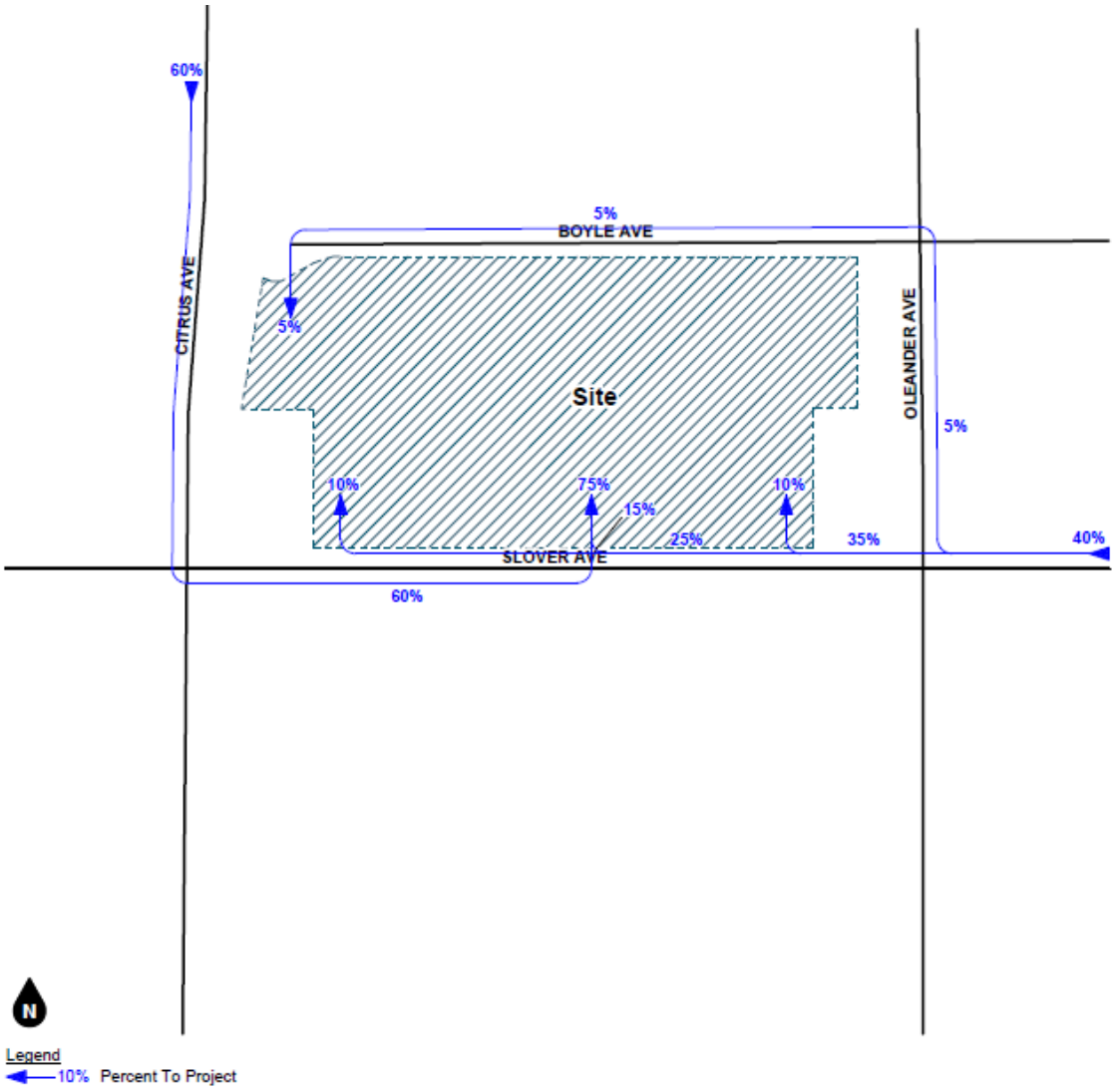
- **Yard Equipment:** The Project could include the use and operation of up to 43 electric - powered forklifts, pallet jacks, and other material handling equipment and one (1) yard hostler. This estimate is based on the average equipment usage at high cube warehouses, based on a survey conducted by the South Coast Air Quality Management District (SCAQMD, 2014). The forklifts would primarily operate inside the proposed industrial warehouse building.

Table 2-1: Project Trip Generation Rates

Vehicle Type	AM Peak Hour	PM Peak Hour	Average Daily Trips	
			Number	Percent
Proposed Project				
Passenger Cars	22	32	425	84%
Truck Trips				
2-axle	2	0	13	3%
3-axle	2	0	17	3%
4-axle	4	2	50	10%
Subtotal(A)	8	2	80	16%
Total Project Trips	**30**	**34**	**505**	**100%**
Existing Conditions				
Total Existing Trips	***11***	***14***	***142***	***100%***
Net Change in Vehicle Trips				
Total Net Change	***19***	***20***	***363***	***100%***

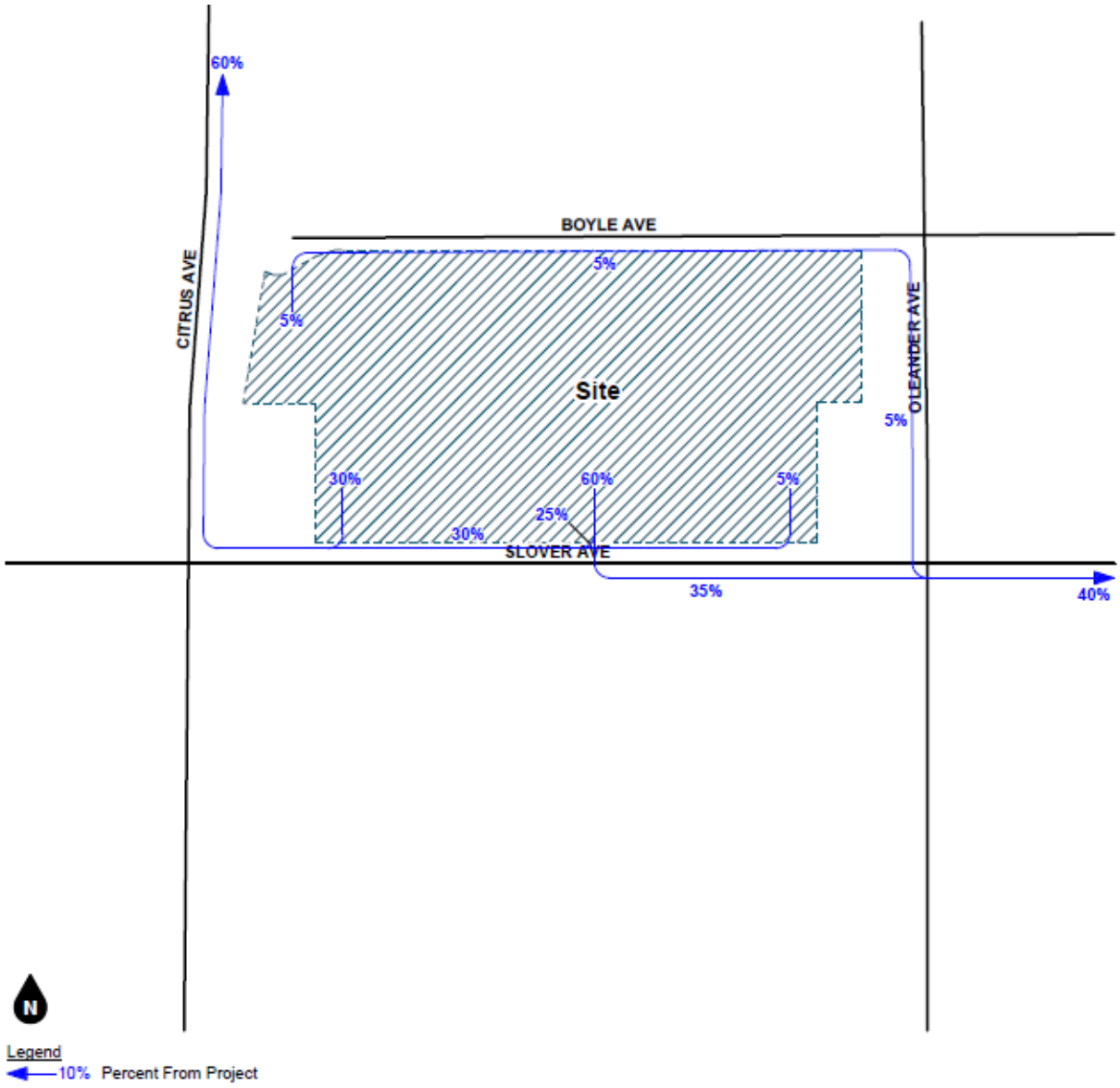
Source: Ganddini, 2023a, Table 2 and Table 3
(A) Totals may not equal due to rounding.

Figure 2-3: Inbound Trip Distribution



Source: Ganddini 2023a, Figure 6

Figure 2-4: Outbound Trip Distribution



Source: Ganddini 2023a, Figure 5

Table 2-2: Project Truck Trip Distribution		
Driveway	**Inbound**	**Outbound**
Southwest Driveway	**10%**	**30%**
Slover Avenue, Segment West of Driveway	10%	30%
Slover Avenue, Segment East of Driveway	0%	0%
Southcentral Driveway	**75%**	**60%**
Slover Avenue, Segment West of Driveway	15%	25%
Slover Avenue, Segment East of Driveway	60%	35%
Southeast Driveway	**10%**	**5%**
Slover Avenue, Segment West of Driveway	0%	5%
Slover Avenue, Segment East of Driveway	10%	0%
Northwest Driveway	**5%**	**5%**
Total Project Trips	**100%**	**100%**
Source: Ganddini, 2023a, Figures 5 and 6 (B) Totals may not equal due to rounding.		

2.3.4 PROJECT DESIGN FEATURES THAT REDUCE GHG EMISSIONS

The proposed Project would include design features that reduce energy consumption and GHG emissions, and that are necessary to comply with the City of Fontana Municipal Code, Chapter 9, Article V: Industrial Commerce Centers Sustainability Standards. These design features are part of the proposed Project and are reflected in the emissions estimates and impact analyses contained in this Report; they are not mitigation measures. The proposed Project's emission reduction design features are summarized in Table 2-3.

Table 2-3: Summary of Project Design Features that Reduce Energy and GHG Emissions			
Project Design Feature	**Code Section and Requirement**	**Design Feature Description**	**How Does the Feature Reduce Emissions and/or GHG Impacts?**
Landscaping	9-71.(c-d, e). Landscaping shall be drought tolerant and low biogenic emissions species. Landscaping areas shall be properly irrigated to maintain growth of plants and trees. Trees shall be installed in automobile parking areas to provide at least 35 percent shade cover of parking areas within 15 years. Trees shall be planted that are capable of meeting this requirement.	All landscaping will be drought tolerant with low biogenic emissions. Trees will be planted to provide at least 35% shade cover to automobile parking areas within 15 years.	The use of drought tolerant landscaping would reduce emissions associated with outdoor watering and shade would providing shade would reduce the energy use and associated emissions from cooling.
Truck Routing and Idling Restriction	9-72.(c, e-i, d) Signs are required for a 3-minute idling limit, on-site circulation patterns, parking, truck routes, and the SCAQMD contact information. A truck routing plan to and from the state highway system based on the City's latest truck route map is required. It will include the facility's operational characteristics and measures for preventing truck queuing, circling, stopping, and parking on public streets.	Facility operators will submit a truck routing plan and install the required signs.	The use of signs would minimize unnecessary idling and vehicle travel, decreasing emissions from trucks.

Table 2-3: Summary of Project Design Features that Reduce Energy and GHG Emissions			
Project Design Feature	**Code Section and Requirement**	**Design Feature Description**	**How Does the Feature Reduce Emissions and/or GHG Impacts?**
Use of Zero Emission On-site Operations Equipment (forklifts, pallet jacks, etc.)	9-73.(a) On-site motorized operational equipment shall be ZE (zero emission).	The Applicant will require the use of electric forklifts, pallet jacks, and other cargo/material handling equipment as a lease condition / condition of sale.	The use of electric forklifts and other equipment avoids on-site emissions from diesel-, compressed natural gas- and other fossil-fuel-powered types of this equipment.
Cool/Reflective Roof Materials	9-73.(c) The office portion of a building's rooftop that is not covered with solar panels or other utilities shall be constructed with light colored roofing material with a solar	The Applicant has designed the proposed Project to include the use of light colored roofing materials with a solar reflective index (SRI) not less than 78.	The use of light-colored roofing materials reduces heat gain and energy usage associated with building heating and cooling systems.
Solar-ready Building Roof	9-73.(b) All building roofs shall be solar-ready	The Applicant has designed the proposed building's roof to facilitate and optimize the future installation of a solar photovoltaic (PV) system.	The installation of solar PV system would reduce facility energy demand and indirect emissions associated with energy production.
Electric Vehicle Parking and Charging	9-73.(e) At least 10% of all passenger vehicle parking spaces shall be electric vehicle (EV) ready, at least 5% of all passenger vehicle parking spaces shall be equipped with working Level 2 Quick charge EV charging stations installed and operational, prior to building occupancy	The proposed Project would include approximately 11 EV charging spaces.	The use of EVs would reduce gasoline and diesel consumption.

Table 2-3: Summary of Project Design Features that Reduce Energy and GHG Emissions			
Project Design Feature	**Code Section and Requirement**	**Design Feature Description**	**How Does the Feature Reduce Emissions and/or GHG Impacts?**
Bicycle Parking	9-73.(g) Bicycle racks are required and shall include locks as well as electric plugs to charge electric bikes.	There will be approximately 12 bicycle racks (one bicycle rack per 30,000 square feet).	Racks provide locations to safely store bicycles for workers and/or visitors that travel to the site by that means of transportation.
Cool Pavements	9-74.(a) Cool surface treatments shall be added to all drive aisles and parking areas or such areas shall be constructed with a solar-reflective cool pavement such as concrete.	The Applicant has designed the Project's parking areas and drive aisles to be constructed with a solar-reflective cool pavement (concrete).	The use of solar-reflective cool pavements reduces heat island effects that can lead to increased demand for energy in building heating and cooling systems.
Electrical Rooms	9-74.(b) To ensure that warehouse electrical rooms are sufficiently sized to accommodate the potential need for additional electrical panels, either a secondary electrical room shall be provided in the building, or the primary electrical room shall be sized 25% larger than is required to satisfy the service requirements of the building or the electrical gear shall be installed with the initial construction with 25% excess demand capacity.	The Applicant has designed the proposed building's electrical maintenance rooms to be 25% larger than required for the current building design.	The installation of a larger electrical room supports the future installation and expansion of emissions reduction infrastructure such as solar PV systems, alternative space and water heating systems, electric vehicle/truck charging equipment, etc.

Table 2-3: Summary of Project Design Features that Reduce Energy and GHG Emissions			
Project Design Feature	**Code Section and Requirement**	**Design Feature Description**	**How Does the Feature Reduce Emissions and/or GHG Impacts?**
Use of Electric Equipment and Charging during Construction	Sec. 9-74 e (2-5) The Applicant shall require construction bid, contract, procurements, and other similar documents include a requirement for the contractor to electric-powered hand tools, forklift, and pressure washers during Project construction. The Applicant shall require the construction contractor to designate an area where electric-powered construction vehicles and equipment can charge and install a conduit for future electric truck charging stations. Diesel-powered generators will be limited to emergency and temporary power purpose only.	The proposed Project will use electric forklifts and provide for charging on site.	The use of electric-powered hand tools, forklifts, and pressure washers avoids on-site emissions from diesel-, compressed natural gas- and other fossil-fuel-powered types of this equipment. Connecting to electric service during construction and limiting the use of diesel-powered generators minimizes on-site emissions during construction.

2.4 PROJECT CONSTRUCTION

Construction of the proposed Project is anticipated to begin as early as January 2024 and take approximately 10 months to complete. The development of the approximately 16.12-acre site and the construction of the approximately 360,500 square feet industrial warehouse building would require demolition, site preparation, grading, trenching, building construction, paving, and architectural coating phases/activities. A total of 51,754 square-feet of building space would be demolished. Site grading would require approximately 18,600 cubic yards of cut and 24,000 cubic yards of fill, resulting in the net import of 5,400 cubic yards of soil. The proposed Project is anticipated to require varying types of equipment throughout the different construction phases including, but not limited to, bulldozers, backhoes, loaders, graders, cranes and forklifts. Table 2-4 summarizes the proposed Project's construction phasing and the typical pieces of heavy-duty, off-road construction equipment that would be required during each phase.

Table 2-4: Construction Activity, Duration, and Typical Equipment		
Construction Activity(A)	**Duration (Days)(B)**	**Typical Equipment Used(C)**
Demolition	20	Saws, Excavator, Dozer
Site Preparation	10	Dozer, Tractor/Loader/Backhoe
Grading	30	Excavator, Grader, Dozer, Backhoe
Trenching	60	Trencher, Forklift, Tractor/Loader/Backhoe
Building Construction	160	Crane, Forklift, Backhoe
Paving	10	Paver, Paving Equipment, Roller
Architectural Coating	25	Air Compressor

Source: See Appendix A.

(A) There would be overlap between the Trenching and Building Construction phases and between the Building Construction, Paving, and Architectural Coating phases.

(B) Days refers to total active workdays in the construction phase, not calendar days.

(C) The typical equipment list does not reflect all equipment that would be used during the construction phase. Not all equipment would operate eight hours per day each workday.

3 ENERGY SETTING AND REGULATORY FRAMEWORK

This chapter provides information on the environmental and regulatory energy setting of the proposed Project. Information on existing energy conditions, and federal, state, and local energy standards and goals was obtained from the United States Environmental Protection Agency (U.S. EPA), United States Energy Information Administration (U.S. EIA) the California Energy Commission (CEC), Southern California Edison (SCE), and Southern California Gas (SoCal Gas).

3.1 ENVIRONMENTAL SETTING

3.1.1 DEFINING ENERGY: SOURCES, UNITS, AND MEANS OF PRODUCTION

For the purposes of this Report, energy resources are categorized into three areas: electricity, natural gas, and fuels used for transportation.

3.1.1.1 Electricity

Electricity is the flow of electrical power or charge (i.e., the movement of electrons between atoms). It is produced by converting sources of primary energy such as coal, natural gas, nuclear, hydropower, wind, and solar, into electrical power through various means.

Generators and solar photovoltaic (PV) cells are two of the primary pieces of equipment used to produce and supply electricity to the grid. The following describes the processes through which electricity is generated by these pieces of equipment.

- **Generators.** Turbine generators convert mechanical or chemical energy into electricity. At its simplest form, an electrical generator is an electromagnet, moving wire near a magnet to direct the flow of electricity. Turbine generators do this by using a moving fluid (e.g., water, steam, combustion gases, or air) to push rotator blades that are attached to a generator. The rotation of magnets and wires within the generator produce an electromagnetic current, directing electrical flow.
- **Solar Photovoltaic Cells**. Solar photovoltaic (PV) cells convert solar energy directly into electricity. They are made up of semiconductor material that absorb sunlight and generate an electrical current. This current is captured and transferred to wires so that it can be utilized at a different location.

Electricity production can be grouped into two main categories; electricity that is generated from renewable sources (e.g., solar and wind) and electricity that is generated from non-renewable sources (e.g., fossil fuel combustion). Table 3-1 and Table 3-2 summarize the primary renewable and non-renewable sources of electricity, respectively, as well as how the energy from the various sources is converted into electricity.

Table 3-1: Renewable Sources of Electricity Production	
Source	**Electricity Production Process**
Wind	Wind can be converted to electricity through the use of a wind turbine (historically referred to as "windmills"). Electricity from this source is produced when wind causes the turbine's blades to turn. The amount of electricity generated by a wind turbine is dependent on a number of factors, but is primarily related to how much wind energy can be collected at a given time. Wind turbines with longer blades have the capacity to generate more electricity than those with smaller blades, because they can collect more of the wind's energy. A small wind turbine could generate a similar output as a larger one, but the smaller one would need to be subject to higher wind speeds. Wind power plants, or wind farms, are composed of multiple wind turbines spread out over a large area.
Solar	The sun's energy can be converted into electricity by using solar PV cells, which produce electricity when photons from the solar energy are absorbed by the semiconductor material in the PV cell. Electrons are dislodged from the semiconductor material and absorbed by electrical conductors, which are connected in an electrical circuit. Electricity flows through the electrical circuit to an external device, such as a battery or an inverter.(A) Solar energy production can be increased with additional PV cells. PV cells can be connected in solar panels, and groups of solar panels can be connected into a solar array. One PV cell may power small devices such as calculators, small solar arrays may power individual residential or commercial buildings, and large arrays may produce power for utilities.
Hydroelectric	Hydroelectric energy is produced by using a naturally-flowing water source (e.g., from a river or dam) to spin the blades of a turbine, which is typically located on or adjacent to the body of water. Water is piped from a location upstream of the facility, through the turbine, and released back into the environment on the downstream side of the facility. The amount of electricity produced by a hydroelectric generator can be regulated by controlling the amount of water flowing through the turbine at a given time (e.g., greater water flow would produce more electricity).
Geothermal	Geothermal energy is produced by utilizing underground high-temperature hydrothermal resources to create steam (or superheat evaporate and other working fluid) that turns a turbine. Hot water is piped in one side of the system, used to turn the turbine, then piped back to a cooling tower before being piped underground. These power plants can pipe steam or hot water from wells that reach up to two miles into the earth.

Table 3-2: Non-Renewable Sources of Electricity Production	
Source	**Electricity Production Process**
Fossil Fuels	Combusting fossil fuels releases energy that can be harnessed and turned into electricity. The change in air pressure as a result of burning the material can be used to create a mechanical process that rotates a generator (e.g., using the hot air from the combusted material to move rotator blades within a generator or pistons within an internal combustion engine). Fossil fuels are hydrocarbons formed from plant and animal remains that were placed under heat and pressure from layers of sand, silt, and rock. Fossil fuels can include coal, crude oil, and natural gas. Petroleum products such as gasoline and diesel are produced from refining fossil fuels.
Nuclear	Nuclear reactors convert energy to electricity by using the heat from a nuclear reactor to evaporate water (i.e., producing steam) that rotates a turbine. Although nuclear energy is not renewable, it is often considered "green" and considered alongside renewable sources because it is a carbon-free source of electricity.
Source: U.S. EIA 2022a (A) An inverter is a device that converts the type of electricity that is produced by PV cells (direct current, or DC, electricity) to the type of electricity that is used in appliances or in an electrical grid (alternating current, or AC electricity).	

Electricity production relies on different energy sources and technologies. A combination of the renewable and nonrenewable energy sources described above are used to generate electricity.

Electricity is measured in watts, a unit of power. Watts may be described in various quantities using kilo-, mega-, and giga-, prefixes, which correspond to one-thousand, one-million, and one-billion of something, respectively. For context, these prefixes are typically used in the following contexts when describing electricity production and consumption.

