Stratford Ranch East

ENERGY ANALYSIS

CITY OF PERRIS

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LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
AQIA	Stratford Ranch East Air Quality Impact Analysis
BACM	best available control measures
BTS	backbone transmission system
BTU	British Thermal Unit
CAPCOA	California Air Pollution Control Officers Association
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
City	City of Perris
CMAQ	Congestion Mitigation and Air Quality Improvement
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
CTA	core transport agents
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
EMFAC	EMissions FACtor model
EPA	Environmental Protection Agency
FAR	firm access rights
FERC	Federal Energy Regulatory Commission
GHG	greenhouse gas
IEPR	Integrated Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
LDA	light-duty-auto vehicles
MHDT	medium-heavy duty trucks
MMcfd	million cubic feet per day
MPOs	Metropolitan Planning Organizations
Project	Stratford Ranch East Project
PV	photovoltaic
RPS	California's Renewable Portfolio Standard
SB	Senate Bill
SCAB	South California Air Basin
SCAG	Southern California Association of Governments

SCE	Southern California Edison
SDAB	San Diego Air Basin
TEA-21	The Transportation Equity Act for the 21st Century
U.S.	United States
VMT	vehicle miles traveled

EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Stratford Ranch East Energy Analysis* is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the 2019 California Environmental Quality Act (CEQA) Statute and Guidelines (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	4.6	*Less Than Significant*	*n/a*
Energy Impact #2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	4.6	*Less Than Significant*	*n/a*
Energy Impact #3: Would the Project achieve the goal of energy conservation by: • Decreasing overall per capita energy consumption. • Decreasing reliance on fossil fuels such as coal, natural gas, and oil. • Increasing reliance on renewable energy sources.	4.6	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the federal and state agencies that regulate energy use and consumption through various means and programs. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of energy usage include:

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

The Transportation Equity Act for the 21st Century (TEA-21)

Integrated Energy Policy Report (IEPR)

State of California Energy Plan

California Code Title 24, Part 6, Energy Efficiency Standards – Energy Code

California Code Title 24, Part 11, Green Building Standards - CalGreen

AB 1493 Pavley Regulations and Fuel Efficiency Standards

California's Renewable Portfolio Standard (RPS)

Clean Energy and Pollution Reduction Act of 2015 (SB 350)

1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Stratford Ranch East Project (Project). The purpose of this report is to quantify anticipated energy demand associated with construction and operation of the proposed Project, determine if the usage of the energy is inefficient, atypical, or wasteful for the land use type. The report is intended for use in the environmental review being conducted by the City of Perris (City) under the California Environmental Quality Act (CEQA).

1.1 SITE LOCATION

The proposed Project site is located on the northeast corner of Evans Road and Ramona Expressway, as shown on Exhibit 1-A. The Perris Reservoir and the Perris Auto Speedway Racetrack are located to northeast of the Project site 0.70 miles and 0.15 miles, respectively. Residential homes are located to the north, south and southwest of the Project site. The Project land use is consistent with the City of Perris General Plan land use designation and zoning.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of 197 single family detached residential dwelling units. The Project site plan is shown in Exhibit 1-B.

EXHIBIT 1-A: LOCATION MAP

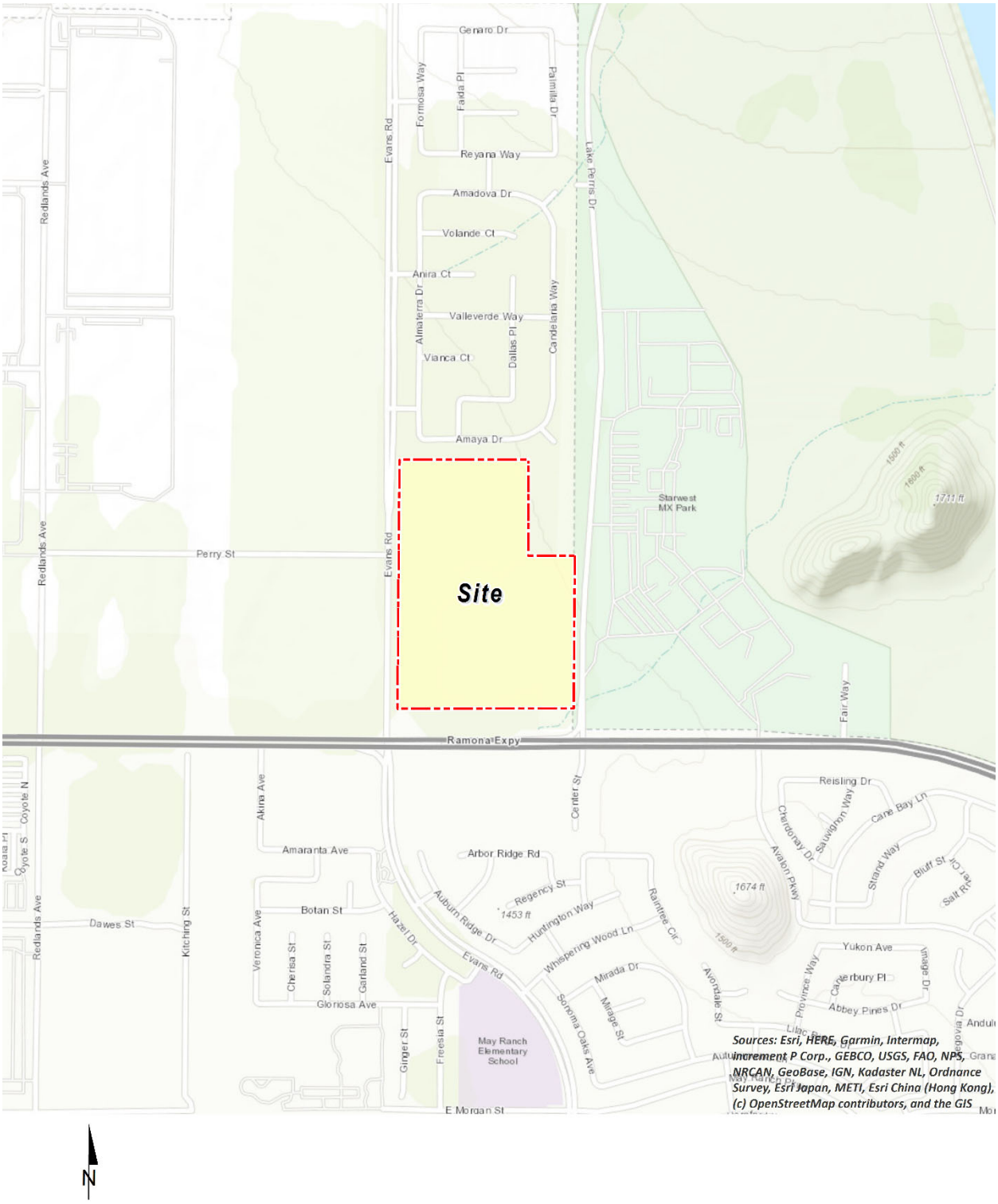
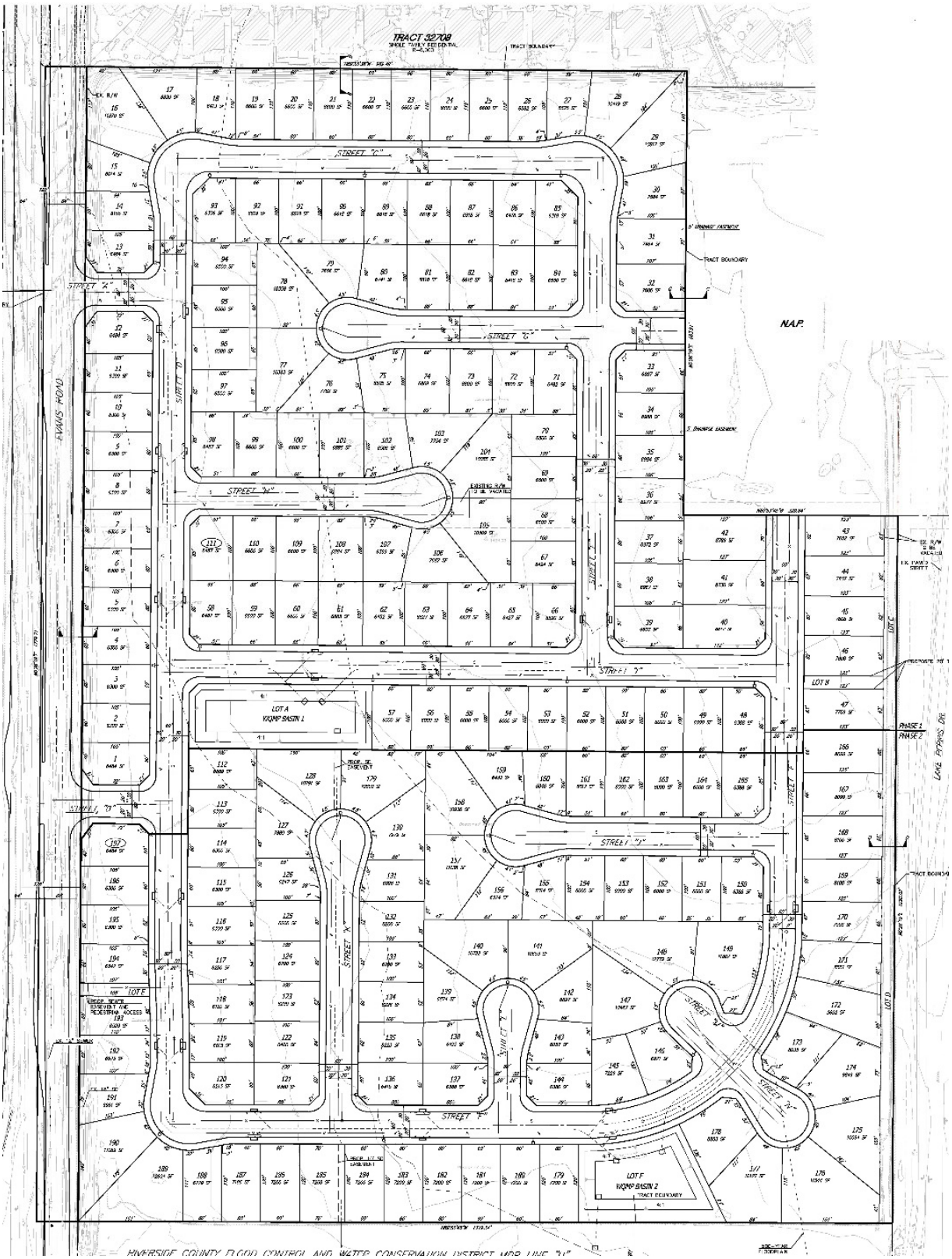