- **Watts** are used as a measurement for small devices. For example, the solar powered calculator may use 1 Watt. A lightbulb may use 50 Watts.
- **Kilowatts (kW)**, or 1,000 Watts, are typically used to describe large appliance and building-scale electricity consumption. For example, the average Californian household consumed 6,174 kWh of electricity in 2019 (CEC 2021a).
- **Megawatts (MW)**, are 1,000 kW, or one million Watts. Megawatts may be used when discussing utility systems.
- **Gigawatts (GW)**, are 1,000 MW, one million kW, or one billion watts. Gigawatts may used when discussing statewide electricity generation. For example, in 2021, California generated 194,127 GWh of electricity in-state (U.S. EIA 2022b).

Electricity use over time can be measured in watt-hours (Wh), where, for example, one kWh is the equivalent of one kW generated or consumed over the course of one hour. For example, if a 50 W lightbulb was on for one hour it would consume 5 Wh (or 0.05 kWh) of electricity. If it was on for 100 hours, it would consume 5 kWh of electricity.

3.1.1.2 Natural Gas

Natural gas is a fossil fuel-based energy source that is typically found between layers of rock or with deposits of crude oil. Natural gas can be extracted by drilling in wells or fracking. After extraction, natural gas is sent to a processing facility and then to storage or to natural gas companies.

Biomethane, also known as renewable natural gas, can be used as a substitute for fossil natural gas. Biomethane is a gas formed from the decomposition of organic matter, composed primarily of methane and carbon dioxide. It can be produced from solid waste landfills, wastewater treatment plants, food waste, organic waste, and livestock farms. Biomethane is then treated to remove contaminants and gases such as carbon dioxide until the methane content is greater than 90% (U.S. EPA 2022a).

Natural gas can be measured in units such as therms or British thermal units (Btu), which are quantities of heat, or cubic feet, which is a volume. The U.S. EIA defines a Btu as the quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit) (U.S. EIA 2023a). One therm is the equivalent of 100,000 Btu. Since heat quantity and volume cannot be converted directly, there is not one conversion rate between therms and cubic feet. However, the units can be converted if the heat content per volume is known. The average heat content of natural gas in 2020 was approximately 1,037 Btu per cubic foot (U.S. EIA 2021a).

3.1.1.3 Fuels Used for Transportation

Fuels used for transportation may include diesel, gasoline, natural gas, electricity, and hydrogen. Diesel, gasoline, and natural gas fuels have traditionally been refined from crude oil. Combusting these fuel sources in an engine releases energy that can be transferred into making an object move (e.g., rotating a vehicle's driveshaft or a boat's propeller). Diesel, which can also be biomass based,[2] is typically used in larger pieces of equipment, such as trucks, trains boats, buses, farm equipment, and construction equipment. Gasoline (which may be blended with other liquids, such as ethanol), electricity, and hydrogen fuel cells[3] are primarily used to power passenger vehicles.

3.1.2 HISTORICAL AND CURRENT ENERGY PRODUCTION AND CONSUMPTION HABITS

3.1.2.1 National

Total U.S. energy consumption has increased in recent decades; however, per capita energy consumption has generally decreased since the year 2000. This is due to factors such as greater energy efficiency in appliances, vehicles, and utility scale electricity generation and a reduction in energy-intensive manufacturing (U.S. EIA 2022c). The following describes historical energy production and consumption trends in the U.S.

Electricity

The mix of energy sources for U.S. electricity generation has shifted in recent decades, but has primarily consisted of electricity generated from natural gas, coal, nuclear, hydroelectric, wind, and solar energy sources. Table 3-3 and Figure 3-1 depict the overall quantity and make-up of electricity of electricity production in the U.S. over the last six years.

[2] Biodiesel and renewable diesel are both produced from non-petroleum sources such as vegetable oil and animal fat. Biodiesel is consumed after it is blended with petroleum diesel. While renewable diesel may also be blended with petroleum diesel, renewable diesel can be transported and consumed directly without needing to be blended with petroleum.

[3] Hydrogen fuel cells can produce electricity by combining hydrogen and oxygen atoms.

Table 3-3: United States Electricity Generation (2015 to 2021)

Energy Source	Electricity Produced Per Calendar Year (Million GWh)						
	2015	2016	2017	2018	2019	2020	2021
Natural Gas	1,335	1,379	1,298	1,472	1,589	1,627	1,579
Coal	1,352	1,239	1,206	1,149	965	773	898
Nuclear	797	806	805	807	809	790	778
Hydroelectric	249	268	300	293	288	285	252
Wind	191	227	254	273	296	338	378
Solar	39	55	77	93	107	131	164
Other(A)	116	104	95	94	77	66	59
Total Electricity	4,079	4,078	4,035	4,181	4,131	4,010	4,108
Fossil Fuels(B)	*2,687*	*2,618*	*2,504*	*2,621*	*2,553*	*2,400*	*2,477*
Non-Hydroelectric Renewables(C)	*230*	*282*	*332*	*366*	*403*	*469*	*543*
Total Carbon Free Electricity(D)	*1,276*	*1,355*	*1,437*	*1,466*	*1,500*	*1,544*	*1,572*

Sources: U.S. EIA 2022d and U.S. EIA 2022e

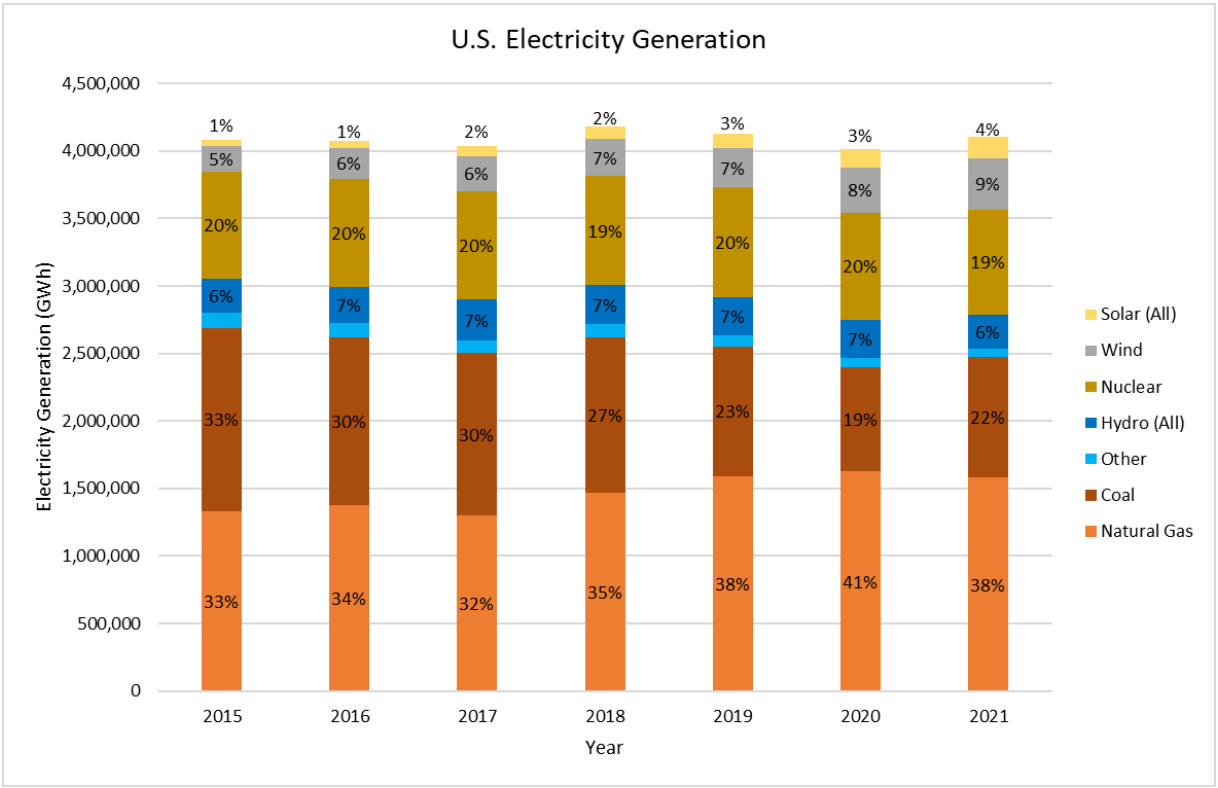
(A) "Other" sources include electricity production from petroleum coke and liquids, other gases, geothermal, and biomass.

(B) Fossil fuels include natural gas and coal.

(C) Non-hydroelectric renewables include wind and solar.

(D) Carbon-free energy sources consist of nuclear, hydroelectric, and renewable fuels.

Figure 3-1: United States Energy Sources for Electricity Generation (2015 to 2021)



Source: U.S. EIA 2022d and U.S. EIA 2022e

Note: The percentages for "Other" sources are not depicted in the figure, but generally include electricity production from petroleum coke and liquids, other gases, geothermal, and biomass. Annual values for the "Other" energy sources between 2015 and 2021 ranged between 3 percent in 2015 to 1 percent in 2021.

As shown in Table 3-3 and Figure 3-1, electricity production had some variability between 2015 and 2021, but mainly fluctuated between 4,000 and 4,100 million GWh of production on an annual basis.

Electricity production from fossil fuels (natural gas and coal), while remaining the predominant source of energy for electricity, decreased from a combined composition of approximately 66% in 2015 to approximately 60% in 2021. It should also be noted that there was a large shift away from coal and toward natural gas over this timeframe. Whereas the total contribution from coal and natural gas to electricity production during 2015 was approximately equal at 33%, during 2021, this changed to a contribution of 38% and 22% for natural gas and coal, respectively; a 16% difference.

Nuclear power plants were the second largest generator of electricity nation-wide, while electricity from renewable sources (e.g., solar, wind, hydroelectric) comprised less than a quarter of all electricity production. The overall electricity contribution from renewable sources, and in particularly wind energy, almost doubled over the 2015 to 2021 timeframe.

Natural Gas

Natural gas consumption nationwide has increased in recent decades. In 1990, the U.S. consumed 198 trillion therms of natural gas, which increased to approximately 217 trillion therms in 2021 (U.S. EIA 2012 and 2022f).

Transportation Fuels

Petroleum products (e.g., gasoline and diesel) have historically been the predominant form of energy used within the transportation sector. Annual daily consumption of gasoline in the transportation sector increased from approximately 85.7 billion gallons per year in 1970 to approximately 129.3 billion gallons per year in 2021, an approximately 51% increase (U.S. EIA 2023b). Gasoline consumption has fluctuated slightly since 2007 (i.e., increasing and decreasing) but has generally remained at or around 135 billion gallons per year, deviating only from the trend at the start of the COVID-19 pandemic in 2020. The use of diesel fuel increased at a substantially faster rate across the 1970 to 2021 timeframe, from approximately 11.3 billion gallons of consumption in 1970 to approximately 47.1 billion gallons in 2021, an approximately 317% increase (U.S. EIA 2023b). Unlike gasoline consumption, which is still slightly down from pre-COVID-19 levels, diesel consumption has generally remained constant. Although petroleum productions are the primary forms of energy used within the transportation sector, other fuels are used to lesser extents, including jet fuel (also petroleum), natural gas, biofuels, and other sources (e.g., fuel oil, lubricants, propane, and electricity).

In 2021, petroleum products (gasoline, diesel, and jet fuel) accounted for approximately 90% of energy consumption in the transportation sector nationwide (U.S. EIA 2022g). Gasoline is currently the main transportation fuel used in the U.S., accounting for approximately 54% of energy consumption in the transportation sector, and is followed by diesel at 23% and jet fuel at 11% (U.S. EIA 2022h). Electricity accounted for less than one percent energy consumption in the U.S. transportation sector in 2021 (U.S. EIA 2022h).

3.1.2.2 State

According to the U.S. EIA, California is the most populous state in the U.S., representing 12 percent of the total national population, has the largest economy, and is second only to Texas in total energy consumption. However, California has one of the lowest per capita energy consumption levels in the U.S. This is a result of California's mild climate, extensive efforts to increase energy efficiency, and

implementation of alternative technologies. California leads the nation in electricity generation from solar, geothermal, and biomass resources (U.S. EIA 2022i).

Electricity

As discussed above, California has one of the lowest per capita energy consumption levels in the U.S, which, in part, is attributable to its extensive efforts to increase energy efficiency. The State has also passed several legislative bills that have required retail-energy suppliers to increase the amount of renewable electricity supplied to customers. California's annual electricity generation and the sources that created it for the 2015 through 2021 calendar years are presented below in Table 3-4 and Figure 3-2.

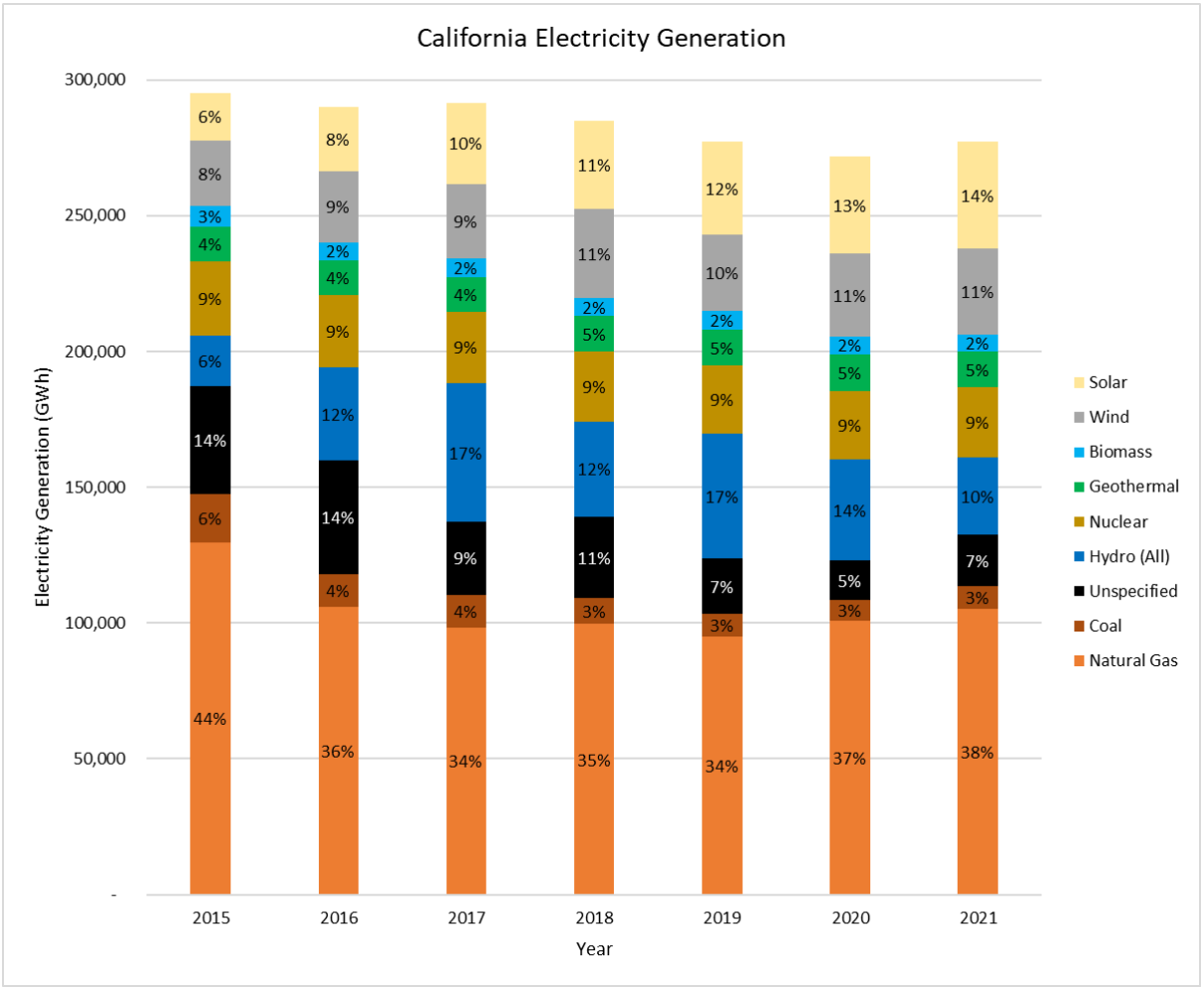
Table 3-4: California Electricity Generation (2015 to 2021)

Energy Source	Electricity Produced Per Calendar Year (Thousand GWh)						
	2015	2016	2017	2018	2019	2020	2021
Natural Gas	130	106	98	100	95	101	105
Coal	18	12	12	9	8	7	8
Petroleum / Other	<0.1	<0.1	<0.1	<0.1	<0.1	1	1
Nuclear	27	27	27	26	25	25	26
Hydroelectric	19	19	20	20	20	20	19
Wind	24	26	27	33	28	30	32
Solar	18	24	30	33	34	36	39
Biomass	1	1	1	1	1	1	1
Unspecified(A)	40	42	27	30	20	20	19
Total Electricity(B)	295	291	292	285	278	273	278
Fossil Fuels(C)	*148*	*118*	*111*	*110*	*104*	*109*	*114*
Non-Hydroelectric Renewables(D)	*62*	*69*	*77*	*85*	*82*	*86*	*90*
Total Carbon Free Electricity(E)	*108*	*115*	*123*	*130*	*127*	*132*	*136*

Sources: CEC 2022a, U.S. EIA 2022d

(A) "Unspecified" power is power that could not be traced to a facility, and would include a mix of fuel types
(B) Totals may not equal due to rounding
(C) Fossil fuels include natural gas and coal.
(D) Non-hydroelectric renewables include wind and solar.
(E) Carbon-free energy sources consist of nuclear, hydroelectric, and renewable fuels.

Figure 3-2: California Energy Sources for Electricity Generation (2015 to 2021)



Sources: CEC 2016, CEC 2017, CEC 2018, CEC 2019, CEC 2020, CEC 2021b, CEC 2022a
Note: Unspecified power is power that could not be traced to a facility, and would include a mix of fuel types.

As shown in Table 3-4 and Figure 3-2, overall electricity consumption throughout the State has decreased over the 2015 to 2021 timeframe, from approximately 295 million GWh to 278 million GWh (an approximately 6 percent decrease). Perhaps more notable than the overall decrease in electricity production, however, is the change in the electricity energy portfolio. As shown in Figure 3-2, electricity production from natural gas and coal power plants has decreased from a combined total of 50% of the total energy supply, to approximately 41%. Biomass, geothermal, and nuclear sources have remained relatively constant at 2%, 4% to 5%, and 9%, respectively, while electricity generated from geothermal, wind, and solar sources has increased. Electricity production from solar had one of the biggest relative increases in electricity production, increasing from approximately 6% to 14% between 2015 and 2021, respectively, (an approximately 150% increase). In 2021,over half of California's electricity was generated from carbon-free sources, including renewables, nuclear, and hydroelectric.

Similar to U.S. electricity generation, California electricity generation has shifted, with coal decreasing, renewables increasing, and nuclear and hydroelectric remaining relatively constant. However, while the direction of the shift in energy sources on the national and statewide level is the same, the state differs from U.S. energy consumption in the scale of this shift. For example, California's energy mix used

for electricity generation contains over twice the amount of renewable fuels as the U.S.[4]. California also uses a lower percentage of fossil fuels, mainly due to its low coal consumption.

Natural Gas

Annual natural-gas consumption in the State has fluctuated since the 1970s, but generally remained at or around 16,000 million therms since the 1990s (U.S. EIA 2022j). Although California has historically accounted for approximately 10% of annual nationwide natural gas consumption, its reserves and production constitute less than 1% of the total United States (U.S EIA 2022i and U.S. EIA 2022k).

In 2020, California consumed about 15,120 million therms of natural gas, with the majority of that consumption attributable to the industrial sector (50%) followed by the residential (31%) and commercial (16%) sectors. Approximately 88% of Californian homes used natural gas in some building system capacity, including space heating (55% of homes), water heating (75% of homes), and/or cooking appliance(s)[5] (70% of homes) (U.S. EIA 2022l and U.S. EIA 2022m).

Transportation

California's transportation sector consumed 59.6 million Btu of energy per capita in 2020, which ranked 46th in the nation (U.S. EIA, 2021b). This means that California had the 6th best transportation energy per capita rate (i.e., most efficient) in the United States, including the District of Columbia. Much of the State's efficiency with regard to the amount of transportation energy consumed per capita can be attributed to the increase in vehicle fuel efficiency standards required by the State.

California's production of gasoline and diesel fuels supplies both in- and out-of-state demand; however, most gasoline and diesel fuel sold in California for motor vehicles is refined within the state to meet state-specific formulations required by CARB (i.e., these fuels typically are not imported from out of state). Crude oil extraction and production has been decreasing since the 1980s (from 402 million barrels in 1986 to 200 million barrels in 2020) and is projected to continue to decline (CARB 2022a). According to taxable sales figures available from the California Department of Tax and Fee Administration, statewide both gasoline and diesel have declined since 2013. Gasoline sales saw the most notable decrease (an approximately 21% drop) from approximately 14,533 million gallons in 2013 to approximately 11,410 million gallons in 2022. This trend has not been linear, however. Gasoline sales increased from 2013 to 2017, remained relatively constant between 2017 and 2019, and then started to decrease rapidly across the 2020 to 2022 timeframe. This decrease is most likely attributable the shelter-in-place orders imposed due to the COVID-19 pandemic, but is also likely associated with vehicle turnover (i.e., from older, less fuel efficient cars to newer models) across the same timeframe. Diesel fuel sales also decreased between 2013 and 2020, from approximately 2,740 million gallons in 2013 to approximately 2,596 million gallons in 2022 (an approximately 5% decrease). Unlike gasoline sales, which began to decrease in 2020, diesel sales tended to increase between 2013 and 2021, only decreasing below 2013 levels in 2022 (CDTFA, 2023.

In 2022, California reached a milestone 1 million ZEVs sold, accounting for 40% of all ZEVs operating in the U.S. (Office of Governor Gavin Newsom 2022). Most of the ZEVs sold to date have been electric vehicles; however, vehicles powered by hydrogen fuel cells have also been expanding in availability

[4] Whereas approximately 33% of electricity in California is from renewable sources, only 13% of electricity generated in the greater U.S. is from renewable sources.

[5] Cooking appliances includes natural gas ranges, cooktops, and ovens; natural gas outdoor grills are not included in this metric.

and use. CARB estimated that by 2021, 9,463 hydrogen fuel cell vehicles had been registered in California. Of these vehicles, 7,993 had an active registration and were assumed to be in use (CARB 2021).

Transportation fuels are not used equally across different vehicle types in the state. For example, whereas light-duty vehicles (e.g., cars and pick-up trucks) are mainly powered by gasoline and electricity, medium- and heavy-duty vehicles (e.g., work trucks, semi-trucks, etc.) are generally powered by diesel. Natural gas can also be used as a fuel source in trucks and buses. Table 3-5 below shows a breakdown of state-wide vehicle population in 2022, by fuel type.