EXHIBIT 1-B: SITE PLAN



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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project region.

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2018, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2020 and included (2):

- Approximately 7,900 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 3,444 trillion BTU of petroleum;
- Approximately 2,210 trillion BTU of natural gas;
- Approximately 33.3 trillion BTU coal (2)

The California Energy Commission's (CEC) Transportation Energy Demand Forecast 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation energy Demand Forecast 2018-2030 lays out graphs and data supporting their projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (3)

Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (3)

- Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2017 (4)

The most recent data provided by the EIA for energy use in California by demand sector is from 2017 and is reported as follows:

Approximately 40.3% transportation;

Approximately 23.1% industrial;

Approximately 18.0% residential; and

Approximately 18.7% commercial (5)

The most recent data provided by the EIA for energy use in California by demand sector is from 2018 and is reported as follows:

- Approximately 39.1% transportation;
- Approximately 23.5% industrial;
- Approximately 18.3% residential; and
- Approximately 19.2% commercial (5)

In 2020, total system electric generation for California was 277,704 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 200,475 GWh which accounted for approximately 72.2% of the electricity it uses; the rest was imported from the Pacific Northwest (8.6%) and the U.S. Southwest (19.2%) (6). Natural gas is the main source for electricity generation at 34.23% of the total in-state electric generation system power as shown in Table 2-1. Renewables account for 31.7% of the total electrical system power.

TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2020)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total California Energy Mix (GWh)	Total California Power Mix
Coal	248	0.12%	219	7,765	8,233	2.96%
Natural Gas	86,136	42.97%	62	8,859	95,057	34.23%
Oil	36	0.02%	0	0	36	0.01%
Other	411	0.20%	0	11	422	0.15%
Nuclear	16,163	8.06%	39	8,743	24,945	8.98%
Large Hydro	33,145	16.53%	6,387	1,071	40,603	14.62%
Unspecified	0	0.00%	6,609	13,767	20,376	7.34%
Non-Renewables and Unspecified Totals	136,139	67.91%	13,315	40,218	189,672	68.30%
Biomass	5,851	2.92%	903	33	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	13,260	4.77%
Small Hydro	5,349	2.67%	292	4	5,646	2.03%
Solar	28,513	14.22%	282	5,295	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	28,249	10.17%
Renewables Totals	64,336	32.09%	10,615	13,081	88,032	31.70%
Total	200,475	100.00%	23,930	53,299	277,704	100.00%

Source: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018. (7)
- California's total energy consumption is second highest in the nation, but, in 2018, the state's per capita energy consumption was the fourth-lowest, due in part to its mild climate and its energy efficiency programs. (8)

- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2018, large- and small-scale solar photovoltaic (PV) and solar thermal installations provided 19% of California's net electricity generation (9).

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

2.2 ELECTRICITY

The usage associated with electricity use were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California ISO studies revealed the extent to which the South California Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts (10). Similarly, the subsequent 2018 and 2019 IEPR's identify broad strategies that are aimed at maintaining electricity system reliability.

Electricity is currently provided to the Project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (11).

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator (ISO) is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost

power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (12).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Table 2-2 identifies SCE's specific proportional shares of electricity sources in 2019. As indicated in Table 2-2, the 2019 SCE Power Mix has renewable energy at 35.1% of the overall energy resources. Geothermal resources are at 5.9%, wind power is at 11.5%, large hydroelectric sources are at 7.9%, solar energy is at 16%, and coal is at 0%. (13).

TABLE 2-2: SCE 2019 POWER CONTENT MIX

Energy Resources	2019 SCE Power Mix
Eligible Renewable	**35.1%**
Biomass & waste	0.6%
Geothermal	5.9%
Small Hydroelectric	1.0%
Solar	16.0%
Wind	11.5%
Coal	**0%**
Large Hydroelectric	**7.9%**
Natural Gas	**16.1%**
Nuclear	**8.2%**
Other	**0.1%**
Unspecified Sources of power*	32.6%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

2.3 NATURAL GAS

The following summary of natural gas customers & volumes, supplies, delivery of supplies, storage, service options, and operations is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas*

(SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.

The overwhelming majority of natural gas utility customers in California are residential and small commercials customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

A significant amount of gas (about 19%, or 1131 MMcfd, of the total forecasted California consumption in 2018) is also directly delivered to some California large volume consumers, without being transported over the regulated utility pipeline system. Those customers, referred to as "bypass" customers, take service directly from interstate pipelines or directly from California producers.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, i.e., they receive deliveries of gas from SoCalGas and in turn deliver that gas to their own customers. (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area.) Similarly, West Coast Gas, a small gas utility, is a wholesale customer of PG&E. Some other wholesale customers are municipalities like the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California gas utilities are Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Mojave Pipeline, and Tuscarora. Another pipeline, the North Baja - Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, and authorizes rates for that service, the California Public Utilities Commission may participate in FERC regulatory proceedings to represent the interests of California natural gas consumers.

The gas transported to California gas utilities via the interstate pipelines, as well as some of the California-produced gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipelines systems (commonly referred to as California's "backbone" pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered to the local transmission and distribution pipeline systems, or to natural gas storage

fields. Some large volume noncore customers take natural gas delivery directly off the high-pressure backbone and local transmission pipeline systems, while core customers and other noncore customers take delivery off the utilities' distribution pipeline systems. The state's natural gas utilities operate over 100,000 miles of transmission and distribution pipelines, and thousands more miles of service lines.

Bypass customers take most of their deliveries directly off the Kern/Mojave pipeline system, but they also take a significant amount of gas from California production.

PG&E and SoCalGas own and operate several natural gas storage fields that are located within their service territories in northern and southern California, respectively. These storage fields, and four independently owned storage utilities - Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage - help meet peak seasonal and daily natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. PG&E is a 25% owner of the Gill Ranch Storage field. These storage fields provide a significant amount of infrastructure capacity to help meet California's natural gas requirements, and without these storage fields, California would need much more pipeline capacity in order to meet peak gas requirements.

Prior to the late 1980s, California regulated utilities provided virtually all natural gas services to all their customers. Since then, the Commission has gradually restructured the California gas industry in order to give customers more options while assuring regulatory protections for those customers that wish to, or are required to, continue receiving utility-provided services.