Table 3-5: California Transportation Fuels by Vehicle Type (2022)

Vehicle Type	Breakdown in Fuel Type				
	Gasoline	Diesel	Natural Gas	Electricity	Plug-in Hybrid(A)
Medium- and heavy-duty trucks	8.3%	88.7%	3.0%	0.0%	0.0%
Light heavy-duty trucks	53.7%	46.3%	0.0%	0.0%	0.0%
Buses	33.9%	47.6%	18.2%	0.3%	0.0%
Light-duty vehicles	96.1%	0.5%	0.0%	2.1%	1.3%

Source: EMFAC2021
(A) Plug-in hybrid vehicles are powered by gasoline and electricity.

Although each vehicle category may use several different fuel types, the majority of trucks in 2022 used diesel; most buses mostly used gasoline, diesel, and natural gas; and the majority of light duty vehicles used gasoline.

3.1.2.3 Local

Electricity

In 2021, San Bernardino County consumed approximately 16,181 GWh of electricity, about 5.8% of the state's electricity consumption (CEC, 2023a). The non-residential sector made up approximately 64% of County-wide consumption while the residential sector made up approximately 36% of County-wide consumption (CEC, 2023a).

SCE is the electricity utility provider at the Project site. In 2021, SCE sold approximately 82,048 million kWh of electricity (SCE, 2022a); approximately 43% of the electricity that SCE delivered to customers came from carbon-free resources, including solar energy (approximately 15%), wind energy (approximately 10%), and geothermal energy (approximately 6%) (SCE, 2022b).

Natural Gas

San Bernardino County consumed approximately 561 million therms of natural gas in 2021, accounting for approximately 4.7% of statewide consumption. The non-residential sector made up approximately 54% of County-wide consumption, while the residential sector made up approximately 46% (CEC, 2023b).

SoCalGas provides natural gas service at the Project site. SoCalGas is the principal distributor of natural gas in Southern California and provides natural gas for residential, commercial, and industrial markets. The annual natural gas sale of SoCalGas to all markets in 2021 was approximately 5,100 million therms (CEC, 2023c).

Transportation

Retail fuel outlet survey data indicates San Bernardino County accounted for approximately 6.7% and 10.5% of total statewide gasoline and diesel sales, respectively, in 2021 (CEC, 2023d).

3.2 ENERGY REGULATORY SETTING

3.2.1 FEDERAL ENERGY REGULATIONS

3.2.1.1 Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy and Policy Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards.

3.2.1.2 Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 was signed into law. In addition to setting increased Corporate Average Fuel Economy (CAFE) standards for motor vehicles, the act also includes the following provisions related to energy efficiency:

- Renewable fuel standards (RFS)
- Appliance and lighting efficiency standards
- Building energy efficiency

The federal legislation requires ever-increasing levels of renewable fuels to replace petroleum. The U.S. EPA is responsible for developing and implementing regulations to ensure transportation fuel sold in the United State contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel produces, and other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act of 2007 (EISA), the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of GHG emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of the nation's renewable fuels sector. The updated program is referred to as RFS2 and includes the following:

- EISA expanding the RFS program to include diesel, in addition to gasoline;
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- EISA established new categories of renewable fuel and set separate volume requirements for each one; and
- EISA required the U.S. EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHG than the petroleum fuel it replaces (U.S. EPA, 2022b).

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

3.2.1.3 Federal Vehicle Standards

In 2009, the NHTSA issued a final rule regarding fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the U.S. EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of carbon dioxide (CO_2) in model year 2025, on an average industry fleetwide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the U.S. EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the U.S. EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6% to 23% over the 2010 baselines.

In August 2016, the U.S. EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018–2027 for certain trailers, and model years 2021–2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (U.S. EPA and NHTSA, 2016).

In August 2018, The U.S. EPA and NHTSA released a notice of proposed rulemaking called Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule).

On September 27, 2019, the U.S. EPA and the NHTSA published the SAFE Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019)). The Part One Rule revoked California's authority to set its own greenhouse gas emissions standards and set zero emission vehicle mandates in California. As a result of the loss of the zero emission vehicles (ZEV) sales requirements in California, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years (CARB, 2019).

In April 2020, the U.S. EPA and NHTSA issued the SAFE Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (Final SAFE Rule) that relaxed federal greenhouse gas emissions and fuel economy standards. The Final SAFE Rule relaxed federal greenhouse gas emissions and Corporate Average Fuel Economy (CAFE) standards to increase in stringency at approximately 1.5 percent per year from model year (MY) 2020 levels over MYs 2021–2026. The previously established emission standards and related "augural" fuel economy standards would have achieved approximately 4 percent per year improvements through MY 2025. The Final SAFE Rule affects both upstream (production and delivery) and downstream (tailpipe exhaust) CO_2 emissions (CARB 2020) and has been challenged by 23 states. NHTSA repealed and the U.S. EPA rescinded the SAFE Rule Part One in December 2021 and

March 2022, respectively, restoring California's authority to implement its GHG standards and ZEV mandates (NHTSA 2022, U.S. EPA 2022c).

3.2.2 STATE ENERGY REGULATIONS

3.2.2.1 Title 24 Energy Standards

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in California. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CalGreen Code). The purpose of the CalGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality." The CalGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC).

CalGreen contains both mandatory and voluntary measures. For non-residential land uses there are 39 mandatory measures including, but not limited to, exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. Two tiers of voluntary measures apply to nonresidential land uses, for a total of 36 additional elective measures.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards, focused on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings, updating current ventilation and Indoor Air Quality (IAQ) requirements, and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 Building Energy Efficiency Standards were approximately 53 percent more than the 2016 Title 24 Energy Standards for residential development and approximately 30 percent more efficient for non-residential development.

The 2022 standards, which were adopted in August 2021, went into effect on January 1, 2023. The 2022 Building Energy Efficiency Standards focuses on establishing or expanding standards for electric heat pumps, for single-family homes to be electric-ready, for solar photovoltaic system and battery storage, and for ventilation systems (CEC 2021c). In general, the residential and nonresidential mandatory energy efficiency measures are unchanged between the 2019 and 2022 standards. Instead, updates to the CalGreen Code under the 2022 updates include: increased requirements for EV-ready parking, exemptions for tree shade requirements for parking and other areas shaded by solar structures, and additional requirements for CO_2 monitoring in schools.

3.2.2.2 Executive Order B-30-15

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, set a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase the amount of renewable electricity provided state-wide to 50 percent.
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner.
- Reduce petroleum use in cars and trucks by up to 50 percent.
- Reduce emissions of short-lived climate pollutants.
- Manage farms, rangelands, forests, and wetlands to increasingly store carbon.

3.2.2.3 Senate Bill 375 (Sustainable Communities and Climate Protection Act)

In January 2009, California Senate Bill (SB) 375, known as the Sustainable Communities and Climate Protection Act, went into effect. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce GHG emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In August 2010, CARB released the proposed GHG reduction targets for the MPOs. The proposed reduction targets for the Southern California Association of Governments (SCAG) region were 8% by year 2020 and 13% by year 2035. In September 2010 and February 2011, the 8% and the 13% targets were adopted, respectively. SCAG's Regional Council adopted 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) on April 7, 2016, which updated the 2012 RTP/SCS.

In March 2018, CARB established new regional GHG reduction targets for SCAG and other MPOs in the state (CARB, 2018). The new SCAG targets are an 8% reduction in per capita passenger vehicle GHG reductions by 2020 and a 19% reduction by 2035. On May 7, 2020, SCAG adopted "Connect SoCal", the 2020-2045 RTP/SCS, for federal transportation conformity purposes only. On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt Connect SoCal, and the addendum to the Connect SoCal Program Environmental Impact Report. Connect SoCal is designed to meet the regional GHG reduction targets for SCAG that were identified by CARB in 2018.

Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal contains 10 primary goals, as detailed below:

1. Encourage regional economic prosperity and global competitiveness.
2. Improve mobility, accessibility, reliability, and travel safety for people and goods.
3. Enhance the preservation, security, and resilience of the regional transportation system.
4. Increase person and goods movement and travel choices within the transportation system.
5. Reduce greenhouse gas emissions and improve air quality.
6. Support healthy and equitable communities.
7. Adapt to a changing climate and support an integrated regional development pattern and transportation network.

8. Leverage new transportation technologies and data-driven solutions that result in more efficient travel.
9. Encourage development of diverse housing types in areas that are supported by multiple transportation options.
10. Promote conservation of natural and agricultural lands and restoration of habitats.

Connect SoCal's "Core Vision" centers on maintaining and better managing the transportation network for moving people and goods, while expanding mobility choices by locating housing, jobs, and transit closer together and increasing investment in transit and complete streets. The Core Vision includes: Sustainable Development, System Preservation and Resilience, Demand and System Management, Transit Backbone, Complete Streets, and Goods Movement (SCAG 2020).

From 2016 to 2045, Connect SoCal anticipates approximately 64 percent of household and 74 percent of new jobs will occur in Priority Growth Areas (PGAs). Connect SoCal's PGA's – Job Centers, Transit Priority Areas (TPAs), High Quality Transit Areas (HQTAs),[6] Neighborhood Mobility Areas (NMAs), Livable Corridors, and Spheres of Influences (SOIs) – account for only 4 percent of the region's total land areas, but will accommodate the afore mentioned growth statistics. The Project site is not located within a TPA or an HQTA.

3.2.2.4 Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2017. The *2003 Integrated Energy Policy Report* recommended accelerating that goal to 20 percent by 2010, and the *2004 Energy Report Update* further recommended increasing the target to 33 percent by 2020. The state's *Energy Action Plan* also supported this goal. In 2006 under Senate Bill 107, California's 20 percent by 2010 RPS goal was codified. The legislation required retail sellers of electricity to increase renewable energy purchases by at least one percent each year with a target of 20 percent renewables by 2010. Publicly owned utilities set their own RPS goals, recognizing the intent of the legislature to attain the 20 percent by 2010 target.

On November 17, 2008, Governor Schwarzenegger signed Executive Order S-14-08 requiring "[a]ll retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." The following year, Executive Order S-21-09 directed CARB, under its AB 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020.

In October 2015, Governor Brown signed SB 350 to codify ambitious climate and clean energy goals. One key provision of SB 350 is for retail sellers and publicly owned utilities to procure "half of the state's electricity from renewable sources by 2030."

The State's RPS program was further strengthened by the passage of SB 100 in 2018. SB 100 revised the State's RPS Program to require retail sellers of electricity to serve 50% and 60% of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2026 and 2030, respectively, and requires 100% of all electricity supplied come from renewable sources by 2045.

As part of the package of bills signed into law by Governor Newsom on September 16, 2022, also referred to as the "California Climate Commitment", the State's RPS Program was strengthened once again

[6] HQTAs are corridor-focused PGAs within half-a-mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick passengers up at a frequency of every 15 minutes (or less) during peak commuting hours.

by adding additional interim clean electricity targets. Specifically, SB 1020 established clean electricity targets of 90% by 2035 and 95% by 2040 with the intent of advancing the state's trajectory to the existing 100% clean electricity retail sales by 2045 (SB 100).

3.2.2.5 Executive Order B-55-18, AB 1279, and SB 1020

On September 10, 2018, Governor Brown signed Executive Order B-55-18, to achieve carbon neutrality by moving California to 100% clean energy by 2045. This Executive Order also includes specific measures to reduce GHG emissions via clean transportation, energy efficient buildings, directing cap-and-trade funds to disadvantaged communities, and better management of the state's forest land. On September 16, 2022, Governor Newson signed into law AB 1279, the California Climate Crisis Act, and SB 1020, the Clean Energy, Jobs, and Affordability Act of 2022. AB 1279 codified California's 2045 carbon neutrality goal and established a GHG emission reduction target of 85% below 1990 levels. SB 1020 set targets for the retail sale of electricity of 90% clean electricity by 2035 and 95% by 2040, and 100% by 2045. It also set a target for 100% clean electricity for electricity serving state agencies by 2035.

3.2.2.6 Assembly Bill 2127 and Senate Bill 1075

AB 2127 and SB 1075 support the advancement of green-vehicle transportation infrastructure and technology through statewide assessments.

In 2018, California adopted AB 2127, which requires the CEC, with CARB and CPUC, to prepare a biennial assessment of the State's electric vehicle charging infrastructure needed to meet the 2030 ZEV deployment and GHG reduction goals.

On September 16, 2022, Governor Newsome signed SB 1075 SB 1075 requiring CARB, in consultation with other state agencies, to evaluate hydrogen and form policy recommendations to accelerate the production and use of hydrogen as an energy source.

3.2.2.7 Sustainable Freight Plan

The Sustainable Freight Plan was adopted by CARB in July 2016, and provides a recommendation on a high-level vision and broad direction to the Governor to consider for State agencies to utilize when developing specific investments, policies, and programs related to the freight transport system that serves our State's transportation, environmental, and economic interests. The Sustainable Freight Plan includes recommendations on:

- A long-term 2050 vision and guiding principles for California's future freight transportation system.
- Targets for 2030 to guide the State toward meeting the Vision.
- Opportunities to leverage State freight transport system investments.
- Actions to initiate over the next five years to make progress towards the Targets and the Vision.
- Pilot projects to achieve on-the-ground progress in the near-term.
- Additional concepts for further exploration and development, if viable.

3.2.2.8 Advanced Clean Trucks Program

The Advanced Clean Trucks (ACT) regulation was approved by CARB on June 25, 2020 and has two main components, a manufacturers ZEV sales requirement and a one-time reporting requirement for large entities and fleets.

- **ZEV Truck Sales.** Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines would be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales.
- **Company and Fleet Reporting.** Large employers including retailers, manufacturers, brokers and others would be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, would be required to report about their existing fleet operations. This information would help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Promoting the development and use of advanced clean trucks will help CARB achieve its emission reduction strategies as outlined in the SIP, Sustainable Freight Action Plan, SB 350, and AB 32.

3.2.2.9 Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars (ACC) Program (formerly known as Pavley II) for model years 2017-2025. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations and the ZEV regulation. The Program combines the control of smog, soot, and global warming gases with requirements for greater numbers of zero-emission vehicles into a single package of standards. By 2025, new automobiles under California's ACC Program will emit 34 percent less global warming gases and 75 percent less smog-forming emissions.

Executive Order B-48-18, issued by Governor Brown in January 2018, establishes a target to have five million ZEVs on the road in California by 2030. This Executive Order is supported by the State's 2018 ZEV Action Plan Priorities Update, which expands upon the State's 2016 ZEV Action Plan. While the 2016 plan remains in effect, the 2018 update function as an addendum, highlighting the most important actions State agencies are taking in 2018 to implement the directives of Executive Order B-48-18.

EO N-79-20, issued by Governor Newsom in September 2020, set a goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. It also set a goal that 100 percent of medium- and heavy-duty vehicles in the state be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks. In addition, this EO set a goal to transition to 100 percent zero-emission off-road vehicles and equipment in the state by 2035 where feasible.

In August 2022, CARB approved the Advanced Clean Cars II program, which sets requirements for ZEV sales and codifies the light-duty vehicle goals in EO N-79-20. The regulation requires new light duty vehicle sales will be 35% zero emission or plug in hybrid electric vehicles in 2026, 68% in 2030, and 100% in 2035.

3.2.2.10 Advanced Clean Fleets Regulation

On April 28, 2023, CARB approved Advanced Clean Fleets (ACF), a rule that requires fleets of medium- and heavy-duty vehicles to transition to zero-emission vehicles. ACF applies to all drayage trucks, to high priority fleets, (i.e., fleets that have at least $50 million in gross annual revenue or fleets that operate 50 or more medium- and heavy-duty vehicles), and to government fleets. The regulation places requirements on both the sale and operation of medium- and heavy-duty vehicles. Regarding the sale of vehicles, ACF requires manufacturers to sell only zero-emission medium- and heavy-duty vehicles starting in 2036. For the operation of vehicles, the regulation sets different timelines depending on the type of fleet.

New drayage trucks must be zero-emission starting January 1, 2024. Existing diesel-powered drayage trucks may continue to operate until 2035, after which only zero-emission drayage trucks may operate. This structure will be implemented by the CARB Online System, which registers drayage trucks in the State.

High-priority fleets and federal fleets can choose between two options to meet the zero-emission requirements: a Model Year Schedule or a ZEV Milestone schedule. Under the Model Year Schedule, high-priority fleets and federal government fleets would purchase only zero-emission trucks starting in 2024 and would remove internal combustion powered trucks at the end of their useful life starting in 2025. Alternatively, the ZEV Milestone schedule sets requirements for a percentage of the total fleet to be zero-emission at specified years, depending on the type of vehicle. For example, under the ZEV Milestone option, box trucks and yard tractors would need to have zero-emission vehicles consist of 10% of the fleet by 2025, 50% of the fleet by 2031, and 100% by 2035. Specialty vehicles would have a longer timeline, and would need to reach 100% zero-emission vehicles by 2042. State and local government fleets may also choose the ZEV Milestone option. If state and local governments do not choose the ZEV Milestone option, new fleet purchases are required to be 50% zero-emission[7] starting in 2024 and 100% zero-emission by 2027.[8]

3.2.2.11 CARB 2022 Scoping Plan and Anticipated Changes in Energy Consumption

As identified in the CARB *2022 Scoping Plan Update*, California energy consumption is anticipated to shift over the coming decades as the State moves towards carbon neutrality. As part of CARB's plan to achieve carbon neutrality by 2045, the State will decarbonize energy consumption across several primary sectors, including industrial processes, residential and commercial buildings, and transportation. Successful implementation of the *2022 Scoping Plan Update* is anticipated to result in a large reduction in the State's fossil fuel consumption and an increase in carbon-free electricity, hydrogen, and biogas. Unlike the previous scoping plans, the *2022 Scoping Plan* relies more heavily on the implementation, adoption, and use of existing technologies to reduce GHG emissions over the coming decades, as opposed to technologies that need to be developed. The following describes anticipated changes in energy consumption habits over the coming decades, and how the *2022 Scoping Plan Update*, other rules and regulations, and funding strategies, are anticipate to influence the primary sources of energy used within various sectors of the economy.

Industrial Sector

Overall energy demand for industrial manufacturing is projected to increase from 2022 to 2045. The primary sources of energy for these activities have historically come from liquid petroleum fuel (e.g., gasoline, diesel, oil) and natural gas, but are anticipated to shift to electricity under the implementation of the *2022 Scoping Plan Update* and related legislation (e.g., AB 197 that calls for direct emissions reductions from sources covered by the AB 32 inventory). Hydrogen, biomethane, and liquid biofuels are anticipated to increase and replace petroleum fuel and natural gas; however, a complete phase out of fossil fuels is expected to occur by 2045. Industrial processes and equipment have varying energy demands. Replacement energy sources therefore must still be able to meet the same instantaneous and long-term

[7] State and local governments may meet the ACF requirements with near-zero-emission vehicles until 2035. After 2035, only zero-emission vehicle purchases would apply to the requirements.

[8] If fleets have 10 or fewer vehicles or are in designated counties, zero-emission purchasing requirements would start later, in 2027.

energy demands that are currently provided by petroleum and natural gas. The *2022 Scoping Plan* expects that:

- Electricity and thermal solar will replace fossil fuels for industrial processes with low heat requirements.
- Hydrogen and biomethane will replace fossil fuels for industrial processes with high heat requirements.

The energy demands for oil and gas extraction and petroleum refining are projected to decrease by more than 75% between 2022 and 2045, corresponding to a decrease in demand for gasoline and diesel. The *2022 Scoping Plan* notes, however, that it would not be feasible to eliminate oil and gas extraction completely by 2045 due to an existing demand that would remain in some capacity (CARB 2022a). Decreases in gasoline and diesel consumption would be offset by increases in electricity, hydrogen, and biomethane.

Residential and Commercial

The *2022 Scoping Plan* projects that residential and commercial buildings will make up one third to half of building stock statewide by 2050. The *2022 Scoping Plan* calls for ending natural gas in new residential and commercial buildings, replacing gas appliances, and reducing existing natural gas infrastructure. It is anticipated that, under the scenario evaluated in the *2022 Scoping Plan*, that approximately 90% of energy demand in residential and commercial buildings would be for electricity. Remaining building energy demand would be attributable to hydrogen, biomethane, and liquid biofuel, with a minor amount of natural gas and liquid petroleum remaining in the overall building energy consumption portfolio. The *2022 Scoping Plan* projects that by 2035, seven million homes will be all-electric or electric-ready and that 100% of residential appliance sales would be electric. The *2022 Scoping Plan* also projects that 80% of appliance sales for commercial buildings will be electric by 2035 and by 2045, 100% of the sales will be electric.

Transportation

The *2022 Scoping Plan* identifies three categories in the transportation sector where changes in energy consumption would occur: technology (vehicles and refueling infrastructure), fuels, and VMT.

Per Executive Order (EO) N-79-20, all new passenger vehicles sold in California should be zero-emission by 2035. The EO also calls for all drayage trucks to be zero-emission 2035, and buses and heavy-duty long-haul trucks to be zero-emission by 2045, too, where feasible. Regulations, such as Advanced Clean Cars II, Advanced Clean Trucks, and the proposed Advanced Clean Fleet regulation, along with State incentive programs, would help with the deployment of ZEVs. In addition, California plans to rapidly expand its electric charging infrastructure from approximately 80,000 EV charging stations in 2022 to approximately 250,000 EV stations by 2025, which is over a doubling in EV charging station capacity. This goal would be supported by funding from the CEC, utilities, and other programs. In 2022, the CEC approved a $2.9 billion investment plan for zero-emission transportation infrastructure. The CEC's investment plan, which would be used to install 90,000 of the 170,000 new EV chargers, includes the following breakdown in funding for the 2022-2026 time period (CEC 2022c).

- $1.7 billion for medium- and heavy-duty ZEV infrastructure
- $900 million for light-duty EV charging infrastructure
- $118 million for ZEV manufacturing
- $90 million for hydrogen refueling infrastructure

- $97 million for emerging opportunities such as aviation, locomotive, marine vessels and vehicle-grid integration
- $15 million zero- and near-zero-carbon fuel production and supply
- $15 million for low-carbon fuels
- $10 million for workforce development

Existing ZEVs are primarily fueled by electricity and hydrogen. The production of electricity and hydrogen would continue to increase. Biomethane would be used along with fossil fuels while the development of ZEV technologies for aviation, locomotives, and marine vessels continues. Renewable diesel has increased from approximately 1.8 million gallons in 2011 to approximately 589 million gallons in 2020.

The Scoping Plan aims to reduce VMT per capita by 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045, which would result in a decrease in energy demand from the transportation sector. The Scoping Plan seeks to achieve this goal through strategies such as increasing funding for public transportation, implementing roadway pricing programs, expanding active transportation infrastructure, and supporting transportation and land use planning.

Increased Demand in Electricity and Alternative Fuel Sources

Electricity demand is anticipated to increase over the coming decades as more building systems, appliances, industrial processes, and vehicles transition to electricity as a primary energy sources. Actions are being taken at the state level to help accommodate the additional demand, while ensuring that necessary increase in capacity will come from renewable sources.

In California, renewable energy and carbon-free energy sources are projected to increase in line with state goals, such as achieving 60% renewable resources for electricity by 2030 and 100% carbon-free energy sources for electricity by 2045 required by SB 100 (CEC 2021d). California would increase renewable energy infrastructure such as solar arrays and wind turbines so that electricity generated by carbon-free sources would replace electricity generated by natural gas. CARB projects that by 2045 California will add four times the solar and wind capacity and 1,700 times the hydrogen supply. While fossil fuels would still be used, the demand for fossil fuels in 2045 would decrease by 86% relative to 2022, including a 94% reduction in demand for liquid petroleum.

3.2.3 CITY OF FONTANA

3.2.3.1 General Plan

In November 2018, the Fontana City Council adopted the General Plan. The General Plan contains the following goals and policies related to air quality (City of Fontana 2018):

Goal 7.3: Fontana has a healthy, drought resistant urban forest, 25% tree canopy, and an urban forestry program.

- Policy 1). Support tree conservation and planting that enhances shade and drought resistance.

Goal 9.7: The city of Fontana participates in shaping regional transportation policies to reduce traffic congestion and greenhouse gas emissions.

- Action E). Reduce greenhouse gas emissions associated with transportation by reducing vehicle miles traveled and per-mile emissions through use of vehicle technologies to meet the City's goals for greenhouse gas reductions by 2035.

Goal 10.3: The City continues to have an effective water conservation program.

- Policy 1). Support landscaping in public and private spaces with drought-resistant plants.

Goal 10.7: Fontana is becoming an energy efficient community.

- Policy 1). Promote renewable energy and distributed energy systems in new development and retrofits of existing development to work toward becoming a zero net energy city.

Goal 12.4: Fontana meets the greenhouse gas reduction goals for 2030 and subsequent goals set by the state.

Goal 12.5: Fontana is an Inland Empire leader in energy-efficient energy development and retrofits.

- Policy 1). Promote energy-efficient development in Fontana.
- Policy 2). Meet state energy-efficiency goals for new construction.

Goal 12.6: Fontana is a leader energy-efficient development and retrofits.

- Policy 2). Meet or exceed state goals for energy-efficient new construction.

Goal 12.7: Conservation of water resources with best practices such as drought-tolerant plant species, recycled water, greywater systems, has become a way of life in Fontana.

- Policy 1). Continue to promote and implement best practices to conserve water.

3.2.3.2 Fontana Municipal Code

Article V. - Industrial Commerce Centers Sustainability Standards contains requirements that reduce energy consumption from warehouse uses. The Project's consistency with these ordinances is discussed in Section 2.3.4.

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4 GREENHOUSE GAS SETTING AND REGULATORY FRAMEWORK

This chapter provides information on the environmental and regulatory GHG setting of the proposed Project. Information on existing GHG conditions, relevant standards, and issues of concern was obtained from the U.S. EPA, CARB, and SCAQMD.

4.1 DEFINING CLIMATE CHANGE

Climate change is the distinct change in measures of climate for a long period of time. Climate change can result from natural processes and from human activities. Natural changes in the climate can be caused by indirect processes such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e. changes in ocean circulation). Human activities can affect the atmosphere through emissions of gases and changes to the planet's surface. Emissions affect the atmosphere directly by changing its chemical composition, while changes to the land surface indirectly affects the atmosphere by changing the way the Earth absorbs gases from the atmosphere. The term "climate change" is preferred over the term "global warming" because "climate change" conveys the fact that other changes can occur beyond just average increase in temperatures near the Earth's surface.

Elements that indicate that climate change is occurring on Earth include, but are not limited to:

- Rising of global surface temperatures by 1.3°F over the last 100 years;
- Changes in precipitation patterns;
- Melting ice in the Arctic;
- Melting glaciers throughout the world;
- Rising ocean temperatures;
- Acidification of oceans; and
- Range shifts in plant and animal species

Climate change is intimately tied to the Earth's greenhouse effect. The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The Earth's surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it keeps the planet warmer during the nights than without it. Emissions from human activities since the beginning of the industrial revolution (approximately 150 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature. Human activities that enhance the greenhouse effect are detailed below.

4.1.1 GREENHOUSE GASES

Gases that trap heat in the atmosphere and affect regulation of the earth's temperature are known as GHG. Many chemical compounds found in the earth's atmosphere exhibit the GHG property. GHG allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, it is either absorbed or reflected back toward space. Earth that has absorbed sunlight warms up and emits infrared radiation toward space. GHG absorb this infrared radiation and "trap" the energy in the earth's atmosphere.

GHG that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880) and atmospheric carbon dioxide concentrations have increased from a pre-industrial value of 280 ppm in the early 1800's to 420 ppm in February 2023 (NOAA, 2023).

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific GHG – carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride – and two groups of gases – hydrofluorocarbons and perfluorocarbons. These GHG are the primary GHG emitted into the atmosphere by human activities. Water vapor is also a common GHG that regulates the earth's temperature; however, the amount of water vapor in the atmosphere can change substantially from day to day, whereas other GHG emissions remain in the atmosphere for longer periods of time. Black carbon consists of particles emitted during combustion; although a particle and not a gas, black carbon also acts to trap heat in the Earth's atmosphere. The six common GHG are described below.

- **Carbon Dioxide (CO_2)**. CO_2 is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.
- **Methane (CH_4)**. CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock.
- **Nitrous Oxide (N_2O)**. N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.
- **Sulfur Hexafluoride (SF_6)**. SF_6 is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.
- **Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)**. HFCs and PFCs are generated in a variety of industrial processes. Although the amount of these gases emitted into the atmosphere is small in terms of their absolute mass, they are potent agents of climate change due to their high global warming potential.

GHG can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 28, which means that one molecule of CH_4 has 28 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHG by their GWP determines their CO_2 equivalent (CO_2e), which enables a project's combined GWP to be expressed in terms of mass CO_2 emissions. The GWP and estimated atmospheric lifetimes of the common GHG are shown in Table 4-1.

Table 4-1: Global Warming Potential (GWP) of Common Greenhouse Gases (GHG)		
GHG	**Lifetime (years)**	**GWP(A)**
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	28
Nitrous Oxide (N_2O)	114	265
HFC-23	270	12,400
HFC-134a	14	1,3,00
HFC-152a	1.4	138
PFC-14	50,000	6,630
PFC-116	10,000	11,100
Sulfur Hexafluoride (SF_6)	3,200	23,500
Source: IPCC, 2014. (A) GWPs are based on the United Nations Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report.		

4.1.2 CLIMATE CHANGE AND CALIFORNIA

The 2009 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) identified anticipated impacts to California due to climate change through extensive modeling efforts. General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevada Mountain Range.
- Some reduction in precipitation is likely by the middle of the century.
- Sea levels will rise up to an estimated 55 inches.
- Extreme events such as heat waves, wildfires, droughts, and floods will increase.
- Ecological shifts of habitat and animals are already occurring and will continue to occur (CNRA, 2009).

In July 2012, the CNRA and Emergency Management Agency published an update, titled *Emergency Management Agency published California Adaptation Planning Guide*, which walks local decision-makers through the steps to create climate vulnerability assessments and adaptation strategies. This guide presents the basis for climate change adaptation planning and introduces a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. The guide outlines nine steps in adaptation planning development, the first five steps are a vulnerability assessment which covers: 1) exposure, 2) sensitivity, 3) potential impacts, 4) adaptive capacity, and 5) risk and onset. The last four steps are guiding principles for adaptation strategy development, which are: 6) prioritize adaptive needs, 7) identify strategies, 8) evaluate and prioritize, and 9) phase and implement.

The potential impacts of global climate change in California are detailed below.

4.1.2.1 Public Health and Welfare

Concerns related to public health and climate change includes higher rates of mortality and morbidity, change in prevalence and spread of disease vectors, decreases in food quality and security, reduced water availability, and increased exposure to pesticides. These concerns are all generally related to increase in ambient outdoor air temperature, particularly in summer.

Higher rates of mortality and morbidity could arise from more frequent heat waves at greater intensities. Health impacts associated with extreme heat events include heat stroke, heat exhaustion, and exacerbation of medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Climate change would result in degradation of air quality promoting the formation of ground-level pollutants, particularly ozone. Degradation of air quality would increase the severity of health impacts from criteria and other, non-GHG air pollutants (e.g., toxic air contaminants). Temperature increases and increases in CO_2 are also expected to increase plant production of pollens, spores, and fungus. Pollens and spores could induce or aggravate allergic rhinitis, asthma, and obstructive pulmonary diseases.

Precipitation projections suggest that California will become drier over the next century due to reduced precipitation and increased evaporation from higher temperatures. These conditions could result in increased occurrences of drought. Surface water reductions will increase the need to pump groundwater, reducing supplies and increasing the potential for land subsidence.

Precipitation changes are also suspected to impact the Sierra snowpack (see “Water Management” herein). Earlier snowmelts could coincide with the rainy season and could result in failure of the flood control devices in that region. Flooding can cause property damage and loss of life for those affected. Increased wildfires are also of concern as the State “dries” over time. Wildfires can also cause property damage, loss of life, and injuries to citizens and emergency response services.

Sea-level rises would also threaten human health and welfare. Flood risks will be increased in coastal areas due to strengthened storm surges and greater tidal damage that could result in injury and loss of property and life. Gradual rising of the sea will permanently inundate many coastal areas in the state.

Other concerns related to public health are changes in the range, incidence, and spread of infectious, water-borne, and food-borne diseases. Changes in humidity levels, distribution of surface water, and precipitation changes are all likely to shift or increase the preferred range of disease vectors (i.e., mosquitoes). This could expose more people and animals to potential for vector-borne disease.

4.1.2.2 Biodiversity and Habitat

Changes in temperature will change the livable ranges of plants and animals throughout the state and cause considerable stress on these species. Species will shift their range if appropriate habitat is available and accessible if they cannot adapt to their new climate. If they do not adapt or shift, they face local extirpation or extinction. As the climate changes, community compositions and interactions will be interrupted and changed. These have substantial implications on the ecosystems in the state. Extreme events will lead to tremendous stress and displacement on affected species. This could make it easier for invasive species to enter new areas, due to their ability to more easily adapt. Precipitation changes would alter stream flow patterns and affect fish populations during their life cycle. Sea level rises could impact fragile wetland and other coastal habitat.

4.1.2.3 Water Management

Although disagreement among scientists on long-term precipitation patterns in the State has occurred, it is generally accepted by scientists that rising temperatures will impact California's water supply due to changes in the Sierra Nevada snowpack. Currently, the State's water infrastructure is designed to both gather and convey water from melting snow and to serve as a flood control device. Snowpack melts gradually through spring warming into early summer, releasing an average of approximately 15 million acre-feet of water. The State's concern related to climate change is that due to rising temperatures, snowpack melt will begin earlier in the spring and will coincide with the rainy season. The combination of precipitation and snowmelt would overwhelm the current system, requiring tradeoffs between water storage and flood protection to be made. Reduction in reserves from the Sierra Nevada snowpack is troublesome for California and particularly for Southern California. Approximately 75-percent of California's available water supply originates in the northern third of the state while 80 percent of demand occurs in the southern two-thirds. There is also concern is that rising temperatures will result in decreasing volumes from the Colorado River basin. Colorado River water is important to Southern California because it supplies water directly to Metropolitan Water District of Southern California. Water from the Colorado River is also used to recharge groundwater basins in the Coachella Valley.

4.1.2.4 Agriculture

California is the most agriculturally productive state in the US resulting in more than 37 billion dollars in revenue in 2008. California is the nation's leading producer of nearly 80 crops and livestock commodities, supplying more than half of the nation's fruit and vegetables and over 90 percent of the nation's production of almonds, apricots, raisin grapes, olives, pistachios, and walnuts. Production of crops is not limited to the Central Valley but also occurs in Southern California. Strawberries and grapes are grown in San Bernardino and Riverside Counties. Orange County and San Diego County also contribute to strawberry production. Cherries are also grown in Los Angeles and Riverside County. Anticipated impacts to agricultural resources are mixed when compared to the potentially increased temperatures, reduced chill hours, and changes in precipitation associated with climate change. For example, wheat, cotton, maize, sunflower, and rice are anticipated to show declining yields as temperatures rise. Conversely, grapes and almonds would benefit from warming temperatures. Anticipated increases in the number and severity in heat waves would have a negative impact on livestock where heat stress would make livestock more vulnerable to disease, infection and mortality. The projected drying trend and changes in precipitation are a threat to agricultural production in California. For example, in 2021, drought conditions made it such that 400,000 acres of fields were unable to be planted and harvested and resulted in an economic loss of over $1.7 billion (CARB 2022a). Reduced water reliability and changes in weather patterns impact irrigated farmlands, reduce food security, and wildfire risk, which can impact agricultural operations and harvesting. Overall, agriculture in California is anticipated to suffer due to climate change impacts.

4.1.2.5 Forestry

Increases in the size and severity of wildfires will substantially impact California's forest resources that are prime targets for wildfires. Public safety risks, property damage, emergency response costs, watershed quality, and habitat fragmentation are all major considerations with regard to increased wildfire risk. Climate change is also predicted to affect the behavior or plant species including seed production, seedling establishment, growth, and vigor due to rising temperatures. Nine of the twenty largest wildfires in California occurred in 2020 and 2021, with 4.3 million acres burning in 2020. More than a quarter of California (25 million acres) was designated at under very high or extremely high fire threat in 2022 (CARB 2022a).

Precipitation changes will also affect forests due to longer dry periods and moisture deficits and drought conditions that limit seedling and sapling growth. In October 2021, the governor declared the drought was a state of emergency, and in September 2022, 94% of the State was in a severe drought (CARB 2022d). Prolonged drought also weakens trees, making them more susceptible to disease and pest invasion. Furthermore, as trees die due to disease and pest invasion (e.g., the Bark Beetle invasion of the Angeles National Forest), wildfires can spread more rapidly.

4.1.2.6 Transportation and Energy Infrastructure

Higher temperatures will require increased cooling, raising energy production demand. Higher temperatures also decrease the efficiency of distributing electricity and could lead to more power outages during peak demand. Climate changes would impact the effectiveness of California's transportation infrastructure as extreme weather events damage, destroy, and impair roadways and railways throughout the state causing governmental costs to increase as well as impacts to human life as accidents increase. Other infrastructure costs and potential impacts to life would increase due to the need to upgrade levees and other flood control devices throughout the state. Infrastructure improvement costs related to climate change adaptation are estimated in the tens of billions of dollars.

4.1.3 CARBON SEQUESTRATION

Carbon sequestration is the process by which plants absorb CO_2 from the atmosphere and store it in biomass like leaves and grasses. Agricultural lands, forests, and grasslands can all sequester carbon dioxide, or emit it. The key is to determine if the land use is emitting CO_2 faster than it is absorbing it. Young, fast-growing trees are particularly good at absorbing more than they release and are known as a sink. Agricultural resources often end up being sources of carbon release because of soil management practices. Deforestation contributes to carbon dioxide emissions by removing trees, or carbon sinks, that would otherwise absorb CO_2. Forests are a crucial part of sequestration in some parts of the world, but not much in the United States. Another form of sequestration is geologic sequestration. This is a manmade process that results in the collection and transport of CO_2 from industrial emitters (i.e., power plants) and injecting it into underground reservoirs.

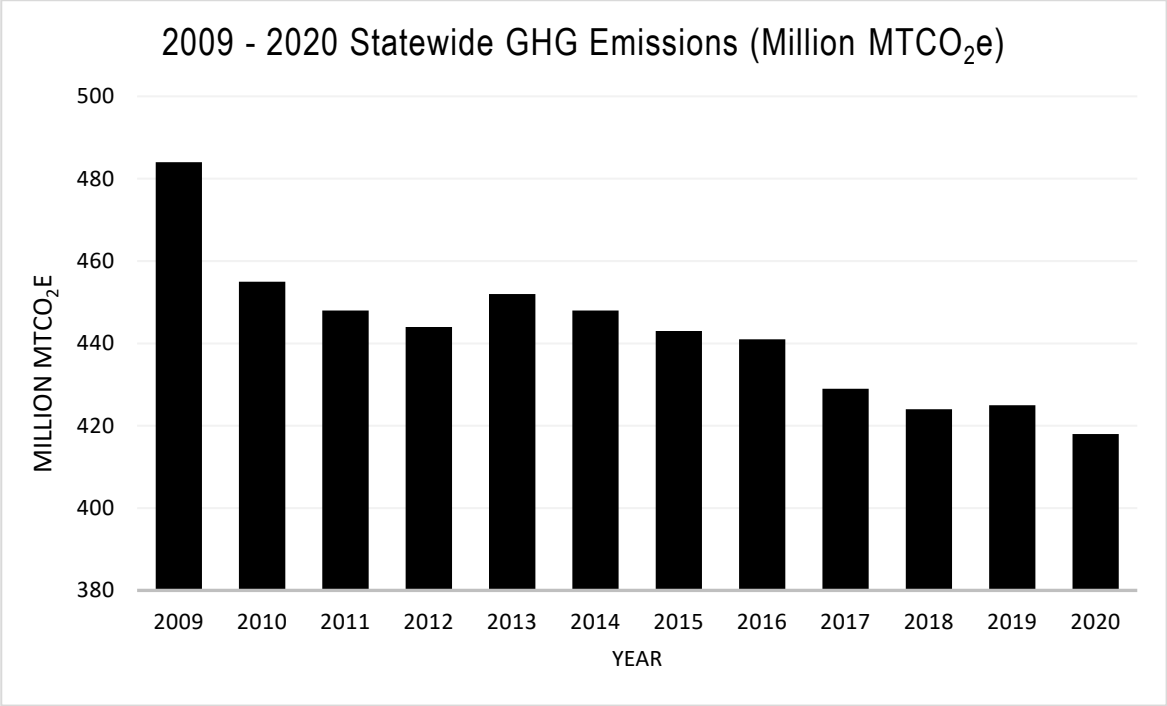
4.2 EXISTING STATE GHG EMISSIONS LEVELS

CARB prepares an annual statewide GHG emissions inventory using regional, state, and federal data sources, including facility-specific emissions reports prepared pursuant to the state's Mandatory GHG Reporting Program (see Section 4.3.2). The statewide GHG emissions inventory helps CARB track progress towards meeting the state's AB 32 GHG emissions target of 431 million metric tons of CO_2 equivalents ($MTCO_2e$), as well as establish and understand trends in GHG emissions. CARB approved use of 431 million MCO_2e as the state's 2020 GHG emission target in May 2014. Previously, the target had been set at 427 million MCO_2e.

Statewide GHG emissions for the 2009 to 2020 time period are shown in Table 4-2. CARB considers the decrease from 2019 to 2020 an anomaly that is likely due to the impacts of the COVID-19 pandemic (CARB 2022b). GHG emissions from 2020 are therefore not considered in this analysis. Statewide GHG emissions have generally decreased over the last decade, with 2019 levels (404 million $MTCO_2e$) approximately 10.2% less than 2009 levels (450 million $MTCO_2e$) and below the State's 2020 reduction target of 431 million $MTCO_2e$. The transportation sector (162 million $MTCO_2e$) accounted for more than one-third (approximately 40%) of the state's total GHG emissions inventory (404 million $MTCO_2e$) in 2019.

Table 4-2: 2009 – 2020 Statewide GHG Emissions (Million $MTCO_2e$)

Scoping Plan Sector	Year											
	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
Agriculture	33	34	34	35	34	34	33	32	32	32	31	32
Commercial/Residential	45	46	46	39	39	36	36	37	38	37	41	39
Electric Power	101	90	89	99	93	90	86	70	64	65	60	60
High GWP	12	14	15	16	17	18	19	19	20	21	21	21
Industrial	86	88	86	81	83	85	83	82	82	82	80	73
Recycling and Waste	8	8	8	8	8	8	8	9	9	9	9	9
Transportation	166	163	160	157	157	158	162	165	167	165	162	136
Total Million $MTCO_2e$(A)	**450**	**442**	**437**	**435**	**432**	**428**	**427**	**415**	**411**	**411**	**404**	**369**



Source: CARB, 2022c

(A) Totals may not equal due to rounding. CARB inventory uses GWPs based on the United Nations' ICC's 4th Assessment Report.

4.3 FEDERAL, STATE, AND LOCAL CLIMATE CHANGE REGULATIONS

4.3.1 FEDERAL GHG REGULATIONS

4.3.1.1 U.S. EPA GHG Tailoring Rule and GHG Reporting System

On December 7, 2009, the U.S. EPA issued an endangerment finding that current and projected concentrations of the six Kyoto GHG (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) in the atmosphere threaten the public health and welfare of current and future generations. This finding came in response to the

Supreme Court ruling in *Massachusetts v. EPA*, which found that GHG are pollutants under the federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 $MTCO_2e$. In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the Clean Air Act's Prevention of Significant Deterioration or Title V operating permit programs. The U.S. EPA's Greenhouse Gas Reporting Program requires facilities that emit 25,000 $MTCO_2e$ or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisions.

4.3.1.2 SAFE Vehicles Rule

On September 27, 2019, the U.S. EPA and the NHTSA published the SAFE Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019)). The Part One Rule revoked California's authority to set its own GHG emissions standards and set zero emission vehicle mandates in California. As a result of the loss of the ZEV sales requirements in California, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years (CARB, 2019).

In April 2020, the U.S. EPA and NHTSA issued the SAFE Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (Final SAFE Rule) that relaxed federal greenhouse gas emissions and fuel economy standards. The Final SAFE Rule relaxed federal greenhouse gas emissions and Corporate Average Fuel Economy (CAFE) standards to increase in stringency at approximately 1.5 percent per year from model year (MY) 2020 levels over MYs 2021–2026. The previously established emission standards and related "augural" fuel economy standards would have achieved approximately 4 percent per year improvements through MY 2025. The Final SAFE Rule affects both upstream (production and delivery) and downstream (tailpipe exhaust) CO_2 emissions (CARB 2020) and has been challenged by 23 states. NHTSA repealed and the U.S. EPA rescinded the SAFE Rule Part One in December 2021 and March 2022, respectively, restoring California's authority to implement its GHG standards and ZEV mandates (NHTSA 2022, U.S. EPA 2022c).

4.3.2 STATE CLIMATE CHANGE REGULATIONS

4.3.2.1 Executive Order S-3-05

Executive Order S-3-05 was issued by California Governor Arnold Schwarzenegger and established targets for the reduction of greenhouse gas emission at the milestone years of 2010, 2020, and 2050. Statewide GHG emissions must be reduced to 1990 levels by year 2020 and by 80 percent beyond that by year 2050. The Order requires the Secretary of the California Environmental Protection Agency (Cal-EPA) to coordinate with other State departments to identify strategies and reduction programs to meet the identified targets. A Climate Action Team (CAT) was created and is headed by the Secretary of Cal-EPA who reports on the progress of the reduction strategies. The latest CAT Biennial Report to the Governor and Legislature was completed in April 2016.

4.3.2.2 Assembly Bill 32 – California Global Warming Solutions Act and Related GHG Reduction Goals

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Climate Solutions Act of 2006. AB 32 establishes the caps on Statewide greenhouse gas emissions proclaimed in Executive Order S-3-05 and established the timeline for meeting State GHG reduction targets. The deadline for meeting the 2020 reduction target is December 31, 2020.