The option to purchase natural gas from independent suppliers is one of the results of this restructuring process. Although the regulated utilities procure natural gas supplies for most core customers, core customers have the option to purchase natural gas from independent natural gas marketers, called "core transport agents" (CTA). Contact information for core transport agents can be found on the utilities' web sites. Noncore customers, on the other hand, make natural gas supply arrangements directly with producers or with marketers.

Another option resulting from the restructuring process occurred in 1993, when the Commission removed the utilities' storage service responsibility for noncore customers, along with the cost of this service from noncore customers' transportation rates. The Commission also encouraged the development of independent storage fields, and in subsequent years, all the independent storage fields in California were established. Noncore customers and marketers may now take storage service from the utility or from an independent storage provider (if available), and pay for that service, or may opt to take no storage service at all. For core customers, the Commission assures that the utility has adequate storage capacity set aside to meet core requirements, and core customers pay for that service.

In a 1997 decision, the Commission adopted PG&E's "Gas Accord", which unbundled PG&E's backbone transmission costs from noncore transportation rates. This decision

gave customers and marketers the opportunity to obtain pipeline capacity rights on PG&E's backbone transmission pipeline system, if desired, and pay for that service at rates authorized by the Commission. The Gas Accord also required PG&E to set aside a certain amount of backbone transmission capacity in order to deliver gas to its core customers. Subsequent Commission decisions modified and extended the initial terms of the Gas Accord. The "Gas Accord" framework is still in place today for PG&E's backbone and storage rates and services and is now simply referred to as PG&E Gas Transmission and Storage (GT&S).

In a 2006 decision, the Commission adopted a similar gas transmission framework for Southern California, called the "firm access rights" system. SoCalGas and SDG&E implemented the firm access rights (FAR) system in 2008, and it is now referred to as the backbone transmission system (BTS) framework. As under the PG&E backbone transmission system, SoCalGas backbone transmission costs are unbundled from noncore transportation rates. Noncore customers and marketers may obtain, and pay for, firm backbone transmission capacity at various receipt points on the SoCalGas system. A certain amount of backbone transmission capacity is obtained for core customers to assure meeting their requirements.

Many if not most noncore customers now use a marketer to provide for several of the services formerly provided by the utility. That is, a noncore customer may simply arrange for a marketer to procure its supplies, and obtain any needed storage and backbone transmission capacity, in order to assure that it will receive its needed deliveries of natural gas supplies. Core customers still mainly rely on the utilities for procurement service, but they have the option to take procurement service from a CTA. Backbone transmission and storage capacity is either set aside or obtained for core customers in amounts to assure very high levels of service.

In order properly operate their natural gas transmission pipeline and storage systems, PG&E and SoCalGas must balance the amount of gas received into the pipeline system and delivered to customers or to storage fields. Some of these utilities' storage capacity is dedicated to this service, and under most circumstances, customers do not need to precisely match their deliveries with their consumption. However, when too much or too little gas is expected to be delivered into the utilities' systems, relative to the amount being consumed, the utilities require customers to more precisely match up their deliveries with their consumption. And, if customers do not meet certain delivery requirements, they could face financial penalties. The utilities do not profit from these financial penalties - the amounts are then returned to customers as a whole. If the utilities find that they are unable to deliver all the gas that is expected to be consumed, they may even call for a curtailment of some gas deliveries. These curtailments are typically required for just the largest, noncore customers. It has been many years since there has been a significant curtailment of core customers in California." (14)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via

existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Based on information provided by the Project applicant, no natural gas will be used as a result of the project, and as such use of natural gas is not considered in the analysis.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. In March 2019, the Department of Motor Vehicles (DMV) identified 36.4 million registered vehicles in California (15), and those vehicles consume an estimated 17.8 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 394,383 land miles, more than 27.5 million passenger vehicles and light trucks, and almost 8.1 million medium- and heavy-duty vehicles (15). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 91% of all transportation energy use, excluding fuel consumed for aviation and most marine vessels (16). Nearly 17.8 billion gallons of on-highway fuel are burned each year, including 14.6 billion gallons of gasoline (including ethanol) and 3.2 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2019, Californians also used 194 million cubic feet of natural gas as a transportation fuel (17), or the equivalent of 183 billion gallons of gasoline.

[1] Fuel consumptions estimated utilizing information from EMFAC2017.

3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States (U.S.) Department of Transportation, the United States Department of Energy, and the U.S. Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

The ISTEA promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

3.1.2 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA-21)

The TEA-21 was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301a]). The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 IEPR was adopted January 31, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as including the environmental performance of the electricity generation system, landscape-scale planning, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, updates on Southern California electricity reliability, methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the California Energy Demand Forecast (18). The 2020 IEPR Update is currently in progress but is not anticipated to be adopted until February 2021.

3.2.2 STATE OF CALIFORNIA ENERGY PLAN

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

3.2.3 CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The 2019 Title are applicable to building permit applications submitted on or after January 1, 2020. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting standards for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades compared to the prior code (19).

3.2.4 AB 1493 PAVLEY REGULATIONS AND FUEL EFFICIENCY STANDARDS

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit

of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

3.2.5 CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33% of total retail sales by 2020 (20).

3.2.6 CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.

Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.

Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (1), this report analyzes the project's anticipated energy use during construction and operations to determine if the Project would:

Result in 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

4.2 METHODOLOGY

Appendix F of the *State CEQA Guidelines* (21), provides some guidance for assessing these criteria, which implies that the means of achieving the goal of energy conservation includes decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources. Additionally, the CEQA Guidelines state "[a] lead agency may consider the extent to which an energy source serving the project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production."

Information from the CalEEMod Version 2016.3.2 outputs for the *Stratford Ranch East Air Quality Impact Analysis* (Urban Crossroads, Inc.) (AQIA) (22) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CALEEMOD

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources as well as energy usage. (23). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Output from the annual CalEEMod runs is provided in Appendix 4.1.

4.2.2 EMISSION FACTORS MODEL

On August 19, 2019, the EPA approved the 2017 version of the EMissions FACtor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (24). This energy study utilizes the different fuel types for each vehicle class from the annual EMFAC2017 emission inventory in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction and operational activities. For purposes of

analysis, the 2021 through 2022 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project.

4.3 CONSTRUCTION ENERGY DEMANDS

4.3.1 CONSTRUCTION POWER COST AND ELECTRICITY USAGE

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project.

CONSTRUCTION DURATION

Construction is expected to commence in June 2022 and will last through December 2029. The construction schedule utilized in the analysis, shown in Table 4-1, represents a "worst-case" analysis scenario. Should construction occur any time after the respective dates, impacts would be reduced since emission factors for construction decrease as time passes due to emission regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (25). The duration of construction activity was based on the 2030 opening year.

TABLE 4-1: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation	5/10/2021	6/18/2021	30
Grading	6/19/2021	10/1/2021	75
Building Construction	10/2/2021	6/30/2023	455
Architectural Coating	3/18/2023	6/30/2023	75
Paving	4/15/2023	6/30/2023	55

Source: CalEEMod 2016, Appendix 4.1.

Based on the *2017 National Construction Estimator*, Richard Pray (2017) (26), the typical power cost per 1,000 sf of construction per month is estimated to be $2.32. The proposed Project includes the development of approximately 152,460 sf residential land uses. Based on information provided in the AQIA, construction activities are anticipated to occur over the course of 25 months (22). Based on Table 4-2, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $9,071.

[2] As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 4-2: CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Total Project Construction Power Cost
Residential	$2.38	152.460	25	$9,071.37
TOTAL PROJECT CONSTRUCTION COST				***$9,071.37***

The SCE's general service rate schedule were used to determine the Project's electrical usage. As of June 1, 2020, SCE's general service rate is $0.11 per kilowatt hours (kWh) of electricity for residential services (27). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 82,467 kWh.

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Total Project Construction Electricity Usage (kWh)
Residential	$0.11	82,467
TOTAL PROJECT CONSTRUCTION ELECTRICTY USAGE (kWh)		***82,467***

4.3.2 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction.

CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4-4 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code. It should be noted that most pieces of equipment would likely operate for fewer hours per day. A summary of construction equipment assumptions by phase is provided at Table 4-4.

Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-5. Eight-hour daily use of all equipment is assumed. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (28).

TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Cranes	1	8
	Forklifts	5	8
	Generator Sets	3	8
	Tractors/Loaders/Backhoes	5	8
Architectural Coating	Air Compressors	1	6
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8

Source: CalEEMod 2016, Appendix 4.1

For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the County and region[3]. As presented in Table 4-5, Project construction activities would consume an estimated 123,722 gallons of diesel fuel. Project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

[3] Based on Appendix A of the CalEEMod User's Guide, Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel.

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Activity/Duration	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Site Preparation	30	Crawler Tractors	97	4	8	0.37	1,148	1,862
		Rubber Tired Dozers	247	3	8	0.40	2,371	3,845
Grading	75	Excavators	97	2	8	0.37	574	2,328
		Graders	158	2	8	0.38	961	3,894
		Rubber Tired Dozers	187	1	8	0.41	613	2,487
	455	Scrapers	247	1	8	0.40	790	19,440
Building Construction		Cranes	367	2	8	0.48	2,819	69,321
		Forklifts	231	1	8	0.29	536	13,181
		Tractors/Loaders/Backhoes	89	5	8	0.20	712	17,511
		Generator Sets	84	3	8	0.74	1,492	36,691
Architectural Coating		Air Compressors	97	5	8	0.37	1,436	35,308
Paving	55	Pavers	78	1	6	0.48	225	668
		Paving Equipment	130	2	8	0.42	874	2,597
		Rollers	132	2	8	0.36	760	2,260
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***211,394***

4.3.3 CONSTRUCTION TRIPS AND VMT

Based on the CalEEMod, the Trip and VMT are the number and length (in terms VMT[4]) of on-road vehicle trips for workers and vendors for each construction phase. The trips identified in Table 4-6 are based on information provided by the Project Applicant and adjusted to the overall length of each phase with an opening year of 2023.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Phase Name	Worker Trips / Day	Vendor Trips / Day	Hauling Trips / Day	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	18	0	0	14.7	6.9	20
Grading	20	0	7	14.7	6.9	20
Building Construction	71	21	0	14.7	6.9	20
Paving	14	0	0	14.7	6.9	20
Architectural Coating	15	0	0	14.7	6.9	20

Source: CalEEMod 2016.3.2 Appendix 4.1.

4.3.4 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips would generate an estimated 678,900 VMT during the 25 months of construction (22). Based on CalEEMod methodology, emissions from construction worker trips are generated by light-duty-auto vehicles (LDA), light-duty-trucks 1 (LDT1[5]), and light-duty-trucks 2 (LDT2[6]). Based on EMFAC2017 vehicle population data for Year 2022, 70% of these vehicles would be LDA, 7.3% would be LDT1, and 23.7% would be LDT2. Data regarding Project related construction worker trips were based on EMFAC2017 inputs utilized within the AQIA.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within the 2017 version of the EMFAC developed by CARB. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (24). EMFAC2017 was run for the LDA, LDT1, and LDT2 vehicle class within the California sub-area for the 2022 calendar years. Data from EMFAC2017 is shown in Appendix 4.2. Using the static year 2022 is considered conservative for estimating fuel consumption as it does not account for fuel efficiency improvements each year.

As generated by EMFAC2017, an aggregated fuel economy of LDAs ranging from model year 1974 to model year 2022 are estimated to have a fuel efficiency of 31.93 miles per gallon (mpg). Table

[4] For purposes of analysis, VMT is calculated by multiplying to number of trips by the trip length.

[5] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[6] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

4-7 provides an estimated annual fuel consumption resulting from LDAs related to the Project construction worker trips. Based on Table 4-7, it is estimated that 12,014 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDA)

Construction Activity	Duration (Days)	Worker LDA Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	30	13	14.7	5,733	31.93	180
Grading	75	15	14.7	16,538	31.93	518
Building Construction	455	51	14.7	341,114	31.93	10,683
Paving	55	10	14.7	8,085	31.93	253
Architectural Coating	75	11	14.7	12,128	31.93	380
TOTAL CONSTRUCTION WORKER (LDA) FUEL CONSUMPTION						***12,014***

The EMFAC2017 aggregated fuel economy of LDT1s ranging from model year 1974 to model year 2022 are estimated to have a fuel efficiency 26.79 mpg. Table 4-8 provides an estimated annual fuel consumption resulting from LDT1s related to the Project construction worker trips. Based on Table 4-8, it is estimated that 1,789 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

TABLE 4-8: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDT1)

Construction Activity	Duration (Days)	Worker LDT1 Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	30	2	14.7	1,764	26.79	66
Grading	75	2	14.7	2,205	26.79	82
Building Construction	455	6	14.7	40,131	26.79	1,498
Paving	55	2	14.7	1,617	26.79	60
Architectural Coating	75	2	14.7	2,205	26.79	82
TOTAL CONSTRUCTION WORKER (LDT2) FUEL CONSUMPTION						***1,789***

The EMFAC2017 aggregated fuel economy of LDT2s ranging from model year 1974 to model years 2022 are estimated to have a fuel efficiency of 25.15 mpg. Table 4-9 provides an estimated annual fuel consumption resulting from LDT2s related to the Project construction worker trips. Based on Table 4-9, it is estimated that 4,849 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

TABLE 4-9: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDT2)

Construction Activity	Duration (Days)	Worker LDT2 Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	30	4	14.7	1,764	25.15	70
Grading	75	5	14.7	5,513	25.15	219
Building Construction	455	16	14.7	107,016	25.15	4,256
Paving	55	4	14.7	3,234	25.15	129
Architectural Coating	75	4	14.7	4,410	25.15	175
TOTAL CONSTRUCTION WORKER (LDT1) FUEL CONSUMPTION						***4,849***

It should be noted that construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

4.3.5 CONSTRUCTION VENDOR AND HAULING FUEL ESTIMATES

Construction vendor trips (vehicles that deliver materials to the site during construction) are estimated to generate 69,069 VMT and hauling is anticipated to generate in 1,500 VMT along area roadways for the Project over the duration of construction activity (29). Based on CalEEMod standard inputs, vehicles associated with vendor trips are limited to medium-heavy duty trucks (MHDT) and heavy-heavy duty trucks (HHDT) (29). Similar to LDA, LDT1, and LDT fuel estimates, vehicle fuel efficiencies for MHDTs and HHDTs for vending trips were estimated using information generated within EMFAC2017. For debris and soil hauling all trucks were assumed to be HHDT constituent with CalEEMod standard settings. EMFAC2017 was run for the MHDT and HHDT vehicle classes within the California sub-area for the 2023 calendar year. Data from EMFAC2017 is shown in Appendix 4.2.

As generated by EMFAC2017, an aggregated fuel economy of MHDTs ranging from model year 1974 to model year 2022 are estimated to have a fuel efficiency of 10.08 mpg. Based on Table 4-10, it is estimated that 3,427 gallons of fuel will be consumed related to construction vendor trips (MHDTs) during full construction of the Project.

TABLE 4-10: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (MHDT)

Construction Activity	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Building Construction	455	11	6.9	34,535	10.08	3,427
TOTAL CONSTRUCTION VENDOR (MHDT) FUEL CONSUMPTION						***3,427***

Tables 4-11 shows the estimated fuel economy of HHDTs accessing the Project site. As generated by EMFAC2017, an aggregated fuel economy of HHDTs ranging from model year 1974 to model

year 2022 are estimated to have a fuel efficiency of 6.33 mpg. Based on Tables 4-11, fuel consumption from construction vendor trips (HHDTs) will total approximately 5,456 gallons.

TABLE 4-11: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (HHDT)

Construction Activity	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Building Construction	455	11	6.9	34,535	6.33	5,456
TOTAL CONSTRUCTION VENDOR (HHDT) FUEL CONSUMPTION						***5,456***

As generated by EMFAC2017, HHDTs are estimated to have a fuel efficiency of 6.33 mpg in 2022. Based on Table 4-12, it is estimated that 237 gallons of fuel will be consumed related to construction vendor trips (MHDTs) during full construction of the Project.

TABLE 4-12: CONSTRUCTION HAULING FUEL CONSUMPTION ESTIMATES (HHDT)

Construction Activity	Duration (Days)	Hauling Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Grading	75	1	20	1,500	6.33	237
TOTAL CONSTRUCTION HAULING (HHDT) FUEL CONSUMPTION						***237***

It should be noted that Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

4.3.6 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

Starting in 2014, CARB adopted the nation's first regulation aimed at cleaning up off-road construction equipment such as bulldozers, graders, and backhoes. These requirements ensure fleets gradually turnover the oldest and dirtiest equipment to newer, cleaner models and prevent fleets from adding older, dirtier equipment. As such, the equipment used for Project construction would conform to CARB regulations and California emissions standards. It should also be noted that there are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Construction contractors would be required to comply with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or

unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures (BACM). For example, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Section 2449(d)(3) requires that "grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling." In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing, and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by passenger car and truck vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. As shown in Table 4-13, the Project will result in 678,901 annual VMT and an estimated annual fuel consumption of 265,870 gallons of fuel. These calculations are conservative as they do not include any TDM measures, which are designed to reduce VMT from vehicles.