As part of AB 32, CARB determines 1990 GHG emissions levels and projected a "business-as-usual" (BAU)[9] estimate for 2020, to determine the amount of GHG emission reductions that would need to be achieved. In 2007, CARB approved a Statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 million $MTCO_2e$ (CARB, 2007). In 2008, CARB adopted its Climate Change Scoping Plan, which projects 2020 Statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of GHG reductions and bring Statewide GHG emissions to 1990 levels by 2020 (CARB, 2009).

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, set a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase renewable electricity to 50 percent.
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner.
- Reduce petroleum use in cars and trucks by up to 50 percent.
- Reduce emissions of short-lived climate pollutants.
- Manage farms, rangelands, forests and wetlands to increasingly store carbon.

By directing State agencies to take measures consistent with their existing authority to reduce GHG emissions, Executive Order B-30-15 establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign SB 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target (to reduce GHG emissions by 40 percent below 1990 levels by 2030) a requirement, as opposed to a goal. AB 197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the State's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

On September 16, 2022, Governor Newson signed into law AB 1279, the California Climate Crisis Act, that codified California's 2045 carbon neutrality goal and established a GHG emission reduction target of 85% below 1990 levels.

Scoping Plan

The CARB Scoping Plan is the comprehensive plan primarily directed at identifying the measures necessary to reach the GHG reduction targets stipulated in AB 32. The key elements of the 2008 Plan were to expand and strengthen energy efficiency programs, achieve a Statewide renewable energy mix of 33 percent, develop a cap-and-trade program with other partners (including seven States in the United States and four territories in Canada) in the Western Climate Initiative, establish transportation-related targets, and establish fees (CARB, 2009). CARB estimated that implementation of these measures will achieve at least 174 million $MTCO_2e$ of reductions and reduce Statewide GHG emissions to 1990 levels by 2020 (CARB, 2009).

[9] BAU is a term used to define emissions levels without considering reductions from future or existing programs or technologies.

On February 10, 2014, CARB released the public draft of the "First Update to the Scoping Plan." "The First Update" built upon the 2008 Scoping Plan with new strategies and recommendations, and identified opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. "The First Update" defined CARB's climate change priorities over the next five years, and set the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-12. It also highlighted California's progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. "The First Update" evaluated how to align the State's long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. "The First Update" to the Scoping Plan was approved by the Board on May 22, 2014.

The second update to the scoping plan, the *2017 Climate Change Scoping Plan Update* (CARB, 2017a), was adopted by CARB in December 2017. The primary objective for the *2017 Scoping Plan Update* is to identify the measures required to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030) established under Executive Order B-30-15 and SB 32. The *2017 Scoping Plan Update* identifies an increased need for coordination among State, Regional, and local governments to realize the potential for GHG emissions reductions that can be gained from local land use decisions.

The third update to the scoping plan, the *2022 Scoping Plan* (CARB 2022a), was released in May 2022 and adopted by CARB in December 2022. The plan presents a scenario for California to meet the State goal of reducing GHG emissions 40% below 1990 levels by 2030 and to achieve carbon neutrality by 2045 (CARB 2022a). Specifically, the *2022 Scoping Plan*:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands (NWL) to the state's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies upon the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits taking action.
- Identifies key implementation actions to ensure success.

Unlike the previous scoping plans, the *2022 Scoping Plan* relies more heavily on the implementation, adoption, and use of existing technologies to reduce GHG emissions over the coming decades, as opposed to technologies that need to be developed. Examples of existing technologies the *2022 Scoping Plan* relies upon include the use of renewable energy and energy storage systems (as opposed to polluting alternatives) for the electrical grid and transitioning the transportation sector's mobile sources to zero-emission technologies for light- and heavy-duty vehicles. The *2022 Scoping Plan* also differs from its predecessors in that it takes into account carbon sources and sinks from California's NWL

and identifies the need for active carbon capture and sequestration (CCS) technologies for some emissions sectors, such as petroleum refining and the production / processing of stone, clay, glass, and cement.

The continued implementation of existing plans, policies, and regulations adopted for the purposes of reducing GHG emissions remain critical for achieving the State's 2030 and 2045 GHG reduction goals. For example, the *2022 Scoping Plan* identifies a goal of achieving a per capita VMT reduction of at least 25 percent below 2019 levels by 2030 and a 30 percent below 2019 levels by 2045, which is related to the implementation of SB 375 and recommendations provided by the Scoping Plan's Environmental Justice Advisory Committee. The *2022 Scoping Plan* also acknowledges that, "local governments are also frequently the sources of innovative and practical climate solutions that can be replicated in other areas. Their efforts to reduce GHG emissions within their jurisdictions are vital to achieving the state's near-term air quality and long-term climate goals… and can also provide important co-benefits such as improved air quality, local economic benefits, healthier and more sustainable communities, and improved quality of life."

4.3.2.3 Low Carbon Fuel Standard Regulation

CARB initially approved the LCFS regulation in 2009, identifying it as one of the nine discrete early action measures in the *2008 Scoping Plan* to reduce California's GHG emissions. The LCFS regulation is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. The LCFS regulation defines a Carbon Intensity, or "CI," reduction target (or standard) for each year, which the rule refers to as the "compliance schedule."

The LCFS regulation initially required a reduction of at least 10 percent in the CI of California's transportation fuels by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. The 2015 rulemaking included many amendments, updates, and improvements to the program, including a compliance schedule that maintained the 2009 LCFS regulation's target of a 10 percent reduction in average carbon intensity by 2020 from a 2010 baseline. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (CARB, 2020).

4.3.2.4 Title 24 Energy Standards

See Section 3.2.2.1.

4.3.2.5 Senate Bill 375 – Sustainable Communities and Climate Protection Act

See Section 3.2.2.3.

4.3.2.6 Renewables Portfolio Standard (RPS) Program

See Section 3.2.2.4.

4.3.2.7 Sustainable Freight Plan

See Section 3.2.2.7.

4.3.2.8 Advanced Clean Trucks Program

See Section 3.2.2.8.

4.3.2.9 Advanced Clean Cars Program

See Section 3.2.2.9.

4.3.2.10 Advanced Clean Fleets Regulation

See Section 3.2.2.10.

4.3.2.11 Water Conservation in Landscaping Act

Section 65591 of the Government Code requires all local jurisdictions to adopt a water efficient landscape ordinance. The ordinance is to address water conservation through appropriate use and grouping of plants based on environmental conditions, water budgeting to maximize irrigation efficiency, storm water retention, and automatic irrigation systems. Failure to adopt a water efficiency ordinance requires a local jurisdiction to enforce the provisions of the State's model water efficiency ordinance. In 2009, the Department of Water Resources updated the Model Water Efficient Landscape Ordinance pursuant to amendments to the 1991 Act. These amendments and the new model ordinance went into effect on January 1, 2010. The amended Act is applicable to any new commercial, multi-family, industrial or tract home project containing 2,500 square feet or more of landscaping. Individual landscape projects of 5,000 square feet or more on single-family properties will also be subject to the Act. All landscape plans are required to include calculations verifying conformance with the maximum applied water allowance and must be prepared and stamped by a licensed landscape architect.

4.3.2.12 Biological Diversity v. California Department of Fish and Wildlife

In its decision in *Center for Biological Diversity v. California Dep't of Fish and Wildlife* (*Newhall*) 62 Cal.4th 204 (2015), the California Supreme Court set forth several options that lead agencies may consider for evaluating the cumulative significance of a proposed Project's GHG emissions:

1. A calculation of emissions reductions compared to a BAU scenario based upon the emissions reductions in CARB's Scoping Plan, including examination of the data to determine what level of reduction from BAU a new land use development at the proposed location must contribute in order to comply with statewide goals.
2. A lead agency might assess consistency with AB 32's goals by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities.
3. Use of geographically specific GHG emission reduction plans to provide a basis for tiering and streamlining of project-level CEQA analysis.
4. A lead agency may rely on existing numerical thresholds of significance for GHG emissions, though use of such thresholds is not required.

4.3.3 CITY OF FONTANA

4.3.3.1 General Plan

The City of Fontana's General Plan contains policies related to GHG emissions. See Section 3.2.3.1 for more details on applicable policies.

4.3.3.2 Greenhouse Gas Emissions Reduction Plan

The San Bernardino Council of Governments adopted the San Bernardino County Regional Greenhouse Gas Reduction Plan in March 2021, which prepared baseline and future year GHG inventories for each jurisdiction participating in the study and developed GHG reduction measures. The Regional Greenhouse Gas Reduction Plan is intended to serve as the basis for cities in the County to develop more detailed community-level climate action plans. The City of Fontana has local measures for the building energy, on-road transportation, off-road equipment, waste, agriculture, wastewater, and water conveyance sectors that are supported by General Plan policies. These local GHG reduction measures are expected to result in a reduction of 167,255 MTCO2e by 2030. The study concludes that together, state and local GHG reduction measures would reduce emissions by 49.9% from 2016 baseline levels by 2030.

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5 ENERGY IMPACT ANALYSIS

This chapter evaluates the direct and indirect energy impacts that could result from implementation of the proposed Project.

5.1 THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the State CEQA Guidelines, the proposed Project could result in potentially significant impacts related to energy resources if it would:

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

5.2 ENERGY QUANTIFICATION METHODOLOGY

Implementation of the proposed Project would result in the consumption of electricity, natural gas, and petroleum fuels during construction and operation of the business park / warehousing land uses. This section describes the methodologies used to estimate potential energy construction associated with the proposed Project. A summary of the methodologies used to estimate the proposed Project's energy consumption is shown in Table 5-1.

Table 5-1: Summary of Energy Quantification Methodologies

Consumption Source	Methodology	Key Data Inputs
Heavy-Duty Off-Road Construction Equipment	CalEEMod and Carl Moyer Program Emission Factors	Size of Project Site, Size and Type of Proposed Structure
Off-site Vehicle Trips during Construction	CalEEMod and EMFAC2021	Vehicle Classification, Fuel Type, Number of Trips, and Trip Distance
Operational Electricity and Natural Gas	CalEEMod	Size and Type of Proposed Structure, Climate Zone, and Energy Efficiency
Operational Mobile Sources	CalEEMod and EMFAC2021	Vehicle Classification, Fuel Type, Number of Trips, and Trip Distance

5.2.1 CONSTRUCTION

Implementation of the proposed Project would increase the demand for petroleum-based fuel during construction. Both on- and off-site equipment would be powered by gasoline, diesel, and/or electric fuels.

5.2.1.1 Heavy-Duty Off-Road Construction Equipment

Heavy-duty, off-road construction equipment (e.g., bulldozers, loaders, etc.) would consume diesel fuel during construction of the proposed Project. The Project's on-site diesel fuel consumption was estimated using the type, quantity, and runtime of equipment generated by CalEEMod and multiplying

through by a fuel consumption factor contained in the CARB *Carl Moyer Program Guidelines (2017 Revisions)* (CARB, 2017b; Table D-21). Please refer to Appendix B, Sheet 2 for a breakdown of fuel consumption by phase and equipment type.

5.2.1.2 Off-Site Vehicle Trips

Gasoline and diesel fuel would be consumed by construction workers commuting to and from the Project site, as well as vendor deliveries and haul trucks used to remove demolition debris from the site. Petroleum consumption from these trip types were estimated by deriving an average fuel consumption rate for various vehicle types in CARB EMission FACtor (EMFAC) Model 2021 (v1.0.2) vehicle classifications operating in the San Bernardino sub-area in the South Coast (for year 2024) and multiplying them number of trips accounted for in CalEEMod. Worker trips were assumed to be a mix of light duty autos (LDA) and light-duty trucks (LDT1 and LDT2). Vendor trips were assumed to be a mix of medium heavy-duty trucks (MHDT) and HHDT. Please see Appendix B, Sheet 3 for a breakdown of fuel consumption information by trip type.

5.2.2 OPERATIONAL

5.2.2.1 Electricity and Natural Gas

Electricity and natural gas emissions from Project operation were estimated using CalEEMod, V. 2022.1.1.5 The consumption estimates are based on default model assumptions based on the non-residential building square footage that would be accommodated by the proposed Project (i.e., approximately 360,500 square feet), CEC electricity demand forecast zone (Zone 10), and building systems energy efficiency requirements. The CalEEMod default electricity rate was set to 2024 forecasted factors to reflect the Project's first year of operation.

5.2.2.2 Mobile Sources

Mobile source consumption estimates were generated using consumption factors derived from CARB's EMFAC Model 2021 (v1.0.2) and annual vehicle miles traveled (VMT) as estimated in CalEEMod, which reflect the daily trip generation for the site (i.e., 505 gross vehicle trips per day) as detailed in the Trip Generation Assessment prepared for the Project by Ganddini and shown in Table 2-1 (Ganddini 2023a). Estimates of petroleum consumption were then generated by multiplying the annual VMT estimate by a weighted fuel consumption factor by their respective vehicle categories. Worker and customer trips to and from the site (passenger cars) were assumed to be a blend of Light Duty Auto (LDA) and Light Duty Trucks LDT1/LDT2). Truck trips were assumed to be a blend and Light Heavy-Duty Trucks (LHDT1/LHDT2), Medium Heavy-Duty Trucks (MHDT), and Heavy Heavy-Duty Trucks (HHDT) for 2-, 3-, and 4- axle trucks, respectively. This provides a conservative estimate of mobile source fuel consumption, as it does not take into account the existing trips to the site that would no longer occur with the implementation of the Project.

The proposed Project's trip generation rates are shown in Table 2-1. Refer to Appendix B, Sheet 4 for detailed mobile source fuel consumption estimate calculations.

5.3 WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES

Implementation of the Project would increase the demand for energy at the Project site during construction and operation. However, the proposed warehouse would be designed to current CalGreen Code

requirements, and the energy consumption associated with development activities would be necessary. The proposed Project would not use energy in a wasteful, inefficiency, or unnecessary manner.

5.3.1 CONSTRUCTION

5.3.1.1 Electricity

Electric power would be required for lighting and electronic equipment (e.g., computers) located in trailers used by the construction crew. In addition, the Project would consume electricity through workers that may use electric vehicles to drive to and from the site. Project construction is estimated to require approximately 3,308 kWh of electricity for worker trips and vendor trips. However, the electricity used would be temporary and would have a negligible contribution to the Project's overall energy consumption.

5.3.1.2 Natural Gas

Natural gas consumption is not anticipated during construction of the Project. Fuels used for construction would generally consist of diesel and gasoline, which are discussed in the next subsection. Any amount of natural gas that may be consumed during Project construction would be nominal and would have a negligible contribution to the Project's overall energy consumption.

5.3.1.3 Diesel and Gasoline Fuel

Diesel and gasoline fuels, also referred to as petroleum in this subsection, would be consumed throughout construction of the Project. Fuel consumed by construction equipment would be the primary energy resource consumed over the course of construction, and VMT associated with the transportation of construction materials (e.g., deliveries to the site) and worker trips to and from the site would also result in petroleum consumption. Whereas on-site, heavy-duty construction equipment and delivery trucks would predominantly use diesel fuel, construction workers would generally rely on gasoline-powered vehicles to commute to and from the Project site.

The operation of heavy-duty, off-road equipment associated with Project construction would consume approximately 14,962 gallons of diesel fuel. Worker, vendor, and hauling trips associated with Project construction are estimated to consume approximately 8,978 and 2,143 gallons of gasoline and diesel fuel, respectively. In total, Project construction is estimated to require approximately 8,978 gallons of gasoline and 17,105 gallons of diesel.

On- and off-road petroleum-powered vehicles/equipment would be subject to various rules and regulations at the federal and state levels. On the federal level, on-road vehicles would be subject to the SAFE Vehicles Rule. On the state level, off-road equipment at the site would also be required to comply with CARB's Airborne Toxic Control Measures, which restricts heavy-duty diesel vehicle idling to five minutes. In addition, the efficiency of petroleum use is related to numerous other state-wide regulations and programs, such as the LCFS (on- and off-road vehicles/equipment), ACC Program (on-road passenger vehicles), and ACT Program (on-road trucks). Since petroleum use during construction would be temporary and is a necessary component when conducting development activities, it would not be wasteful or inefficient.

5.3.2 OPERATION

5.3.2.1 Electricity

During operation of the new warehouse, the Project would consume electricity from appliance operation, general building systems (e.g., lighting, HVAC equipment), and outdoor lighting. Based on estimates generated by CalEEMod, the proposed Project would consume approximately 4,057,276 kWh per year of electricity. The proposed Project would be required to comply with the standards contained in the CalGreen Code (i.e., Part 11 of the Title 24 Building Code) that requires the warehouse building constructed at the site meet energy efficiency standards that improve upon those from previous years. The Project is not proposing to install a PV system at this time, but would comply with City of Fontana Municipal Code Section 9-73(c) and design the proposed building's roof to facilitate and optimize the future installation of a solar PV system.

Electricity would also be consumed by the operation of electric vehicles by future workers and customers traveling to and from the site. As estimated in CalEEMod, based on the trip generation rates and trip distances provided for in the Ganddini traffic memorandum / SCAQMD guidance document, the proposed Project is anticipated to generate approximately 3,255,618 VMT on an annual basis. The average fuel economies and vehicle fleet mix attributable to the proposed Project were used to estimate the amount of electricity consumed from vehicle trips associated with the proposed Project. The Project is estimated to consume approximately 769,861 kWh of electricity from on-road fuel consumption on an annual basis (see Appendix B).

The proposed Project would also indirectly benefit from other, regulatory actions taken at the state level. For example, SB 100 requires 60% of the power purchased by California come from renewable sources by 2030. SB 100 further requires all retail electricity be carbon-free by 2045. Based on these state-wide mandates, electricity consumed at the site will become more and more green (e.g., not requiring the burning of fossil fuels), which will lead to the more efficient use of energy resources.

Although electricity would increase at the site under implementation of the Project, the proposed facility would be designed to the 2022 Title 24 Building Code standards, and benefit from other actions taken at the State level. For these reasons, the electricity consumed by the Project is not considered to be inefficient or wasteful.

5.3.2.2 Gasoline and Diesel Fuels

Gasoline and diesel would be consumed during operation of the proposed Project. Both forms of petroleum fuel would be consumed from future workers and customers traveling to and from the site. As estimated in CalEEMod, based on the trip generation rates and trip distances provided for in the Ganddini traffic memorandums / SCAQMD guidance document, the proposed Project is anticipated to generate approximately 3,255,618 VMT on an annual basis. Based on the average fuel economies and vehicle fleet mix attributable to the proposed Project, vehicle trips associated with the proposed Project are estimated consume approximately 84,992 and 98,358 gallons of gasoline and diesel, respectively, on an annual basis. These fuel consumption estimates are based on vehicle efficiency in 2024, and would decrease in future years as trucks become more fuel efficient and ZEV trucks are more commonly available and used within San Bernardino County.

There are numerous regulations in place that require and encourage fuel efficiency. For example, CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes

efforts to support and accelerate the number of plug-in hybrids and ZEVs in California. In addition, per the requirements identified in SB 375, CARB adopted a regional goal for the SCAG region of reducing per-capita GHG emissions from 2005 levels by 8% by 2020 and 19% by 2035 for light-duty passenger vehicles. The SB 375 goal would help reduce emissions from worker and customers trips at the site. The proposed Project would also benefit from actions taken at the state level with regard to the ACT Program and Sustainable Freight Plan. The implementation of these programs will help reduce the number of diesel trucks on California roadways and improve the fuel efficiency of those diesel trucks that remain in operation. Accordingly, operation of the Project is expected to decrease the amount of petroleum it consumes in the future due to advances in fuel economy.

Although the Project would increase petroleum use in the region during construction and operation, the use would be a small fraction of the statewide use, and would have its overall fuel consumption decrease over time. As such, petroleum consumption associated with the Project would not be considered inefficient or wasteful.

5.4 CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY

The proposed Project would not conflict with nor obstruct a state or local plan adopted for the purposes of increasing the amount of renewable energy or energy efficiency. As discussed above, the Project would be subject to the California Title 24 Building Code energy efficiency standards for non-residential buildings, which would help reduce energy consumption. Equipment and vehicles associated with construction and operation of the Project would also be subject to fuel standards at the state and federal level. The Project would inherently benefit from programs implemented to achieve the goals of the Sustainable Freight Plan, such as the turnover of older, less fuel-efficient trucks, as fuel economy standards are rolled out and ZEV trucks becomes more widely available and cost effective for business. The Project would not conflict with nor obstruct a state or local plan for renewable energy or energy efficiency.

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6 GREENHOUSE GAS IMPACT ANALYSIS

This chapter evaluates the GHG impacts that could result from implementation of the proposed Project. Unlike air quality, which is influenced by local and regional factors and is therefore considered on the local or regional scale, the effects of global climate change are the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable.

6.1 THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the State CEQA Guidelines, the proposed Project could result in potentially significant GHG impacts if it would:

- Generate GHG emission, either directly or indirectly, that may have a significant impact on the environment or;
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

To date, the SCAQMD has not adopted a numerical threshold for determining the significance of GHG emissions in the Basin; however, as an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* handbook, the SCAQMD has considered adopting and recommending for use a non-zero threshold that captures approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD using this interim method is 10,000 $MTCO_2e$ per year for industrial projects (SCAQMD 2019). During Meeting #8, the Working Group defined industrial uses as production manufacturing, and fabrication activities or storage and distribution (e.g., warehouse, transfer facility, etc.). The Working Group indicated that the 10,000 $MTCO_2e$ per year threshold applies to both emissions from construction and operational phases plus indirect emissions (electricity, water use, etc.). The SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact.

Although the interim GHG significance threshold for industrial projects, per the Working Group discussion, would be applicable to warehouses, such as the proposed Project, the City of Fontana utilizes a threshold of 3,000 $MTCO_2e$ per year as the GHG threshold for warehouse projects. Therefore, the more stringent 3,000 $MTCO_2e$ threshold is utilized in this Report to help evaluate the significance of the Project's GHG emissions. Consistency with plans, policies, and regulations adopted for the purposes of reducing GHG emissions is also used to evaluate the significance of the proposed Project's GHG emissions.

6.2 GHG EMISSIONS QUANTIFICATION METHODOLOGY

The construction and operation of the proposed Project would generate GHG emissions. This section describes the Project's emissions sources and the methodologies used to estimate potential Project emissions levels. A summary of the methodologies used to estimate the proposed Project's potential GHG emissions levels is shown in Table 6-1.

Table 6-1: Summary of Emissions Quantification Methodologies		
Emissions Source	**Methodology**	**Key Data Inputs**
Construction Activities	CalEEMod	Size of Project Lot
Area, Energy, Water and Wastewater, Refrigerants, and Solid Waste Sources	CalEEMod	Size and Type of Proposed Structure, Climate Zone, and Energy Efficiency
Yard Hostler	EMFAC	Miles per Day
Mobile Sources	CalEEMod	Number of Trips and Trip Distance

6.2.1 CONSTRUCTION EMISSIONS

Construction of the proposed Project would generate equipment exhaust and dust emissions from demolition activities, ground disturbing activities such as site preparation and grading, and the use of gasoline- and diesel-fuel combustion in on- and off-site heavy duty construction equipment, worker vehicle trips, vendor vehicle trips, and haul truck trips, ground disturbing activities. The proposed Project's potential construction emissions were modeled using CalEEMod, Version 2022.1. The Project's construction activities, duration, and typical equipment used during construction are shown in Table 2-4. The construction phases, duration, and the type and amount of equipment used during construction was generated using CalEEMod default assumptions, and modified to reflect the following Project-specific characteristics:

- **Construction Phasing and Duration:** The model was updated to reflect the Project-specific phases and schedule provided by the Applicant.
- **Demolition and Soil Hauling**: The model was modified to include approximately 51,754 square feet of building demolition and 5,400 cubic yards of soil import during the grading phase.
- **Construction Equipment Design Features:** As described in Table 2-3, the Applicant is including design features in the Project that would reduce construction-related air pollutant emissions. Accordingly, the following modifications were made to the model:
    - All off-road construction equipment greater than 50 horsepower was assumed to meet Tier 4 Final exhaust emission standards.
    - All forklifts would be electric powered.
    - Electric utility hook-ups would be provided, and diesel generators would be prohibited except for emergency and temporary power purposes.