TABLE 4-13: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES)

Vehicle Type	Annual Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
LDA	3,488,247	31.9	109,246
LDT1	270,063	26.8	10,081
LDT2	1,283,683	25.1	51,051
MDV	741,501	20.4	36,419
LHD1	95,343	13.7	6,935
LHD2	36,933	13.9	2,662
MHD	137,585	10.1	13,651
HHD	221,496	6.3	34,994
MCY	30,917	37.2	830
Total (All Vehicles)	6,305,769	NA	**265,870**

4.4.2 FACILITY ENERGY DEMANDS

Project building operations activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied to the Project by SCE. As previously stated, the analysis herein assumes compliance with the 2019 Title 24 Standards. As such, the CalEEMod defaults for Title 24 were reduced by 53% in order to reflect consistency with the 2019 Title 24 standard. Annual natural gas and electricity demands of the Project are summarized in Table 4-14 and provided in Appendices 4.1.

TABLE 4-14: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Natural Gas Demand	kBTU/year
Residential	3,462,490
TOTAL PROJECT NATURAL GAS DEMAND	***3,462,490***

Electricity Demand	kWh/year
Residential	1,449,800
TOTAL PROJECT ELECTRICITY DEMAND	***1,449,800***

kBTU – kilo-British Thermal Units
kWh – Kilo Watt Hours

4.4.3 Operational Energy Efficiency/Conservation Measures

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title24, California Green Building Standards Code).

Enhanced Vehicle Fuel Efficiencies

Project annual fuel consumption estimates presented previously in Table 4-13 represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands.

4.5 Summary

4.5.1 Construction Energy Demands

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately $9,071.37. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, is calculated to be approximately 82,467 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 211,394 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. BACMs inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the Project would result in the estimated fuel consumption of 18,652 gallons of fuel. Additionally, fuel consumption from construction vendor and hauling trips (MHDTs and HHDTs) will total approximately 9,120 gallons. Diesel fuel would be supplied by City and regional commercial vendors. Indirectly, construction energy efficiencies

and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2020 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (18). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 Operational Energy Demands

Transportation Energy Demands

Annual vehicular trips and related VMT generated by the operation of the Project would result in a fuel demand of 265,870 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other residential uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Ed., 2017); and CalEEMod. As such, Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other residential developments of similar size.

In addition, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT in the future. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and City requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands

Project facility operational energy demands are estimated at: 3,462,490 kBTU/year of natural gas; and 1,449,800 kWh/year of electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied by SCE. The Project proposes conventional residences reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial land use projects of similar scale and configuration.

Lastly, the Project will comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards will ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

4.6 ENERGY FINDINGS AND RECOMMENDATIONS

4.6.1 ENERGY IMPACT 1

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful, or unnecessary consumption of energy. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

4.6.2 ENERGY IMPACT 2

Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Project's consistency with the applicable state and local plans is discussed below.

CONSISTENCY WITH ISTEA

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because Southern California Association of Governments (SCAG) is not planning for intermodal facilities on or through the Project site.

CONSISTENCY WITH TEA-21

The Project site is located near major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

CONSISTENCY WITH IEPR

Electricity may be provided to the Project by SCE. SCE's *Clean Power and Electrification Pathway* (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2020 IEPR.

CONSISTENCY WITH STATE OF CALIFORNIA ENERGY PLAN

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access and takes advantage of existing infrastructure systems. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020. It should be noted that the analysis herein assumes compliance with the 2019 Title 24 Standards. It should be noted that the CEC anticipates that, with incorporation of solar PV requirements, residential buildings will use approximately 53% less energy compared to the 2016 Energy Code (19). As such, the CalEEMod defaults for Title 24 were reduced by 53% in order to reflect consistency with the 2019 Title 24 standard.

CONSISTENCY WITH AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

CONSISTENCY WITH RPS

California's Renewable Portfolio Standard is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

CONSISTENCY WITH SB 350

The proposed Project would use energy from SCE, which have committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures for new residential developments and would include several measures designed to reduce energy consumption.

As shown above, the Project would not conflict with any of the state or local plans. As such, a less than significant impact is expected.

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5 REFERENCES

1. **Association of Environmental Professionals.** *2018 CEQA California Environmental Quality Act.* 2018.

2. **Administration, U.S. Energy Information.** California State Profile and Energy Estimates. [Online] https://www.eia.gov/state/data.php?sid=CA#ConsumptionExpenditures.

3. **California Energy Commission.** *Transportation Energy Demand Forecast 2018-2030.* 2018.

4. **Alternate Fuels Data Center.** ***U.S. Department of Energy.*** **[Online] https://afdc.energy.gov/states/ca.**

5. U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. ***California State Profile and Energy Estimates.*** **[Online] https://www.eia.gov/state/?sid=CA#tabs-2.**

6. California Energy Commission. Total System Electric Generation. ***CA.gov.*** **[Online] https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.**

7. Jet fuel consumption, price, and expenditure estimates, 2017. ***U.S. Energy Information Administration.*** **[Online] https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_jf.html.**

8. State Profile Data: California. ***U.S. Energy and Information Administration.*** **[Online] https://www.eia.gov/state/data.php?sid=CA.**

9. U.S. Energy Information Administration. State Profile and Energy Estimates. ***Independent Statistics and Analysis.*** **[Online] http://www.eia.gov/state/?sid=CA#tabs2..**

10. California Energy Commission. 2013 Integrated Energy Policy Report. [Online] 2013. http://www.energy.ca.gov/2013publications/CEC-100-2013-001/CEC-100-2013-001-CMF.pdf.

11. —. California Energy Almanac. ***Utility Energy Supply Plans from 2013.*** **[Online] https://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2013/.**

12. California ISO. Understanding the ISO. [Online] http://www.caiso.com/about/Pages/OurBusiness/UnderstandingtheISO/default.aspx.

13. Southern California Edison. 2018 Power Content Label. ***Southern California Edison.*** **[Online] 2018. https://www.sce.com/sites/default/files/inline-files/2018SCEPCL.pdf.**

14. California Public Utilities Commission. Natural Gas and California. [Online] http://www.cpuc.ca.gov/general.aspx?id=4802.

15. Department of Motor Vehicles. ***State of California Department of Motor Vehicles Statistics For Publication January Through December 2019.*** **2019.**

16. U.S. Energy Information Administration. Use of Energy in the United States Explained Energy Use for Transportation. [Online] https://www.eia.gov/energyexplained/?page=us_energy_transportation.

17. —. Natural Gas Consumption by End Use. [Online] https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

18. California Energy Commission Staff. 2020 Integrated Energy Policy Report Update. [Online] 2020. [Cited: March 26, 2021.] https://ww2.energy.ca.gov/2020_energypolicy/.

19. The California Energy Commission. 2019 Building Energy Efficiency Standards . ***California Energy Commission.*** **[Online] 2018. https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf.**

20. California Energy Commission. Renewables Portfolio Standard (RPS). [Online] 2002. http://www.energy.ca.gov/portfolio/.

21. State of California. *California Environmental Quality Act Guideline, California Public Resources Code, Title 14, Division 6, Chapter 3,.*

22. Urban Crossroads, Inc. *Stratford Ranch East Air Quality Impact Analysis.* 2021.

23. California Air Pollution Control Officers Association (CAPCOA). California Emissions Estimator Model (CalEEMod). [Online] September 2016. www.caleemod.com.

24. California Department of Transportation. EMFAC Software. [Online] http://www.dot.ca.gov/hq/env/air/pages/emfac.htm.

25. State of California. *2019 CEQA California Environmental Quality Act.* 2019.

26. Pray, Richard. *2017 National Construction Estimator.* Carlsbad : Craftsman Book Company, 2017.

27. Southern California Edison. Schedule GS-1 General Service. *Regulatory Information - Rates Pricing.* [Online] https://library.sce.com/content/dam/sce-doclib/public/regulatory/tariff/electric/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-2.pdf.

28. California Air Resources Board. *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects For Evaluating Motor Vehicle Registration Fee Projects And Congestion Mitigation and Air Quality Improvement (CMAQ) Projects, Emission Factor Tables.* 2018.