6.2.2 OPERATIONAL EMISSIONS

Once operational, the proposed Project would generate GHG emissions from the following sources:

- **Small "area" sources** including landscaping equipment and the use of consumer products such as paints, cleaners, and fertilizers that result in the evaporation of chemicals to the atmosphere during product use.
- **Energy use** in the form of embedded emissions in electricity consumption.
- **Mobile sources** including worker and vendor trips to and from the site (see Table 2-2).

- **Water and wastewater sources** include the imbedded electricity consumption required to supply water to the Project site and treat wastewater produced by individuals working or visiting the site.
- **Solid Waste** including the transport and disposal of waste generated at the Project site.
- **Refrigerants** that may escape from appliances (e.g., refrigerators) and other on-site building systems (e.g., HVAC equipment).
- **Off-road Equipment** including forklifts, used to move materials around the site and within the building, and yard hostlers, used move tractor trailers around the Project site.

Similar to construction emissions, operational emissions were estimated in CalEEMod, Version 2022.1 based on default model assumptions, with the following modifications made to reflect Project-specific characteristics:

- **Energy:** The proposed Project would be all electric. CalEEMod's default assumption regarding the quantity of natural gas that would be consumed by the Building was converted to electricity consumption at a rate of 3.412 kBTU per kWh (Energy Star, 2015).
- **Mobile Sources:**
    - **Trip Generation Rates:** The default weekday and weekend trip generation rate for the proposed land use were updated to reflect the trip generation rate (i.e., 505 gross trips per day) provided in the Transportation Screening Analysis prepared for the Project (Ganddini 2023; see Table 2-1).
    - **Trip Type and Distance:** Passenger vehicle trips (approximately 84.2% of all trips) used a trip distance of 16.3 miles per trip, based on the San Bernardino County Transportation Authority's VMT Screening Tool results for VMT per worker in 2024 (SBCTA 2022). A weighted trip distance was developed for truck trips (15.8% of all trips) based on trip lengths of 15.3, 14.2, and 39.9 miles per trip for 2-, 3-, and 4-axle truck trips respectively (SCAQMD 2021). The weighted truck trip distance for this Project is approximately 24.9 miles per trip, based on the Project's truck trip generation identified in the Project's Trip Generation Assessment (see Table 2-1).
    - **Vehicle Mix:** The default vehicle mix was updated to match the trip types identified in the Project's Trip Generation Assessment:
        - **Passenger Vehicles** were assumed to be a blend of light duty auto (LDA), light duty truck (LDT), medium duty vehicles (MDV), and motorcycles (MCY). The percent of these vehicle types utilized for the proposed Project are based on CalEEMod defaults and averaged to reflect the number of passenger vehicle trips generated by the proposed Project (84.2% of all Project trips).
        - **Trucks** were assumed to be a blend of Light-Heavy Duty (LHD) trucks (2-axle), Medium-Heavy Duty (MHD) trucks (3-axle), and Heavy-Heavy Duty (HHD) Trucks. The specific percent assigned to each vehicle category is based on the breakdown provided in the Trip Generation Assessment (15.8% of all Project trips, see Table 2-1).
- **Refrigerants:** The "Cold Storage" equipment assumed by CalEEMod was removed and replaced with "Other commercial A/C and heat pumps" equipment. The proposed Project would involve the construction and operation of an unrefrigerated warehouse; thus, cold storage would not be required. Furthermore, the use of "Other commercial A/C and heat pumps" equipment for unrefrigerated warehouses is consistent with the U.S EPA source materials referenced by the CalEEMod User Guide Appendix G, Sheet G-38 (CAPCOA 2022 and U.S. EPA 2016).
- **Water:** Indoor water usage at the site was reduced to approximately 2,919,270 gallons annually, based on compliance with CalGreen Code requirements (Kier + Wright, 2023).

- **Off-Road Equipment:** Forty-three (43) forklifts were added to the model, consistent with the average number of forklift/pallet jacks per 1,000 square feet of warehouse space, as shown in the SCAQMD high-cube warehouse survey (SCAQMD 2014). Consistent with Fontana Sustainability Code requirements, these pieces of equipment were assumed to be powered by electricity.

In addition to the forklifts, emissions from the operation of one (1) yard hostler were estimated, consistent with the average number of yard hostlers per 1,000,000 square feet of warehouse space, as shown in the SCAQMD high-cube warehouse survey. The yard hostler's emissions were using emissions rates for Class 8 Public Trucks contained in EMFAC2021 (v1.0.2), and the assumption that the yard hostler would travel up to 100 miles per day, every day of the year (CARB 2022d, pg. 56).

6.3 GHG EMISSIONS

The proposed Project would generate GHG emissions from both short-term construction and long-term operational activities. As described in more detail below, the proposed Project would not generate short-term or long-term emissions that exceed the 3,000 $MTCO_2e$ per year threshold utilized by the City.

Construction activities would generate GHG emissions primarily from equipment fuel combustion as well as worker, vendor, and haul trips to and from the Project site during demolition, site preparation, grading, building construction, paving, and architectural coating activities. Construction activities would cease to emit GHG upon completion, unlike operational emissions that would be continuous year after year until the Project is decommissioned. Accordingly, the SCAQMD recommends amortizing construction GHG emissions over a 30-year period and including with operational emissions estimates. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. GHG emissions from construction of the proposed Project were estimated using CalEEMod, Version 2022.1, based on the anticipated construction schedule and construction activities described in Section 2.4. The proposed Project's total construction emissions, as estimated using CalEEMod V. 2022.1, are shown in Table 6-2.

Once operational, the proposed Project would generate emissions of GHG from area, energy, mobile, water/wastewater, refrigeration, solid waste, and off-road sources. For a description of the methodology used to estimate emissions from these sources, see Section 6.2. The proposed Project's operational GHG emissions are shown in Table 6-3.

Table 6-2: Project Construction GHG Emissions

Year	Annual GHG Emissions (MT / Year)				
	CO_2	CH_4	N_2O	Refrigerant (CO_2e)	TOTAL $MTCO_2e$
2024	252.0	<0.1	<0.1	0.2	257.0
Amortized GHG Estimate(A)	8.4	<0.1	<0.1	<0.1	8.6

Source: MIG, 2023 (see Appendix A)

(A) Emissions are amortized over the life of the Project, which is presumed to be 30 years.

Table 6-3: Project Operational GHG Emissions (Unmitigated)					
Emission Source	**GHG Emissions (MT / Year)**				
	CO_2	**CH_4**	**N_2O**	**Refrigerant (CO_2e)**	**CO_2e**
Project Emissions					
Mobile	1,769.0	0.1	0.2	2.7	1,824.0
Area	7.3	<0.1	<0.1	0.0	7.3
Energy	815.0	0.1	<0.1	0.0	819.0
Water	5.2	0.1	<0.1	0.0	8.3
Waste	30.2	3.0	0.0	0.0	106.0
Refrigerants	0.0	0.0	0.0	<0.1	<0.1
Off-road	10.3	<0.1	<0.1	0.0	10.4
Amortized Construction	8.4	<0.1	<0.1	0.2	8.6
Site Subtotal(A)	2,645.4	3.3	0.2	2.7	2,783.6
Existing Site Emissions(B)					
Mobile	165.0	<0.1	<0.1	0.3	168.0
Area	4.9	<0.1	<0.1	0.0	5.0
Energy	136.0	<0.1	<0.1	0.0	137.0
Water	3.8	<0.1	<0.1	0.0	4.4
Waste	1.3	0.1	0.0	0.0	4.6
Refrigerants	0.0	0.0	0.0	<0.1	<0.1
Total Existing Site Emissions(A)	311.0	0.2	<0.1	0.3	319.1
Total Net Change					
Total Project Emissions(A)	2,324.5	3.1	0.2	2.3	2,464.5
				GHG Threshold	***3,000***
				Threshold Exceeded?	***No***

Source: MIG 2023 (see Appendix A).

(A) Totals may not equal due to rounding.

(B) This emissions estimate is based on the existing land uses at the site that have operated in the recent past. This approach is consistent with the trip generation estimate prepared for the Project by Ganddini.

As shown in Table 6-3, the proposed Project's potential increase in GHG emissions would be approximately 2,465 $MTCO_2e$, which would be below 3,000 $MTCO_2e$ threshold employed by the City for evaluating the significance of the Project's GHG emissions.

6.4 CONSISTENCY WITH GHG REDUCTION PLANS

The proposed Project would not conflict with CARB's Scoping Plan, Sustainable Freight Plan, ACT Program, or regional RTP/SCS. The Project's consistency with these plans is described in more detail below.

6.4.1 CARB SCOPING PLAN

As discussed under Section 4.3.2, the *2022 Climate Change Scoping Plan* is CARB's primary document used to ensure State GHG reduction goals are met. The *2022 Climate Change Scoping Plan's* primary objective is to identify the measures needed to achieve the 2030 reduction target established under SB 32 and have the state achieve carbon neutrality by 2045, as established by AB 1279. The major elements of the plan are generally geared toward actions either CARB or other state entities will pursue, such as, but not limited to:

- Creation and future implementation of the Carbon Capture, Removal, Utilization, and Storage Program required by SB 905.
- Reducing imbedded GHG emissions in supplied retail electricity by increasing the amount of electricity generated and supplied to the grid from renewable resources, consistent with the requirements identified in SB 100 and SB 1020 (i.e., 60% by 2030, 90% by 2035, 95% 2040, and 100% by 2045).
- Expansion of non-petroleum fueling stations across the state to support the transition to electric, hydrogen, and other alternatively-powered vehicles (e.g., through AB 2127 and SB 1075) while also increasing the use of mass transit, carpooling, and other trip reduction measures (e.g., through the implementation of SB 375).
- Leverage the capacity of California's natural and working lands to function as a sink for carbon emissions. Specifically, AB 1757 requires the CNRA, in collaboration with CARB, other state agencies, and an expert advisory committee, to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions, that reduce GHG emissions in 2030, 2038, and 2045. This is supported by SB 27, which requires CNRA to establish Natural and Working Lands Climate Smart Strategy, and for CARB to established specified CO_2 removal targets for 2030 and beyond.

Many of the measures identified in the *2022 Scoping Plan Update* are not applicable at the proposed Project's level; rather, the success of the plan primarily relies upon the State's actions to uphold and implement existing legislation and develop new plans and strategies to sequester, trap, and store emitted carbon emissions. Although most of these measures would be implemented at the State level, the GHG reductions achieved by these state measures would be realized at the local level. For example, regardless of actions taken by the City of Fontana or County of San Bernardino, emissions generated through gasoline combustion in motor vehicles within the city and the county would produce less GHG in 2030 than they do now. Similarly, the electricity consumed by on-site sources (e.g., lighting, building systems, etc.) would become greener over time as the State's RPS increases, consistent with the benchmarks established in SB 100 and SB 1020.

In addition to State measures, Appendix D to CARB's *2022 Scoping Plan Update* identifies potential actions that could be undertaken at a local level to support the State's climate goals. These actions primarily relate to preparing and implementing a qualified Climate Action Plan (CAP) at the local level. Appendix D goes on to provide specific recommendations regarding the types of measures the qualified CAPs should consider to align local actions with those being undertaken at the state-level. Section 3.2.1 of Appendix D also outlines project attributes for residential and mixed-use projects to qualitatively determine consistency with the *2022 Scoping Plan*. Although the *2022 Scoping Plan Update* does not include specific criteria for qualitatively evaluating the consistency of other land uses (e.g., industrial) or air permitting with the *2022 Scoping Plan Update*, the Project would support one of the overarching goals of the.*2022 Scoping Plan Update* by being all electric and not using natural gas. The proposed Project would not conflict with nor obstruct implementation of the *2022 Scoping Plan Update*.

6.4.2 SUSTAINABLE FREIGHT PLAN, ACT PROGRAM, AND ACF REGULATION

The proposed Project would not conflict with the Sustainable Freight Plan, the ACT Program, or the ACF Regulation. Although the proposed Project would include the use of diesel trucks during operation, the Sustainable Freight Plan, ACT Program, and ACF Regulation would be implemented at the state-level. The proposed Project's GHG emissions would benefit (i.e., be reduced) over the long-term as older, less fuel-efficient, and higher polluting engines are decommissioned and replaced by newer, cleaner engines and ZEV trucks.

6.4.3 SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS RTP/SCS

As described in Section 4.3.2, the Connect SoCal is growth strategy and transportation plan whose primary intent is to demonstrate how the SCAG region will meet its GHG reduction target through the year 2045. Many of the measures included in the RTP/SCS are focused on: the expansion of, and access to, mass transit (e.g., light rail, commuter rail, bus rapid transit, etc.); planning growth around livable corridors; and locating new housing and job growth in high quality transit areas. Collectively, these land use plans, in conjunction with measures at the state-level to improve fuel efficiency standards, are designed to meet CARB's goal for the SCAB region for reducing per capita GHG emissions in the region by eight percent by 2020—compared with 2005 levels—and by 19 percent by 2035 (CARB, 2018).

The proposed Project would not be located in a TPA nor would it be located in a HQTA; however, the Project would generate fewer than 500 net new daily vehicle trips, and would not cause a substantial increase in total citywide or regional VMT according to the City guidelines (Ganddini, 2023). The Project meets VMT screening criteria. In addition, the Project is an industrial warehouse, which would not conflict with housing land use strategies contained in the RTP/SCS. For these reasons, the Project would not conflict with or otherwise obstruct implementation of Connect SoCal.

6.4.4 SAN BERNARDINO COUNTY REGIONAL GREENHOUSE GAS REDUCTION PLAN

The Project's GHG emissions would not conflict with the Regional Greenhouse Gas Reduction Plan (Reduction Plan). The Project would be consistent with the General Plan policies that form the basis Fontana's emission reduction measures in the Reduction Plan. In addition, the Project contains design features, as described in Section 2.3.4, that support the goals of the Reduction Plan. Table 6-4, below, presents a Project consistency analysis with reduction measures identified in the San Bernardino County Regional Greenhouse Gas Reduction Plan for the City of Fontana.

Table 6-4: San Bernardino County Regional GHG Reduction Plan: Project Consistency Analysis

Measure	Description	Project Consistency
Building Energy		
Energy-1. Building Energy Efficiency	• SR Policy 1: Create a Sustainable Fontana program that promotes green practices in government and the community. • SR Policy 2.1: Incorporate goals into the City Code for resource efficiency in municipal facilities and operations. • SR Policy 5: Promote green building through guidelines, awards, and non-financial incentives.	*Not Applicable.* The City would be responsible for implementing this measure. The Project would, however, be designed to current CalGreen Code standards.

Table 6-4: San Bernardino County Regional GHG Reduction Plan: Project Consistency Analysis		
Measure	**Description**	**Project Consistency**
	• SR Policy 6.1: Promote energy-efficient development in Fontana. • SR Policy 6.2: Meet or exceed state goals for energy-efficiency in new construction. • Chapter 10 Policy 7. Promote renewable energy and distributed energy systems in new development and retrofits of existing development to work towards the highest levels of low-carbon energy-efficiency.	
Energy-2. Lighting Efficiency	• SR Policy 1: Create a Sustainable Fontana program that promotes green practices in government and in the community. • SR Policy 2.1: Incorporate goals into the City Code for resource efficiency in municipal facilities and operations. • SR Policy 2.2: Continue organizational and operational improvements to maximize energy and resource efficiency and reduce waste.	*Not Applicable.* The City would be responsible for implementing this measure. The Project would, however, be designed to current CalGreen Code standards.
Energy-5. Renewable Energy – New Commercial/Industrial	• SR Policy 3: Promote renewable energy programs for government, Fontana businesses, and Fontana residences. • Chapter 10 Policy 7: Promote renewable energy and distributed energy systems in new development and retrofits of existing development to work towards the highest levels of low-carbon energy-efficiency.	*Consistent.* The Project would be designed to current CalGreen Code standards. The Applicant has designed the proposed building's roof to be solar-ready, which will facilitate the future installation of a PV system.
Energy-6. Solar Energy for Warehouse Space	• SR Policy 3: Promote renewable energy programs for government, Fontana businesses, and Fontana residences.	*Consistent.* The Project would be designed to current CalGreen Code standards. The Applicant has designed the proposed building's roof to be solar-ready, which will facilitate the future installation of a PV system.
Energy-7. Solar Installation for Existing Housing	• SR Policy 3: Promote renewable energy programs for government, Fontana businesses, and Fontana residences. • SR Policy 3.1: Evaluate a Community Choice Aggregation (CCA) Program for Fontana. • SR Policy 3.2: Ensure that appropriate zoning and design standard regulations are in place as needed to provide for domestic solar and wind installations. • Chapter 10 Policy 7: Promote renewable energy and distributed energy systems in new development and retrofits of existing	*Not Applicable.* The proposed Project does not involve retrofit of an existing residential building.

Table 6-4: San Bernardino County Regional GHG Reduction Plan: Project Consistency Analysis		
Measure	**Description**	**Project Consistency**
	development to work towards the highest levels of low-carbon energy-efficiency.	
Energy-8. Renewable Energy – Existing Commercial/Industrial	• SR Policy 3: Promote renewable energy programs for government, Fontana businesses, and Fontana residences. • SR Policy 4: Continue to collaborate with SBCTA, infrastructure agencies, and utilities on greenhouse gas reduction studies and goals. • Chapter 10 Policy 7: Promote renewable energy and distributed energy systems in new development and retrofits of existing development to work towards the highest levels of low-carbon energy-efficiency.	*Not Applicable.* The proposed Project does not involve retrofit of an existing building.
On-Road		
On Road-2. Encourage Use of Mass Transit	• CM Policy 1.4: Make land use decisions that support walking, bicycling, and public transit use, in alignment with the 2014-2040 Regional Transportation Plan and Sustainable Communities Strategy. • CM 7.2: Coordinate with regional agencies and Caltrans to participate in regional efforts to maintain transportation infrastructure in Fontana. • CM 7.3: Participate in the efforts of the Southern California Association of Governments (SCAG) to coordinate transportation planning and services that support greenhouse gas reductions.	*Not Applicable*. The proposed Project consists of a speculative warehouse development. The Project would generate less than 500 net new trips per day and therefore would not cause a substantial increase in total citywide or regional VMT according to the City guidelines. Future warehouse operators would encourage the use of mass transit as applicable and required of them.
On Road-3. Transportation Demand Management and Signal Synchronization	• CM Policy 1.1: Provide roadways that serve the needs of Fontana residents and commerce, and that facilitate safe and convenient access to transit, bicycle facilities, and walkways. • CM Policy 1.2: Make safety and multimodal accessibility the top priority of Citywide transportation planning. • CM 3.2: Promote concentrated development patterns in coordination with transit planning to maximize service efficiency and ridership. • CM 7.1: Lead and participate in initiatives to manage regional traffic. • CM 7.4: Participate in the efforts by Caltrans to reduce congestion and improve traffic flow on area freeways.	*Not Applicable*. The proposed Project consists of a speculative warehouse development. The Project would generate less than 500 net new trips per day and therefore would not cause a substantial increase in total citywide or regional VMT according to the City guidelines. The Project would not be required to implement TDM strategies or signal synchronization.

Table 6-4: San Bernardino County Regional GHG Reduction Plan: Project Consistency Analysis		
Measure	**Description**	**Project Consistency**
On Road-4. Expand Bike Routes	• CM 2.1: When constructing or modifying roadways, design the roadway space for use by all users when feasible, including motor vehicles, buses, bicyclists, mobility devices, and pedestrians, as appropriate for the context of the area.	*Not Applicable*. The Project would not construct or modify roadways.
On Road-5. Community Fleet Electrification	• CM Action 7.D: Support the adoption and use of technologies that reduce emissions from passenger and transit vehicles.	*Consistent*. The Project would provide EV charging consistent with current CalGreen Code requirements and those specified in the Fontana Municipal Code (see Table 2-3).
Solid Waste Management		
Waste-2. Waste Diversion and Reduction	• SR Policy 2.2: Continue organizational and operational improvements to maximize energy and resource efficiency and reduce waste. • Chapter 10 Policy 8.2: Continue to maximize landfill capacity by supporting recycling innovations, such as organic waste recycling for compost.	*Consistent*. The Project would comply with State and County solid waste reduction requirements.
Water Conveyance		
Water Conveyance	• Chapter 10 Policy 1: Support initiatives to provide a long-term supply of the right water for the right use through working with regional providers and the One Water One Watershed Plan. • Chapter 10 Policy 2.1: Encourage use of processed water from the IEUA systems using recycled water for all non-drinking water purposes. • Chapter 10 Policy 2.2: Promote laundry-to-landscape greywater systems for single-family housing units.	*Consistent.* The Project would comply with current water efficiency standards contained in the CalGreen Code.
Water-1. Voluntary CALGREEN: New Construction	• SR Policy 7: Continue to promote and implement best practices to conserve water.	*Consistent.* The Project would comply with current water efficiency standards contained in the CalGreen Code.
Water-2. Renovate Existing Buildings	• SR Policy 7: Continue to promote and implement best practices to conserve water.	*Not Applicable*. The Project does not involve the renovation of existing buildings.
Water-3. Water-Efficient Landscaping Practices	• SR Policy 7: Continue to promote and implement best practices to conserve water.	*Consistent.* The Project would include drought tolerant landscaping, consistent with the

Table 6-4: San Bernardino County Regional GHG Reduction Plan: Project Consistency Analysis		
Measure	**Description**	**Project Consistency**
	• Chapter 10 Policy 3.1: Support landscaping in public and private spaces with drought resistant plants. • Chapter 10 Policy 3.2: Continue successful City water conservation programs and partnerships.	requirements identified in Municipal Code Section 9-71.

As shown in Table 6-4, the proposed Project would not conflict with the San Bernardino County Regional GHG Reduction Plan.

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APPENDIX A: CalEEMod Output Files

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Fontana Citrus Existing Conditions Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Fontana Citrus Existing Conditions
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	6.80
Location	34.064112, -117.451232
County	San Bernardino-South Coast
City	Fontana
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5311
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.14

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
Single Family Housing	15.0	Dwelling Unit	0.72	31,359	175,693	0.00	50.0	—

Parking Lot	671	1000sqft	15.4	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

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.	5.00	5.29	0.93	12.3	0.03	1.09	0.85	1.94	1.07	0.22	1.28	150	2,165	2,314	1.46	0.07	4.40	2,375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.95	5.24	0.97	11.6	0.03	1.09	0.85	1.94	1.07	0.22	1.28	150	2,099	2,248	1.46	0.07	0.33	2,305
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.90	1.59	0.69	4.63	0.01	0.09	0.85	0.94	0.09	0.22	0.31	18.7	1,859	1,878	1.07	0.06	2.03	1,925
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.29	0.13	0.85	< 0.005	0.02	0.16	0.17	0.02	0.04	0.06	3.09	308	311	0.18	0.01	0.34	319

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	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	0.64	0.59	0.50	4.63	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	1,054	1,054	0.05	0.05	4.18	1,074
Area	4.34	4.70	0.31	7.63	0.02	1.07	—	1.07	1.05	—	1.05	141	268	409	0.42	0.01	—	421
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	821	821	0.08	0.01	—	825
Water	—	—	—	—	—	—	—	—	—	—	—	1.20	21.5	22.7	0.12	< 0.005	—	26.8
Waste	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	5.00	5.29	0.93	12.3	0.03	1.09	0.85	1.94	1.07	0.22	1.28	150	2,165	2,314	1.46	0.07	4.40	2,375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.60	0.54	0.54	3.92	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	988	988	0.06	0.05	0.11	1,005
Area	4.34	4.70	0.31	7.63	0.02	1.07	—	1.07	1.05	—	1.05	141	268	409	0.42	0.01	—	421
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	821	821	0.08	0.01	—	825
Water	—	—	—	—	—	—	—	—	—	—	—	1.20	21.5	22.7	0.12	< 0.005	—	26.8
Waste	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	4.95	5.24	0.97	11.6	0.03	1.09	0.85	1.94	1.07	0.22	1.28	150	2,099	2,248	1.46	0.07	0.33	2,305
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.59	0.54	0.55	4.06	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	998	998	0.06	0.05	1.80	1,017
Area	0.30	1.05	0.02	0.52	< 0.005	0.07	—	0.07	0.07	—	0.07	9.62	18.4	28.0	0.03	< 0.005	—	28.8
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	821	821	0.08	0.01	—	825
Water	—	—	—	—	—	—	—	—	—	—	—	1.20	21.5	22.7	0.12	< 0.005	—	26.8
Waste	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	0.90	1.59	0.69	4.63	0.01	0.09	0.85	0.94	0.09	0.22	0.31	18.7	1,859	1,878	1.07	0.06	2.03	1,925

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.11	0.10	0.10	0.74	< 0.005	< 0.005	0.16	0.16	< 0.005	0.04	0.04	—	165	165	0.01	0.01	0.30	168
Area	0.05	0.19	< 0.005	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	1.59	3.04	4.64	< 0.005	< 0.005	—	4.77
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	136	136	0.01	< 0.005	—	137
Water	—	—	—	—	—	—	—	—	—	—	—	0.20	3.57	3.77	0.02	< 0.005	—	4.44
Waste	—	—	—	—	—	—	—	—	—	—	—	1.30	0.00	1.30	0.13	0.00	—	4.56
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	0.16	0.29	0.13	0.85	< 0.005	0.02	0.16	0.17	0.02	0.04	0.06	3.09	308	311	0.18	0.01	0.34	319

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.64	0.59	0.50	4.63	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	1,054	1,054	0.05	0.05	4.18	1,074
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.64	0.59	0.50	4.63	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	1,054	1,054	0.05	0.05	4.18	1,074
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	0.60	0.54	0.54	3.92	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	988	988	0.06	0.05	0.11	1,005
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.60	0.54	0.54	3.92	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	988	988	0.06	0.05	0.11	1,005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.11	0.10	0.10	0.74	< 0.005	< 0.005	0.16	0.16	< 0.005	0.04	0.04	—	165	165	0.01	0.01	0.30	168
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.11	0.10	0.10	0.74	< 0.005	< 0.005	0.16	0.16	< 0.005	0.04	0.04	—	165	165	0.01	0.01	0.30	168

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	109	109	0.01	< 0.005	—	110
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	561	561	0.05	0.01	—	565
Total	—	—	—	—	—	—	—	—	—	—	—	—	670	670	0.06	0.01	—	674
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	109	109	0.01	< 0.005	—	110
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	561	561	0.05	0.01	—	565
Total	—	—	—	—	—	—	—	—	—	—	—	—	670	670	0.06	0.01	—	674
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	18.1	18.1	< 0.005	< 0.005	—	18.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	92.9	92.9	0.01	< 0.005	—	93.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	111	111	0.01	< 0.005	—	112

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	151
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	151
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	151

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	151
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.9	24.9	< 0.005	< 0.005	—	25.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.9	24.9	< 0.005	< 0.005	—	25.0

4.3. Area Emissions by Source

4.3.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.34	3.92	0.31	7.63	0.02	1.07	—	1.07	1.05	—	1.05	141	268	409	0.42	0.01	—	421
Consumer Products	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.34	4.70	0.31	7.63	0.02	1.07	—	1.07	1.05	—	1.05	141	268	409	0.42	0.01	—	421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.34	3.92	0.31	7.63	0.02	1.07	—	1.07	1.05	—	1.05	141	268	409	0.42	0.01	—	421

Consumer	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.34	4.70	0.31	7.63	0.02	1.07	—	1.07	1.05	—	1.05	141	268	409	0.42	0.01	—	421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.05	< 0.005	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	1.59	3.04	4.64	< 0.005	< 0.005	—	4.77
Consumer Products	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.05	0.19	< 0.005	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	1.59	3.04	4.64	< 0.005	< 0.005	—	4.77

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.20	21.5	22.7	0.12	< 0.005	—	26.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.20	21.5	22.7	0.12	< 0.005	—	26.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.20	21.5	22.7	0.12	< 0.005	—	26.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.20	21.5	22.7	0.12	< 0.005	—	26.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.20	3.57	3.77	0.02	< 0.005	—	4.44
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.20	3.57	3.77	0.02	< 0.005	—	4.44

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.30	0.00	1.30	0.13	0.00	—	4.56
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.30	0.00	1.30	0.13	0.00	—	4.56

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

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
Single Family Housing	142	142	142	51,830	1,203	1,203	1,203	439,046
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	1
Gas Fireplaces	13
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	2
Conventional Wood Stoves	0
Catalytic Wood Stoves	1
Non-Catalytic Wood Stoves	1
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
63501.975	21,167	0.00	0.00	0.00

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	114,144	349	0.0330	0.0040	469,346
Parking Lot	587,642	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	625,218	3,448,470
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	14.6	—
Parking Lot	0.00	—

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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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 Pumps

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
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	21.7	annual days of extreme heat
Extreme Precipitation	5.25	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (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	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	93.5
AQ-DPM	78.3
Drinking Water	96.1
Lead Risk Housing	42.2
Pesticides	18.1
Toxic Releases	84.6
Traffic	79.6
Effect Indicators	—
CleanUp Sites	82.7
Groundwater	14.3
Haz Waste Facilities/Generators	94.4
Impaired Water Bodies	0.00
Solid Waste	87.1
Sensitive Population	—
Asthma	44.4
Cardio-vascular	55.1
Low Birth Weights	20.3
Socioeconomic Factor Indicators	—
Education	73.4
Housing	26.7
Linguistic	34.6
Poverty	51.4
Unemployment	51.3

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	46.27229565
Employed	32.144232
Median HI	62.51764404
Education	—
Bachelor's or higher	30.92518927
High school enrollment	27.47337354
Preschool enrollment	9.149236494
Transportation	—
Auto Access	75.69613756
Active commuting	25.30476068
Social	—
2-parent households	83.85730784
Voting	30.59155653
Neighborhood	—
Alcohol availability	69.20313102
Park access	26.03618632
Retail density	30.7583729
Supermarket access	43.14128064
Tree canopy	6.390350314
Housing	—
Homeownership	72.5009624
Housing habitability	80.9829334
Low-inc homeowner severe housing cost burden	33.8380598
Low-inc renter severe housing cost burden	97.78005903
Uncrowded housing	24.76581548

Health Outcomes	—
Insured adults	19.91530861
Arthritis	67.1
Asthma ER Admissions	64.4
High Blood Pressure	71.3
Cancer (excluding skin)	74.5
Asthma	37.3
Coronary Heart Disease	66.7
Chronic Obstructive Pulmonary Disease	53.7
Diagnosed Diabetes	40.6
Life Expectancy at Birth	53.2
Cognitively Disabled	21.0
Physically Disabled	18.0
Heart Attack ER Admissions	49.4
Mental Health Not Good	35.7
Chronic Kidney Disease	55.3
Obesity	33.9
Pedestrian Injuries	62.8
Physical Health Not Good	37.9
Stroke	58.2
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	40.0
No Leisure Time for Physical Activity	38.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	32.5
Elderly	76.6
English Speaking	56.0
Foreign-born	61.6
Outdoor Workers	45.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	67.8
Traffic Density	81.5
Traffic Access	23.0
Other Indices	—
Hardship	66.3
Other Decision Support	—
2016 Voting	50.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	40.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
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

Screen	Justification
Land Use	Land uses updated to reflect existing conditions.
Operations: Vehicle Data	Trip rate updated with information from the traffic report. CalEEMod defaults used for trip length.
Operations: Architectural Coatings	Paved parking area would not be painted.

Fontana Citrus Industrial Building Project: Maximum Daily AQ and Annual GHG (All Electric) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Fontana Citrus Industrial Building Project: Maximum Daily AQ and Annual GHG (All Electric)
Construction Start Date	1/1/2024
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	6.80
Location	34.064112, -117.451232
County	San Bernardino-South Coast
City	Fontana
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5311
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.14

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

Unrefrigerated Warehouse-No Rail	355	1000sqft	8.15	355,000	0.00	0.00	—	—
General Office Building	5.50	1000sqft	0.13	5,500	0.00	0.00	—	—
Parking Lot	110	Space	7.85	0.00	86,113	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, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.96	18.0	3.17	22.8	0.02	0.09	1.25	1.33	0.09	0.30	0.37	—	3,864	3,864	0.17	0.10	5.97	3,905
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.90	0.80	4.05	23.7	0.05	0.10	3.36	3.44	0.09	1.35	1.37	—	5,719	5,719	0.34	0.36	0.15	5,816
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.46	1.61	1.86	10.5	0.01	0.05	1.00	1.05	0.05	0.28	0.33	—	2,069	2,069	0.11	0.09	1.30	2,098
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.29	0.34	1.91	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	342	342	0.02	0.01	0.21	347
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshol	—	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshol d	—	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.96	18.0	3.17	22.8	0.02	0.09	1.25	1.33	0.09	0.30	0.37	—	3,864	3,864	0.17	0.10	5.97	3,905
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.90	0.80	4.05	23.7	0.05	0.10	3.36	3.44	0.09	1.35	1.37	—	5,719	5,719	0.34	0.36	0.15	5,816
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.46	1.61	1.86	10.5	0.01	0.05	1.00	1.05	0.05	0.28	0.33	—	2,069	2,069	0.11	0.09	1.30	2,098
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.08	0.29	0.34	1.91	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	342	342	0.02	0.01	0.21	347

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.	2.71	10.7	7.78	28.7	0.10	0.11	6.59	6.70	0.10	1.69	1.80	188	16,402	16,590	20.0	1.07	37.3	17,447
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.61	10.6	8.21	23.8	0.10	0.11	6.59	6.70	0.10	1.69	1.80	188	15,988	16,176	20.0	1.08	1.07	17,001
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	10.6	8.33	24.6	0.10	0.11	6.59	6.70	0.10	1.69	1.80	188	15,630	15,818	20.0	1.08	16.2	16,656
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.48	1.93	1.52	4.50	0.02	0.02	1.20	1.22	0.02	0.31	0.33	31.2	2,588	2,619	3.30	0.18	2.68	2,758
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	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	2.71	2.01	7.78	28.7	0.10	0.11	6.59	6.70	0.10	1.69	1.80	—	11,034	11,034	0.66	1.00	37.2	11,385
Area	—	8.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	5,342	5,342	0.51	0.06	—	5,373
Water	—	—	—	—	—	—	—	—	—	—	—	5.59	26.0	31.6	0.58	0.01	—	50.1
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	639
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.71	10.7	7.78	28.7	0.10	0.11	6.59	6.70	0.10	1.69	1.80	188	16,402	16,590	20.0	1.07	37.3	17,447
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.61	1.92	8.21	23.8	0.10	0.11	6.59	6.70	0.10	1.69	1.80	—	10,620	10,620	0.67	1.01	0.97	10,939
Area	—	8.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	5,342	5,342	0.51	0.06	—	5,373
Water	—	—	—	—	—	—	—	—	—	—	—	5.59	26.0	31.6	0.58	0.01	—	50.1
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	639
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.61	10.6	8.21	23.8	0.10	0.11	6.59	6.70	0.10	1.69	1.80	188	15,988	16,176	20.0	1.08	1.07	17,001
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.60	1.90	8.33	24.6	0.10	0.11	6.59	6.70	0.10	1.69	1.80	—	10,684	10,684	0.67	1.01	16.1	11,018
Area	—	8.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	4,920	4,920	0.47	0.06	—	4,949
Water	—	—	—	—	—	—	—	—	—	—	—	5.59	26.0	31.6	0.58	0.01	—	50.1
Waste	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	639

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.60	10.6	8.33	24.6	0.10	0.11	6.59	6.70	0.10	1.69	1.80	188	15,630	15,818	20.0	1.08	16.2	16,656
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.48	0.35	1.52	4.50	0.02	0.02	1.20	1.22	0.02	0.31	0.33	—	1,769	1,769	0.11	0.17	2.66	1,824
Area	—	1.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	815	815	0.08	0.01	—	819
Water	—	—	—	—	—	—	—	—	—	—	—	0.93	4.30	5.23	0.10	< 0.005	—	8.30
Waste	—	—	—	—	—	—	—	—	—	—	—	30.2	0.00	30.2	3.02	0.00	—	106
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Off-Road	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.48	1.93	1.52	4.50	0.02	0.02	1.20	1.22	0.02	0.31	0.33	31.2	2,588	2,619	3.30	0.18	2.68	2,758

3. Construction Emissions Details

3.1. Demolition (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	0.22	0.22	1.14	14.2	0.01	0.04	—	0.04	0.04	—	0.04	—	1,480	1,480	0.06	0.01	—	1,486
Demolition	—	—	—	—	—	—	2.60	2.60	—	0.39	0.39	—	—	—	—	—	—	—

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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	81.1	81.1	< 0.005	< 0.005	—	81.4
Demolition	—	—	—	—	—	—	0.14	0.14	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.4	13.4	< 0.005	< 0.005	—	13.5
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.02	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	211	211	0.01	0.01	0.02	214
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	0.00
Hauling	0.28	0.04	2.69	1.45	0.01	0.04	0.55	0.59	0.03	0.15	0.18	—	2,099	2,099	0.23	0.34	0.11	2,205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
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	0.00
Hauling	0.02	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	0.01	0.02	0.10	121

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
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	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.02	20.0

3.3. Site Preparation (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	0.12	0.12	0.62	6.87	0.01	0.02	—	0.02	0.02	—	0.02	—	1,257	1,257	0.05	0.01	—	1,261
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.4	34.4	< 0.005	< 0.005	—	34.6
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.70	5.70	< 0.005	< 0.005	—	5.72
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.77	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	158	158	0.01	0.01	0.02	160
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	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	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	—	4.40	4.40	< 0.005	< 0.005	0.01	4.46
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	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	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	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
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	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	0.00

3.5. Grading (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	0.37	0.37	1.93	21.6	0.04	0.07	—	0.07	0.07	—	0.07	—	3,923	3,923	0.16	0.03	—	3,936
Dust From Material Movement	—	—	—	—	—	—	2.54	2.54	—	1.05	1.05	—	—	—	—	—	—	—
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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.16	1.77	< 0.005	0.01	—	0.01	0.01	—	0.01	—	322	322	0.01	< 0.005	—	324
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.09	0.09	—	—	—	—	—	—	—
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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.03	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	53.4	53.4	< 0.005	< 0.005	—	53.6
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.02	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	211	211	0.01	0.01	0.02	214
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	0.00
Hauling	0.21	0.03	2.03	1.10	0.01	0.03	0.42	0.45	0.02	0.11	0.13	—	1,585	1,585	0.17	0.25	0.09	1,665
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.6	17.6	< 0.005	< 0.005	0.03	17.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.17	0.09	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.12	137
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.91	2.91	< 0.005	< 0.005	0.01	2.95
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	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.6	21.6	< 0.005	< 0.005	0.02	22.7

3.7. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.31	1.98	8.83	0.01	0.07	—	0.07	0.07	—	0.07	—	1,418	1,418	0.06	0.01	—	1,423

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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.31	1.98	8.83	0.01	0.07	—	0.07	0.07	—	0.07	—	1,418	1,418	0.06	0.01	—	1,423
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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	0.87	3.87	0.01	0.03	—	0.03	0.03	—	0.03	—	622	622	0.03	0.01	—	624
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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.16	0.71	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103	103	< 0.005	< 0.005	—	103
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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.37	0.34	5.92	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	1,008	1,008	0.04	0.03	4.03	1,023
Vendor	0.03	0.01	0.32	0.17	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	282	282	0.02	0.04	0.79	296
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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.34	0.40	4.47	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	924	924	0.04	0.03	0.10	935
Vendor	0.03	0.01	0.34	0.18	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	282	282	0.02	0.04	0.02	295
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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.15	0.18	2.06	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	411	411	0.02	0.02	0.76	416
Vendor	0.01	< 0.005	0.15	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	124	124	0.01	0.02	0.15	130
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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.38	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	68.0	68.0	< 0.005	< 0.005	0.13	68.9
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.5	20.5	< 0.005	< 0.005	0.02	21.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	0.46	6.49	0.01	0.02	—	0.02	0.02	—	0.02	—	926	926	0.04	0.01	—	929
Paving	—	1.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.4
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.20	4.20	< 0.005	< 0.005	—	4.21
Paving	—	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.35	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	230	230	0.01	0.01	0.92	234
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	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.87	5.87	< 0.005	< 0.005	0.01	5.95
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	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	0.98
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	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	0.00

3.11. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	1.83	—	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.13	—	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	1.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	—	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	1.69	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	288	288	0.01	0.01	1.15	292
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	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.03	18.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.04	3.04	< 0.005	< 0.005	0.01	3.08
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	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	0.00

3.13. Trenching (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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.07	0.34	4.89	0.01	0.01	—	0.01	0.01	—	0.01	—	699	699	0.03	0.01	—	702
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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.07	0.34	4.89	0.01	0.01	—	0.01	0.01	—	0.01	—	699	699	0.03	0.01	—	702
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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.80	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	115	115	< 0.005	< 0.005	—	115
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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.0	19.0	< 0.005	< 0.005	—	19.1
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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.18	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	202	202	0.01	0.01	0.81	205
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	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.89	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	185	185	0.01	0.01	0.02	187
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	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.8	30.8	< 0.005	< 0.005	0.06	31.2
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	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.10	5.10	< 0.005	< 0.005	0.01	5.17
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	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	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.66	0.15	6.52	3.71	0.05	0.09	1.76	1.85	0.08	0.47	0.56	—	5,839	5,839	0.49	0.88	16.8	6,129
General Office Building	2.06	1.86	1.26	25.0	0.05	0.02	4.83	4.85	0.02	1.22	1.24	—	5,195	5,195	0.17	0.12	20.4	5,256
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.71	2.01	7.78	28.7	0.10	0.11	6.59	6.70	0.10	1.69	1.80	—	11,034	11,034	0.66	1.00	37.2	11,385

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.65	0.15	6.81	3.71	0.05	0.09	1.76	1.85	0.08	0.47	0.56	—	5,841	5,841	0.49	0.88	0.44	6,114
General Office Building	1.96	1.77	1.40	20.1	0.05	0.02	4.83	4.85	0.02	1.22	1.24	—	4,780	4,780	0.18	0.13	0.53	4,824
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.61	1.92	8.21	23.8	0.10	0.11	6.59	6.70	0.10	1.69	1.80	—	10,620	10,620	0.67	1.01	0.97	10,939
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.12	0.03	1.26	0.68	0.01	0.02	0.32	0.34	0.02	0.09	0.10	—	967	967	0.08	0.15	1.20	1,013
General Office Building	0.36	0.32	0.26	3.82	0.01	< 0.005	0.88	0.89	< 0.005	0.22	0.23	—	802	802	0.03	0.02	1.46	811
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.48	0.35	1.52	4.50	0.02	0.02	1.20	1.22	0.02	0.31	0.33	—	1,769	1,769	0.11	0.17	2.66	1,824

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,455	3,455	0.33	0.04	—	3,475
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	134	134	0.01	< 0.005	—	135
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	286	286	0.03	< 0.005	—	288
undefined	—	—	—	—	—	—	—	—	—	—	—	—	1,467	1,467	0.14	0.02	—	1,475
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,342	5,342	0.51	0.06	—	5,373
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,455	3,455	0.33	0.04	—	3,475
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	134	134	0.01	< 0.005	—	135
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	286	286	0.03	< 0.005	—	288
undefined	—	—	—	—	—	—	—	—	—	—	—	—	1,467	1,467	0.14	0.02	—	1,475
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,342	5,342	0.51	0.06	—	5,373
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	—	572	572	0.05	0.01	—	575
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	22.2	22.2	< 0.005	< 0.005	—	22.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	47.4	47.4	< 0.005	< 0.005	—	47.6
undefined	—	—	—	—	—	—	—	—	—	—	—	—	173	173	0.02	< 0.005	—	174
Total	—	—	—	—	—	—	—	—	—	—	—	—	815	815	0.08	0.01	—	819

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrige rated Warehou se-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Office Building	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	7.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	—	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	8.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	7.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	8.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehou Rail	—	—	—	—	—	—	—	—	—	—	—	5.59	19.0	24.6	0.58	0.01	—	43.1
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	7.01	7.01	< 0.005	< 0.005	—	7.05
Total	—	—	—	—	—	—	—	—	—	—	—	5.59	26.0	31.6	0.58	0.01	—	50.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	5.59	19.0	24.6	0.58	0.01	—	43.1
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	7.01	7.01	< 0.005	< 0.005	—	7.05
Total	—	—	—	—	—	—	—	—	—	—	—	5.59	26.0	31.6	0.58	0.01	—	50.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.93	3.14	4.07	0.10	< 0.005	—	7.13
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	1.16	1.16	< 0.005	< 0.005	—	1.17
Total	—	—	—	—	—	—	—	—	—	—	—	0.93	4.30	5.23	0.10	< 0.005	—	8.30

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	180	0.00	180	18.0	0.00	—	629
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.76	0.00	2.76	0.28	0.00	—	9.64
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	639
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	180	0.00	180	18.0	0.00	—	629
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.76	0.00	2.76	0.28	0.00	—	9.64
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	639

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	29.8	0.00	29.8	2.98	0.00	—	104
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.46	0.00	0.46	0.05	0.00	—	1.60
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	30.2	0.00	30.2	3.02	0.00	—	106

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
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.8. 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)

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	1/26/2024	5.00	20.0	—
Site Preparation	Site Preparation	1/27/2024	2/9/2024	5.00	10.0	—

Grading	Grading	2/10/2024	3/22/2024	5.00	30.0	—
Building Construction	Building Construction	3/23/2024	11/1/2024	5.00	160	—
Paving	Paving	6/15/2024	6/28/2024	5.00	10.0	—
Architectural Coating	Architectural Coating	6/29/2024	8/2/2024	5.00	25.0	—
Trenching	Trenching	3/23/2024	6/14/2024	5.00	60.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	2.00	6.00	81.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	1.00	8.00	158	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	97.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	1.00	6.00	158	0.38
Grading	Graders	Diesel	Tier 4 Final	3.00	8.00	187	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	97.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.00	231	0.29
Building Construction	Forklifts	Electric	Average	2.00	4.00	89.0	0.20
Building Construction	Generator Sets	Electric	Average	3.00	8.00	25.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	7.00	97.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	1.00	6.00	130	0.42

Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	6.00	132	0.36
Paving	Rollers	Diesel	Tier 4 Final	1.00	6.00	80.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	78.0	0.48
Trenching	Trenchers	Diesel	Tier 4 Final	1.00	8.00	78.0	0.50
Trenching	Forklifts	Electric	Average	1.00	4.00	89.0	0.20
Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	97.0	0.37

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	16.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	29.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	12.0	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	16.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	22.5	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—

Building Construction	Worker	70.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	9.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	16.0	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	20.0	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
Trenching	—	—	—	—
Trenching	Worker	14.0	18.5	LDA,LDT1,LDT2
Trenching	Vendor	—	10.2	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

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	540,750	180,250	20,517

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	51,754	—
Site Preparation	0.00	0.00	5.00	0.00	—
Grading	5,400	0.00	56.3	0.00	—
Paving	0.00	0.00	0.00	0.00	5.87

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
General Office Building	0.00	0%
Parking Lot	5.87	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2024	490	349	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
Unrefrigerated Warehouse-No Rail	80.0	80.0	80.0	29,200	1,992	1,992	1,992	727,080
General Office Building	425	425	425	155,125	6,928	6,928	6,928	2,528,538
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	540,750	180,250	20,517

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	3,617,515	349	0.0330	0.0040	0.00
General Office Building	140,215	349	0.0330	0.0040	0.00
Parking Lot	299,545	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	2,919,270	0.00
General Office Building	0.00	0.00
Parking Lot	0.00	1,382,899

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	334	—
General Office Building	5.12	—
Parking Lot	0.00	—

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
Unrefrigerated Warehouse-No Rail	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
Forklifts	Electric	Average	43.0	8.00	82.0	0.20

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	21.7	annual days of extreme heat
Extreme Precipitation	5.25	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (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	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	93.5
AQ-DPM	78.3
Drinking Water	96.1
Lead Risk Housing	42.2
Pesticides	18.1
Toxic Releases	84.6
Traffic	79.6
Effect Indicators	—

CleanUp Sites	82.7
Groundwater	14.3
Haz Waste Facilities/Generators	94.4
Impaired Water Bodies	0.00
Solid Waste	87.1
Sensitive Population	—
Asthma	44.4
Cardio-vascular	55.1
Low Birth Weights	20.3
Socioeconomic Factor Indicators	—
Education	73.4
Housing	26.7
Linguistic	34.6
Poverty	51.4
Unemployment	51.3

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	46.27229565
Employed	32.144232
Median HI	62.51764404
Education	—
Bachelor's or higher	30.92518927
High school enrollment	27.47337354
Preschool enrollment	9.149236494

Transportation	—
Auto Access	75.69613756
Active commuting	25.30476068
Social	—
2-parent households	83.85730784
Voting	30.59155653
Neighborhood	—
Alcohol availability	69.20313102
Park access	26.03618632
Retail density	30.7583729
Supermarket access	43.14128064
Tree canopy	6.390350314
Housing	—
Homeownership	72.5009624
Housing habitability	80.9829334
Low-inc homeowner severe housing cost burden	33.8380598
Low-inc renter severe housing cost burden	97.78005903
Uncrowded housing	24.76581548
Health Outcomes	—
Insured adults	19.91530861
Arthritis	67.1
Asthma ER Admissions	64.4
High Blood Pressure	71.3
Cancer (excluding skin)	74.5
Asthma	37.3
Coronary Heart Disease	66.7
Chronic Obstructive Pulmonary Disease	53.7

Diagnosed Diabetes	40.6
Life Expectancy at Birth	53.2
Cognitively Disabled	21.0
Physically Disabled	18.0
Heart Attack ER Admissions	49.4
Mental Health Not Good	35.7
Chronic Kidney Disease	55.3
Obesity	33.9
Pedestrian Injuries	62.8
Physical Health Not Good	37.9
Stroke	58.2
Health Risk Behaviors	—
Binge Drinking	36.9
Current Smoker	40.0
No Leisure Time for Physical Activity	38.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	32.5
Elderly	76.6
English Speaking	56.0
Foreign-born	61.6
Outdoor Workers	45.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	67.8
Traffic Density	81.5
Traffic Access	23.0

Other Indices	—
Hardship	66.3
Other Decision Support	—
2016 Voting	50.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	40.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
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

Screen	Justification
Land Use	Land use information updated based on the site plan.
Construction: Construction Phases	Construction schedule updated with information from the project applicant.

Construction: Off-Road Equipment	Generators and forklift type changed to electric and equipment changed from average to Tier 4 Final to reflect compliance with the Fontana Municipal Code. The following changes were made to reflect project specific information from the applicant: Number of concrete saws, graders, generators increased, number of excavators, dozers, tractors/loaders/backhoes, pavers, paving equipment, rollers decreased, hp for concrete saws, excavators, tractors/loaders/backhoes, graders, generators, pavers, paving equipment, rollers, air compressors increased, hp for dozers, crane decreased. Saws, excavator, dozer, pavers, paving equipment, rollers hours/day decreased. Removed scraper. Added trenching phase and equipment.
Construction: Trips and VMT	Worker trips updated based on peak workers for each phase. Vendor trips updated based on 7,200 cubic yards of concrete.
Construction: Architectural Coatings	Project would use super compliant paints to comply with the Fontana Municipal Code.
Construction: Paving	Paved area adjusted to remove landscaping sqft.
Operations: Fleet Mix	Fleet mix updated based on traffic report.
Operations: Vehicle Data	Trip rates and trip length for passenger cars updated based on data from SMBTA VMT Screening Tool. Truck trip distance weighted based on factors provided in Rule 2305 rule-making materials.
Operations: Refrigerants	Cold storage removed, since warehouse would be non-refrigerated warehouse space. A/C added for general building cooling. Information and rate from US EPA document cited by CalEEMod User Manual Appendix G, Sheet G-38.
Operations: Energy Use	Project would be all electric. NG consumption converted to electricity at a rate of 3.41 kBTU per kWh.
Operations: Water and Waste Water	Indoor water consumption updated based on information provided by Kier + Wright, reflecting indoor water used based on compliance with CalGreen Code requirements.

APPENDIX B: Fuel Consumption Spreadsheets

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Fontana Citrus Industrial Building Project

Fontana, CA

Fuel Consumption Spreadsheets
Prepared by: MIG, Inc.
July 2023

Contents:

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Energy Appendix: Fuel Consumption Estimations
Fontana Citrus Industrial Building Project
Fontana, CA
Prepared by MIG, Inc. October 2022

Sheet 1: Construction and Operational Fuel Consumption Summary

Construction Fuel Consumption (Total)

Activity	Gasoline (gal)	Diesel (gal)	Electricity (kWh)
On-site	-	14,962	-
Off-site	8,978	2,143	3,308
Total	8,978	17,105	3,308

Operational Vehicle Fuel Consumption (Annual)

Trip Type	Gasoline (gal)	Diesel (gal)	Electricity (kWh)
Employees / Visitors	84,992	138	40,988
Trucks; LHDT1/LHDT2	--	6,223	-
Trucks; MHDT	--	17,176	-
Trucks; HHDT	--	74,821	-
On-Site Equipment			728,873
Total	84,992	98,358	769,861

Operational Energy Consumption (Building)

Land Use	Electricity (kWh/yr)	Natural Gas (kBTU/yr)
General Office Building	140,216	-
Parking Lot	299,545	-
Unrefrigerated Warehouse	3,617,515	-
Total	4,057,276	-

Table 1-4: Total Operational Energy Consumption

Source	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kW)	Natural Gas (kBTU/yr)
Mobile Source	84,992	98,358	769,861	-
Building	0	0	4,057,276	-
Total	84,992	98,358	4,827,137	-

Sheet 2: Construction On-site Fuel Consumption Estimations

Phase	Days	Equipment	# of Pieces	Hr/Day	Horsepower	Load Factor	Runtime (bhp-hr)	Consumption (bhp-hr/gal)[1]	Gallons of Diesel
Demolition	20	Concrete/Industrial Saws	2	6	81	0.73	14,191	18.5	767
		Excavators	1	8	158	0.38	9,606		519
		Rubber Tired Dozers	1	8	247	0.40	15,808		854
Site Preparation	10	Rubber Tired Dozers	1	8	247	0.40	7,904		427
		Tractors/Loaders/Backhoes	1	8	97	0.37	2,871		155
Grading	30	Excavators	1	6	158	0.38	10,807		584
		Graders	3	8	187	0.41	55,202		2,984
		Rubber Tired Dozers	1	6	247	0.40	17,784		961
		Tractors/Loaders/Backhoes	2	8	97	0.37	17,227		931
Trenching	60	Trencher	1	4	78	0.50	9,360		506
		Forklifts	1	4	89	0.20	4,272		231
		Tractors/Loaders/Backhoes	1	8	97	0.37	17,227		931
Building Construction	160	Cranes	1	0	231	0.29	4,287		232
		Forklifts	2	4	89	0.20	21,360		1,155
		Generator Sets	3	3	25	0.74	26,640		1,440
		Welders	1	1	46	0.45	3,312		179
		Tractors/Loaders/Backhoes	2	3	97	0.37	30,148		1,630
Paving	10	Pavers	1	2	130	0.42	1,310		71
		Paving Equipment	1	2	132	0.36	1,140		62
		Rollers	1	2	80	0.38	730		39
Architectural Coating	25	Air Compressors	1	6	78	0.48	5,616		304
								Total	14,962

[1] The Carl Moyer Program Guidelines 2017 Revisions. Table D-21. Approved by the Board April 27, 2017.

Sheet 3: Construction Off-site Fuel Consumption Estimates

Phase	Days	Number of Trips	Dist (mi)	Total VMT	Vehicle Class	Percent of Workers by Vehcile Class	Gas Average Fuel Economy (MPG)	Gas Fuel Split	Gas Fuel Use by Class (gal)	Gas Fuel Use by Phase (gal)	Diesel Average Fuel Economy (MPG)	Diesel Fuel Split	Diesel Fuel Use by Class (gal)	Diesel Fuel Use by Phase (gal)	Electric Average Fuel Economy (miles per kWh)	Electric Fuel Split	Electricity Use by Class (kWh)	Electricity Use by Phase (kWh)
Worker Trips																		
Demolition	20	16	18.5	5920	LDA	0.5	30.4	93.7%	91	208	43.3	0.2%	0.1	0.4	2.7	6.1%	65.5	74.0
					LDT1	0.25	25.0	98.4%	58		24.3	0.3%	0.2		2.8	0.3%	1.6	
					LDT2	0.25	24.9	98.4%	59		33.9	0.3%	0.1		2.9	1.3%	6.8	
Site Preparation	10	12	18.5	2220	LDA	0.5	30.4	93.7%	34	78	43.3	0.2%	0.1	0.2	2.7	6.1%	24.6	27.8
					LDT1	0.25	25.0	98.4%	22		24.3	0.3%	0.1		2.8	0.3%	0.6	
					LDT2	0.25	24.9	98.4%	22		33.9	0.3%	0.0		2.9	1.3%	2.6	
Grading	30	16	18.5	8880	LDA	0.5	30.4	93.7%	137	312	43.3	0.2%	0.2	0.6	2.7	6.1%	98.3	111.0
					LDT1	0.25	25.0	98.4%	87		24.3	0.3%	0.3		2.8	0.3%	2.5	
					LDT2	0.25	24.9	98.4%	88		33.9	0.3%	0.2		2.9	1.3%	10.3	
Trenching	60	14	18.5	15540	LDA	0.5	30.4	93.7%	240	546	43.3	0.2%	0.4	1.1	2.7	6.1%	172.0	194.3
					LDT1	0.25	25.0	98.4%	153		24.3	0.3%	0.4		2.8	0.3%	4.3	
					LDT2	0.25	24.9	98.4%	154		33.9	0.3%	0.3		2.9	1.3%	18.0	
Building Construction	160	70	18.5	207200	LDA	0.5	30.4	93.7%	3,200	7,286	43.3	0.2%	4.8	14.9	2.7	6.1%	2293.3	2590.3
					LDT1	0.25	25.0	98.4%	2,038		24.3	0.3%	5.9		2.8	0.3%	57.4	
					LDT2	0.25	24.9	98.4%	2,048		33.9	0.3%	4.2		2.9	1.3%	239.6	
Paving	10	16	18.5	2960	LDA	0.5	30.4	93.7%	46	104	43.3	0.2%	0.1	0.2	2.7	6.1%	32.8	37.0
					LDT1	0.25	25.0	98.4%	29		24.3	0.3%	0.1		2.8	0.3%	0.8	
					LDT2	0.25	24.9	98.4%	29		33.9	0.3%	0.1		2.9	1.3%	3.4	
Architectural Coating	25	20	18.5	9250	LDA	0.5	30.4	93.7%	143	325	43.3	0.2%	0.2	0.7	2.7	6.1%	102.4	115.6
					LDT1	0.25	25.0	98.4%	91		24.3	0.3%	0.3		2.8	0.3%	2.6	
					LDT2	0.25	24.9	98.4%	91		33.9	0.3%	0.2		2.9	1.3%	10.7	
								Gasoline (gal)		8,861			Diesel (gal)	18			Electricity (kWh)	3,150
Vendor Trips																		
Building Construction	160	9	10.2	14688	MHDT	0.5	5.3	8.4%	118	118	9.0	90.8%	741	1,950	1.0	0.8%	60.6	158.4
					HHDT	0.5	N/A	0.0%	N/A		6.1	100.0%	1,209		0.6	0.7%	97.9	
Hauling Trips																		
Demolition	20	30	20	600	HHDT	1.0	N/A	0.0%	N/A	0	6.1	100.0%	99	99	N/A	0.0%	0.0	0.0
Grading	30	23	20	460	HHDT	1.0	N/A	0.0%	N/A	0	6.1	100.0%	76	76	N/A	0.0%	0.0	
Total On-Road Construction Trips Genergy Usage								**Gasoline (gal)**		**8,978**			**Diesel (gal)**	**2,143**			**Electricity (kWh)**	**3,308**

Sheet 4: Operational Fuel Consumption

Trip Type	Vehicle Class	Annual VMT	Gasoline Average Fuel Economy (MPG)	Gasoline Fuel Split	Gasoline Fuel Consumption by Class (gal)	Diesel Average Fuel Economy (MPG)	Diesel Fuel Split	Diesel Fuel Consumption by Class (gal)	Electric Average Fuel Economy (miles per kWh)	Electric Fuel Split	Electricity Consumption by Class (kWh)
Employee / Visitor	LDA / LDT1 / LDT2	2,528,538	28.36	95.3%	84,992	38.8	0.2%	138	2.7	4.4%	40,988
Sub-total Resident Consumption				Gasoline	84,992		Diesel	138		Electric	40,988
Trucks	LHDT1/LHDT2	118,151	--	--	--	19.0	100%	6,223	-	-	-
	MHDT	154,505	--	--	--	9.0	100%	17,176	-	-	-
	HHDT	454,425	--	--	--	6.1	100%	74,821	-	-	-
Sub-total Truck Consumption				Gasoline	0		Diesel	98,220		Electricity	0
Total			***Gasoline (Gal)***		***84,992***		***Diesel (Gal)***	***98,358***	***Electricity (kWh)***		***40,988***

Piece of Equipment	# of Pieces	Hr/Day	Horse-power	Load Factor	Days/year
Forklift	22	8	89	0.2	312
			Annual Electricity (kWh):		728,873

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emission

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT
San Bernar	2025	HHDT	Aggregate	Aggregate	Gasoline	3.869767	177.2217	177.2217	0
San Bernar	2025	HHDT	Aggregate	Aggregate	Diesel	14693.6	1799109	1799109	0
San Bernar	2025	HHDT	Aggregate	Aggregate	Electricity	109.5985	11409.19	0	11409.19
San Bernar	2025	HHDT	Aggregate	Aggregate	Natural Ga	2560.518	164963.6	164963.6	0
San Bernar	2025	LDA	Aggregate	Aggregate	Gasoline	457374.7	20012363	20012363	0
San Bernar	2025	LDA	Aggregate	Aggregate	Diesel	986.5858	34821.96	34821.96	0
San Bernar	2025	LDA	Aggregate	Aggregate	Electricity	22921.3	1119595	0	1119595
San Bernar	2025	LDA	Aggregate	Aggregate	Plug-in Hyb	13621.71	691724	334673.2	357050.8
San Bernar	2025	LDT1	Aggregate	Aggregate	Gasoline	39862.5	1386010	1386010	0
San Bernar	2025	LDT1	Aggregate	Aggregate	Diesel	9.621533	138.87	138.87	0
San Bernar	2025	LDT1	Aggregate	Aggregate	Electricity	81.74409	4029.091	0	4029.091
San Bernar	2025	LDT1	Aggregate	Aggregate	Plug-in Hyb	75.22656	3819.958	1658.418	2161.54
San Bernar	2025	LDT2	Aggregate	Aggregate	Gasoline	197589.8	8156001	8156001	0
San Bernar	2025	LDT2	Aggregate	Aggregate	Diesel	559.2848	24877.85	24877.85	0
San Bernar	2025	LDT2	Aggregate	Aggregate	Electricity	1637.445	58171.59	0	58171.59
San Bernar	2025	LDT2	Aggregate	Aggregate	Plug-in Hyb	1934.989	94631.93	43031.42	51600.51
San Bernar	2025	LHDT1	Aggregate	Aggregate	Gasoline	16963.11	633447.7	633447.7	0
San Bernar	2025	LHDT1	Aggregate	Aggregate	Diesel	11403.03	434286.2	434286.2	0
San Bernar	2025	LHDT1	Aggregate	Aggregate	Electricity	147.3649	10150.49	0	10150.49
San Bernar	2025	LHDT2	Aggregate	Aggregate	Gasoline	2823.95	99825.12	99825.12	0
San Bernar	2025	LHDT2	Aggregate	Aggregate	Diesel	4888.887	187525	187525	0
San Bernar	2025	LHDT2	Aggregate	Aggregate	Electricity	37.58572	2461.55	0	2461.55
San Bernar	2025	MCY	Aggregate	Aggregate	Gasoline	20826.97	123280.7	123280.7	0
San Bernar	2025	MDV	Aggregate	Aggregate	Gasoline	147056.4	5833562	5833562	0
San Bernar	2025	MDV	Aggregate	Aggregate	Diesel	1906.903	76374.48	76374.48	0
San Bernar	2025	MDV	Aggregate	Aggregate	Electricity	1802.835	63969.44	0	63969.44
San Bernar	2025	MDV	Aggregate	Aggregate	Plug-in Hyb	1256.812	62758.19	29119.49	33638.69
San Bernar	2025	MH	Aggregate	Aggregate	Gasoline	3227.586	28520.15	28520.15	0
San Bernar	2025	MH	Aggregate	Aggregate	Diesel	1329.243	11866.01	11866.01	0
San Bernar	2025	MHDT	Aggregate	Aggregate	Gasoline	1427.423	76828.77	76828.77	0
San Bernar	2025	MHDT	Aggregate	Aggregate	Diesel	15347.54	658670.5	658670.5	0
San Bernar	2025	MHDT	Aggregate	Aggregate	Electricity	133.1586	6928.4	0	6928.4
San Bernar	2025	MHDT	Aggregate	Aggregate	Natural Ga	208.4192	9895.426	9895.426	0
San Bernar	2025	OBUS	Aggregate	Aggregate	Gasoline	358.2884	15030.55	15030.55	0
San Bernar	2025	OBUS	Aggregate	Aggregate	Diesel	215.4704	15216.87	15216.87	0
San Bernar	2025	OBUS	Aggregate	Aggregate	Electricity	1.990201	157.0571	0	157.0571
San Bernar	2025	OBUS	Aggregate	Aggregate	Natural Ga	34.88313	2090.379	2090.379	0
San Bernar	2025	SBUS	Aggregate	Aggregate	Gasoline	300.4578	14124.29	14124.29	0

San Bernar	2025	SBUS	Aggregate	Aggregate	Diesel	363.8707	7488.892	7488.892	0
San Bernar	2025	SBUS	Aggregate	Aggregate	Electricity	4.690535	132.2929	0	132.2929
San Bernar	2025	SBUS	Aggregate	Aggregate	Natural Gas	411.4766	10217.59	10217.59	0
San Bernar	2025	UBUS	Aggregate	Aggregate	Gasoline	54.83057	5264.458	5264.458	0
San Bernar	2025	UBUS	Aggregate	Aggregate	Diesel	4.529432	447.4668	447.4668	0
San Bernar	2025	UBUS	Aggregate	Aggregate	Electricity	7.409988	1124.503	0	1124.503
San Bernar	2025	UBUS	Aggregate	Aggregate	Natural Gas	243.8213	33368.02	33368.02	0

ıs, 1000 gallons/day for Fuel Consumption

Trips	Energy Con	Fuel Consumption
77.42629	0	0.04458
221962.6	0	296.2218
1368.406	20538.04	0
14771.26	0	26.03237
2124445	0	659.2304
4226.275	0	0.803361
114790.1	432256.1	0
56325.79	107840	11.14738
172343.8	0	55.44488
27.06662	0	0.005712
409.6554	1555.562	0
311.0618	652.8495	0.055708
925465.4	0	328.0142
2707.612	0	0.732986
8336.729	22459.04	0
8001.18	15584.89	1.44969
252725.1	0	45.45107
143435.8	0	21.01892
2061.844	5689.552	0
42072.64	0	8.149184
61496.05	0	10.83489
498.4225	1380.893	0
41653.94	0	2.925131
672637.6	0	289.7409
8796.885	0	3.151066
9175.356	24697.48	0
5196.918	10159.89	0.989654
322.8877	0	5.836853
132.9243	0	1.16056
28559.88	0	14.58516
188328.2	0	73.2242
1697.434	7253.466	0
1924.329	0	1.142891
7168.635	0	2.914538
2560.668	0	2.039111
39.81994	164.9376	0
310.4599	0	0.234933
1201.831	0	1.571118

5268.848	0	1.014599
57.7594	152.9705	0
5958.181	0	2.374159
219.3223	0	0.406548
18.11773	0	0.043318
29.63995	2200.084	0
975.2852	0	7.825519