29. Urban Crossroads, Inc. *Menifee Crossroads Air Quality Impact Analysis.* 2021.

6 CERTIFICATIONS

The contents of this energy analysis report represent an accurate depiction of the environmental impacts associated with the proposed Stratford Ranch East. The information contained in this energy analysis report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 778-1971.

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EDUCATION

Bachelor of Science in Urban and Regional Planning
California Polytechnic State University, Pomona • June 2000

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
APA – American Planning Association
AWMA – Air and Waste Management Association

PROFESSIONAL CERTIFICATIONS

HARP Model Training – Bluescape Environmental • 2004
Air Dispersion Modeling – Lakes Environmental • 2008

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APPENDIX 4.1:

CALEEMOD PROJECT ANNUAL EMISSIONS MODEL OUTPUTS

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Stratford Ranch Residential - TTM 36647

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	197.00	Dwelling Unit	48.62	354,600.00	563

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	518.69	**CH4 Intensity (lb/MWhr)**	0.021	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SEC will have 41.33% renewalbles in 2023 = CO2: 518.69, CH4: 0.0214, and N20; 0.0046 lbs/MWh

Land Use - Based on Porject plan 2/24/21

Construction Phase - Buidling construction revised based to meet a mid 2023 opening year, paving and arichitectural coating overlapped with building construction to represent a reasonable worst case condition

Off-road Equipment - standard 8 hour day

Off-road Equipment - No welders, replaced with genset, tractor increase eqquipment to account for shortened building schedule, standard 8-hour schedule

Off-road Equipment - Tractor/loader/backhoe replaced with crawler tractor for PM generation, crawler HP and load factor adjusted to represent Tractor/Loaders/Backhoes

Off-road Equipment - No Change

Off-road Equipment - Tractor/loader/backhoe replaced with crawler tractor for PM generation, crawler HP and load factor adjusted to represent Tractor/Loaders/Backhoes

Grading - The entire site that would be graded and is 48.62 acres, only 53 CY will be exported, project site plan

Architectural Coating -

Vehicle Trips - Based on TIA

Vehicle Emission Factors - EMFAC2017 with Adjustment Factors for Safe Rule

Vehicle Emission Factors - EMFAC2017 with Adjustment Factors for Safe Rule

Vehicle Emission Factors - EMFAC2017 with Adjustment Factors for Safe Rule

Woodstoves - SACQMD Rule 445 No Wood Burning FP below 3,000' AMSL

Energy Use - Accounts for 53% increase in efficency over 2016 building code.

Water And Wastewater - Accounts for 2019 Greenbuilding code and MWELO

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 requires watering of site 3x daily, porject will be required to install trackout, reduction taken from Rule 403 mitigation tables and use Tier 3 equipment during site prep and grading

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	55.00	75.00
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tblEnergyUse	T24E	951.67	447.28
tblEnergyUse	T24NG	24,566.15	11,546.09
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tblOffRoadEquipment	HorsePower	212.00	97.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
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tblVehicleEF	LDT1	0.11	0.09
tblVehicleEF	LDT1	2.9770e-003	1.8930e-003
tblVehicleEF	LDT1	3.2520e-003	2.5560e-003
tblVehicleEF	LDT1	2.7410e-003	1.7420e-003
tblVehicleEF	LDT1	2.9900e-003	2.3500e-003

tblVehicleEF	LDT1	0.21	0.30
tblVehicleEF	LDT1	0.27	0.26
tblVehicleEF	LDT1	0.15	0.22
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.15	0.72
tblVehicleEF	LDT1	0.15	0.31
tblVehicleEF	LDT1	3.3680e-003	3.1280e-003
tblVehicleEF	LDT1	7.1500e-004	6.1500e-004
tblVehicleEF	LDT1	0.21	0.30
tblVehicleEF	LDT1	0.27	0.26
tblVehicleEF	LDT1	0.15	0.22
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.15	0.72
tblVehicleEF	LDT1	0.16	0.34
tblVehicleEF	LDT1	0.01	5.6560e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.31	1.18
tblVehicleEF	LDT1	2.56	2.26
tblVehicleEF	LDT1	313.74	295.29
tblVehicleEF	LDT1	67.76	63.68
tblVehicleEF	LDT1	0.12	0.10
tblVehicleEF	LDT1	2.9770e-003	1.8930e-003
tblVehicleEF	LDT1	3.2520e-003	2.5560e-003
tblVehicleEF	LDT1	2.7410e-003	1.7420e-003
tblVehicleEF	LDT1	2.9900e-003	2.3500e-003
tblVehicleEF	LDT1	0.12	0.16
tblVehicleEF	LDT1	0.28	0.26

tblVehicleEF	LDT1	0.10	0.11
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.19	0.86
tblVehicleEF	LDT1	0.17	0.36
tblVehicleEF	LDT1	3.1530e-003	2.8860e-003
tblVehicleEF	LDT1	7.2200e-004	6.2200e-004
tblVehicleEF	LDT1	0.12	0.16
tblVehicleEF	LDT1	0.28	0.26
tblVehicleEF	LDT1	0.10	0.11
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.19	0.86
tblVehicleEF	LDT1	0.19	0.40
tblVehicleEF	LDT2	5.9480e-003	3.1840e-003
tblVehicleEF	LDT2	5.6730e-003	0.06
tblVehicleEF	LDT2	0.75	0.79
tblVehicleEF	LDT2	1.24	2.59
tblVehicleEF	LDT2	356.06	314.22
tblVehicleEF	LDT2	75.77	67.26
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	1.9880e-003	1.3480e-003
tblVehicleEF	LDT2	2.3560e-003	1.7950e-003
tblVehicleEF	LDT2	1.8280e-003	1.2410e-003
tblVehicleEF	LDT2	2.1660e-003	1.6510e-003
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.01	0.01

tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.5660e-003	3.0700e-003
tblVehicleEF	LDT2	7.7800e-004	6.5700e-004
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.08	0.31
tblVehicleEF	LDT2	6.3690e-003	3.5750e-003
tblVehicleEF	LDT2	5.0330e-003	0.05
tblVehicleEF	LDT2	0.83	0.94
tblVehicleEF	LDT2	1.06	2.16
tblVehicleEF	LDT2	374.47	334.38
tblVehicleEF	LDT2	75.77	66.44
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	1.9880e-003	1.3480e-003
tblVehicleEF	LDT2	2.3560e-003	1.7950e-003
tblVehicleEF	LDT2	1.8280e-003	1.2410e-003
tblVehicleEF	LDT2	2.1660e-003	1.6510e-003
tblVehicleEF	LDT2	0.07	0.15
tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.07	0.13
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.07	0.24

tblVehicleEF	LDT2	3.7510e-003	3.2670e-003
tblVehicleEF	LDT2	7.7500e-004	6.4900e-004
tblVehicleEF	LDT2	0.07	0.15
tblVehicleEF	LDT2	0.10	0.14
tblVehicleEF	LDT2	0.07	0.13
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.07	0.27
tblVehicleEF	LDT2	5.8200e-003	3.1320e-003
tblVehicleEF	LDT2	5.8050e-003	0.06
tblVehicleEF	LDT2	0.72	0.76
tblVehicleEF	LDT2	1.27	2.57
tblVehicleEF	LDT2	349.95	310.81
tblVehicleEF	LDT2	75.77	67.23
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	1.9880e-003	1.3480e-003
tblVehicleEF	LDT2	2.3560e-003	1.7950e-003
tblVehicleEF	LDT2	1.8280e-003	1.2410e-003
tblVehicleEF	LDT2	2.1660e-003	1.6510e-003
tblVehicleEF	LDT2	0.04	0.08
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.07	0.46
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.5050e-003	3.0370e-003
tblVehicleEF	LDT2	7.7900e-004	6.5700e-004

tblVehicleEF	LDT2	0.04	0.08
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.46
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LHD1	5.2150e-003	4.5410e-003
tblVehicleEF	LHD1	9.8020e-003	4.4200e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.74	0.60
tblVehicleEF	LHD1	2.42	0.89
tblVehicleEF	LHD1	9.02	9.36
tblVehicleEF	LHD1	594.74	619.96
tblVehicleEF	LHD1	31.51	9.99
tblVehicleEF	LHD1	0.07	0.08
tblVehicleEF	LHD1	1.09	1.39
tblVehicleEF	LHD1	8.6400e-004	1.0130e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	9.8040e-003	0.01
tblVehicleEF	LHD1	8.9300e-004	2.1100e-004
tblVehicleEF	LHD1	8.2600e-004	9.6900e-004
tblVehicleEF	LHD1	2.5390e-003	2.5170e-003
tblVehicleEF	LHD1	9.3560e-003	9.8330e-003
tblVehicleEF	LHD1	8.2100e-004	1.9400e-004
tblVehicleEF	LHD1	3.0350e-003	2.3920e-003
tblVehicleEF	LHD1	0.10	0.07

tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8020e-003	1.2620e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	0.24	0.07
tblVehicleEF	LHD1	5.8330e-003	6.0260e-003
tblVehicleEF	LHD1	3.6000e-004	9.9000e-005
tblVehicleEF	LHD1	3.0350e-003	2.3920e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8020e-003	1.2620e-003
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	0.26	0.07
tblVehicleEF	LHD1	5.2150e-003	4.5540e-003
tblVehicleEF	LHD1	0.01	4.4900e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.75	0.61
tblVehicleEF	LHD1	2.30	0.84
tblVehicleEF	LHD1	9.02	9.36
tblVehicleEF	LHD1	594.74	619.98
tblVehicleEF	LHD1	31.51	9.91
tblVehicleEF	LHD1	0.07	0.08
tblVehicleEF	LHD1	1.02	1.31
tblVehicleEF	LHD1	8.6400e-004	1.0130e-003
tblVehicleEF	LHD1	0.01	0.01

tblVehicleEF	LHD1	9.8040e-003	0.01
tblVehicleEF	LHD1	8.9300e-004	2.1100e-004
tblVehicleEF	LHD1	8.2600e-004	9.6900e-004
tblVehicleEF	LHD1	2.5390e-003	2.5170e-003
tblVehicleEF	LHD1	9.3560e-003	9.8330e-003
tblVehicleEF	LHD1	8.2100e-004	1.9400e-004
tblVehicleEF	LHD1	4.7330e-003	4.2440e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.7000e-003	2.4050e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.29	0.44
tblVehicleEF	LHD1	0.23	0.06
tblVehicleEF	LHD1	5.8330e-003	6.0260e-003
tblVehicleEF	LHD1	3.5800e-004	9.8000e-005
tblVehicleEF	LHD1	4.7330e-003	4.2440e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.7000e-003	2.4050e-003
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.29	0.44
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD1	5.2150e-003	4.5430e-003
tblVehicleEF	LHD1	9.7560e-003	4.4280e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.73	0.60

tblVehicleEF	LHD1	2.43	0.88
tblVehicleEF	LHD1	9.02	9.36
tblVehicleEF	LHD1	594.74	619.96
tblVehicleEF	LHD1	31.51	9.98
tblVehicleEF	LHD1	0.07	0.08
tblVehicleEF	LHD1	1.07	1.37
tblVehicleEF	LHD1	8.6400e-004	1.0130e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	9.8040e-003	0.01
tblVehicleEF	LHD1	8.9300e-004	2.1100e-004
tblVehicleEF	LHD1	8.2600e-004	9.6900e-004
tblVehicleEF	LHD1	2.5390e-003	2.5170e-003
tblVehicleEF	LHD1	9.3560e-003	9.8330e-003
tblVehicleEF	LHD1	8.2100e-004	1.9400e-004
tblVehicleEF	LHD1	3.0640e-003	2.4970e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.7650e-003	1.3210e-003
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.32	0.47
tblVehicleEF	LHD1	0.24	0.07
tblVehicleEF	LHD1	5.8330e-003	6.0260e-003
tblVehicleEF	LHD1	3.6100e-004	9.9000e-005
tblVehicleEF	LHD1	3.0640e-003	2.4970e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.7650e-003	1.3210e-003

tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.32	0.47
tblVehicleEF	LHD1	0.26	0.07
tblVehicleEF	LHD2	3.6920e-003	2.7700e-003
tblVehicleEF	LHD2	3.6770e-003	3.2640e-003
tblVehicleEF	LHD2	7.3690e-003	7.1780e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.32	0.44
tblVehicleEF	LHD2	1.21	0.48
tblVehicleEF	LHD2	13.71	14.92
tblVehicleEF	LHD2	607.87	614.92
tblVehicleEF	LHD2	26.42	6.42
tblVehicleEF	LHD2	0.09	0.12
tblVehicleEF	LHD2	0.68	1.52
tblVehicleEF	LHD2	1.1660e-003	1.5130e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.0030e-003	0.01
tblVehicleEF	LHD2	4.2200e-004	9.8000e-005
tblVehicleEF	LHD2	1.1160e-003	1.4470e-003
tblVehicleEF	LHD2	2.6680e-003	2.7370e-003
tblVehicleEF	LHD2	8.6000e-003	0.01
tblVehicleEF	LHD2	3.8800e-004	9.1000e-005
tblVehicleEF	LHD2	1.0790e-003	1.1190e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	6.9700e-004	6.1300e-004
tblVehicleEF	LHD2	0.04	0.06

tblVehicleEF	LHD2	0.07	0.19
tblVehicleEF	LHD2	0.10	0.04
tblVehicleEF	LHD2	1.3400e-004	1.4200e-004
tblVehicleEF	LHD2	5.9190e-003	5.9160e-003
tblVehicleEF	LHD2	2.8600e-004	6.4000e-005
tblVehicleEF	LHD2	1.0790e-003	1.1190e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.9700e-004	6.1300e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.07	0.19
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	3.6920e-003	2.7770e-003
tblVehicleEF	LHD2	3.7200e-003	3.2860e-003
tblVehicleEF	LHD2	7.1240e-003	6.9030e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.32	0.45
tblVehicleEF	LHD2	1.16	0.45
tblVehicleEF	LHD2	13.71	14.92
tblVehicleEF	LHD2	607.87	614.93
tblVehicleEF	LHD2	26.42	6.38
tblVehicleEF	LHD2	0.09	0.12
tblVehicleEF	LHD2	0.64	1.43
tblVehicleEF	LHD2	1.1660e-003	1.5130e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.0030e-003	0.01
tblVehicleEF	LHD2	4.2200e-004	9.8000e-005

tblVehicleEF	LHD2	1.1160e-003	1.4470e-003
tblVehicleEF	LHD2	2.6680e-003	2.7370e-003
tblVehicleEF	LHD2	8.6000e-003	0.01
tblVehicleEF	LHD2	3.8800e-004	9.1000e-005
tblVehicleEF	LHD2	1.6790e-003	1.9920e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.0330e-003	1.1680e-003
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.07	0.20
tblVehicleEF	LHD2	0.10	0.03
tblVehicleEF	LHD2	1.3400e-004	1.4200e-004
tblVehicleEF	LHD2	5.9190e-003	5.9160e-003
tblVehicleEF	LHD2	2.8500e-004	6.3000e-005
tblVehicleEF	LHD2	1.6790e-003	1.9920e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0330e-003	1.1680e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.07	0.20
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	LHD2	3.6920e-003	2.7710e-003
tblVehicleEF	LHD2	3.6660e-003	3.2670e-003
tblVehicleEF	LHD2	7.4110e-003	7.1290e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.32	0.44
tblVehicleEF	LHD2	1.22	0.47

tblVehicleEF	LHD2	13.71	14.92
tblVehicleEF	LHD2	607.87	614.92
tblVehicleEF	LHD2	26.42	6.42
tblVehicleEF	LHD2	0.09	0.12
tblVehicleEF	LHD2	0.67	1.49
tblVehicleEF	LHD2	1.1660e-003	1.5130e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.0030e-003	0.01
tblVehicleEF	LHD2	4.2200e-004	9.8000e-005
tblVehicleEF	LHD2	1.1160e-003	1.4470e-003
tblVehicleEF	LHD2	2.6680e-003	2.7370e-003
tblVehicleEF	LHD2	8.6000e-003	0.01
tblVehicleEF	LHD2	3.8800e-004	9.1000e-005
tblVehicleEF	LHD2	1.0460e-003	1.1350e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	6.6900e-004	6.3500e-004
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	0.08	0.21
tblVehicleEF	LHD2	0.10	0.03
tblVehicleEF	LHD2	1.3400e-004	1.4200e-004
tblVehicleEF	LHD2	5.9190e-003	5.9160e-003
tblVehicleEF	LHD2	2.8600e-004	6.3000e-005
tblVehicleEF	LHD2	1.0460e-003	1.1350e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.6900e-004	6.3500e-004

tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.21
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	MCY	0.51	0.31
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.57	18.85
tblVehicleEF	MCY	9.66	8.64
tblVehicleEF	MCY	183.25	207.60
tblVehicleEF	MCY	44.44	60.36
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	2.3160e-003	1.7970e-003
tblVehicleEF	MCY	3.5910e-003	2.7750e-003
tblVehicleEF	MCY	2.1630e-003	1.6800e-003
tblVehicleEF	MCY	3.3760e-003	2.6090e-003
tblVehicleEF	MCY	1.17	1.43
tblVehicleEF	MCY	0.66	0.79
tblVehicleEF	MCY	0.69	0.76
tblVehicleEF	MCY	2.45	2.11
tblVehicleEF	MCY	0.59	1.77
tblVehicleEF	MCY	2.04	1.83
tblVehicleEF	MCY	2.2100e-003	2.0540e-003
tblVehicleEF	MCY	6.6200e-004	5.9700e-004
tblVehicleEF	MCY	1.17	1.43
tblVehicleEF	MCY	0.66	0.79
tblVehicleEF	MCY	0.69	0.76
tblVehicleEF	MCY	3.06	2.61
tblVehicleEF	MCY	0.59	1.77

tblVehicleEF	MCY	2.22	2.00
tblVehicleEF	MCY	0.50	0.31
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.11	18.83
tblVehicleEF	MCY	8.87	7.90
tblVehicleEF	MCY	183.25	207.41
tblVehicleEF	MCY	44.44	58.44
tblVehicleEF	MCY	0.98	0.97
tblVehicleEF	MCY	2.3160e-003	1.7970e-003
tblVehicleEF	MCY	3.5910e-003	2.7750e-003
tblVehicleEF	MCY	2.1630e-003	1.6800e-003
tblVehicleEF	MCY	3.3760e-003	2.6090e-003
tblVehicleEF	MCY	1.97	2.75
tblVehicleEF	MCY	0.78	1.09
tblVehicleEF	MCY	1.23	1.72
tblVehicleEF	MCY	2.40	2.07
tblVehicleEF	MCY	0.56	1.74
tblVehicleEF	MCY	1.82	1.61
tblVehicleEF	MCY	2.2010e-003	2.0530e-003
tblVehicleEF	MCY	6.4300e-004	5.7800e-004
tblVehicleEF	MCY	1.97	2.75
tblVehicleEF	MCY	0.78	1.09
tblVehicleEF	MCY	1.23	1.72
tblVehicleEF	MCY	3.00	2.56
tblVehicleEF	MCY	0.56	1.74
tblVehicleEF	MCY	1.98	1.75
tblVehicleEF	MCY	0.51	0.31

tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.59	18.30
tblVehicleEF	MCY	9.77	8.43
tblVehicleEF	MCY	183.25	206.64
tblVehicleEF	MCY	44.44	59.88
tblVehicleEF	MCY	1.10	1.09
tblVehicleEF	MCY	2.3160e-003	1.7970e-003
tblVehicleEF	MCY	3.5910e-003	2.7750e-003
tblVehicleEF	MCY	2.1630e-003	1.6800e-003
tblVehicleEF	MCY	3.3760e-003	2.6090e-003
tblVehicleEF	MCY	1.25	1.64
tblVehicleEF	MCY	0.85	1.05
tblVehicleEF	MCY	0.66	0.76
tblVehicleEF	MCY	2.46	2.09
tblVehicleEF	MCY	0.68	2.02
tblVehicleEF	MCY	2.07	1.79
tblVehicleEF	MCY	2.2110e-003	2.0450e-003
tblVehicleEF	MCY	6.6500e-004	5.9300e-004
tblVehicleEF	MCY	1.25	1.64
tblVehicleEF	MCY	0.85	1.05
tblVehicleEF	MCY	0.66	0.76
tblVehicleEF	MCY	3.07	2.59
tblVehicleEF	MCY	0.68	2.02
tblVehicleEF	MCY	2.25	1.95
tblVehicleEF	MDV	0.01	4.1640e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.17	0.92

tblVehicleEF	MDV	2.30	2.99
tblVehicleEF	MDV	483.05	396.16
tblVehicleEF	MDV	101.29	84.06
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	2.0950e-003	1.4100e-003
tblVehicleEF	MDV	2.4110e-003	1.8510e-003
tblVehicleEF	MDV	1.9310e-003	1.3010e-003
tblVehicleEF	MDV	2.2170e-003	1.7020e-003
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.09	0.46
tblVehicleEF	MDV	0.17	0.38
tblVehicleEF	MDV	4.8370e-003	3.8690e-003
tblVehicleEF	MDV	1.0530e-003	8.2200e-004
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.16	0.15
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.09	0.46
tblVehicleEF	MDV	0.19	0.41
tblVehicleEF	MDV	0.01	4.6800e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.30	1.09
tblVehicleEF	MDV	1.97	2.49
tblVehicleEF	MDV	507.73	417.66

tblVehicleEF	MDV	101.29	83.09
tblVehicleEF	MDV	0.11	0.08
tblVehicleEF	MDV	2.0950e-003	1.4100e-003
tblVehicleEF	MDV	2.4110e-003	1.8510e-003
tblVehicleEF	MDV	1.9310e-003	1.3010e-003
tblVehicleEF	MDV	2.2170e-003	1.7020e-003
tblVehicleEF	MDV	0.12	0.19
tblVehicleEF	MDV	0.16	0.17
tblVehicleEF	MDV	0.11	0.17
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.09	0.45
tblVehicleEF	MDV	0.15	0.32
tblVehicleEF	MDV	5.0860e-003	4.0790e-003
tblVehicleEF	MDV	1.0470e-003	8.1200e-004
tblVehicleEF	MDV	0.12	0.19
tblVehicleEF	MDV	0.16	0.17
tblVehicleEF	MDV	0.11	0.17
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.09	0.45
tblVehicleEF	MDV	0.17	0.35
tblVehicleEF	MDV	0.01	4.0920e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.12	0.88
tblVehicleEF	MDV	2.36	2.97
tblVehicleEF	MDV	474.94	392.53
tblVehicleEF	MDV	101.29	84.03
tblVehicleEF	MDV	0.12	0.08

tblVehicleEF	MDV	2.0950e-003	1.4100e-003
tblVehicleEF	MDV	2.4110e-003	1.8510e-003
tblVehicleEF	MDV	1.9310e-003	1.3010e-003
tblVehicleEF	MDV	2.2170e-003	1.7020e-003
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.17	0.16
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.52
tblVehicleEF	MDV	0.18	0.38
tblVehicleEF	MDV	4.7550e-003	3.8330e-003
tblVehicleEF	MDV	1.0540e-003	8.2100e-004
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.17	0.16
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.11	0.52
tblVehicleEF	MDV	0.19	0.41
tblVehicleEF	MH	0.02	3.2740e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	1.75	0.33
tblVehicleEF	MH	5.12	0.00
tblVehicleEF	MH	1,098.66	929.33
tblVehicleEF	MH	58.67	0.00
tblVehicleEF	MH	1.14	4.27
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.14

tblVehicleEF	MH	1.0060e-003	0.00
tblVehicleEF	MH	3.2200e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.13
tblVehicleEF	MH	9.2500e-004	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.06	0.00
tblVehicleEF	MH	0.39	0.00
tblVehicleEF	MH	0.07	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.01	8.7850e-003
tblVehicleEF	MH	6.7600e-004	0.00
tblVehicleEF	MH	0.95	0.00
tblVehicleEF	MH	0.06	0.00
tblVehicleEF	MH	0.39	0.00
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.32	0.00
tblVehicleEF	MH	0.02	3.2740e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	1.79	0.33
tblVehicleEF	MH	4.82	0.00
tblVehicleEF	MH	1,098.66	929.33
tblVehicleEF	MH	58.67	0.00
tblVehicleEF	MH	1.05	4.03
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.14

tblVehicleEF	MH	1.0060e-003	0.00
tblVehicleEF	MH	3.2200e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.13
tblVehicleEF	MH	9.2500e-004	0.00
tblVehicleEF	MH	1.47	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.60	0.00
tblVehicleEF	MH	0.07	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.28	0.00
tblVehicleEF	MH	0.01	8.7850e-003
tblVehicleEF	MH	6.7100e-004	0.00
tblVehicleEF	MH	1.47	0.00
tblVehicleEF	MH	0.07	0.00
tblVehicleEF	MH	0.60	0.00
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.02	3.2740e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	1.73	0.33
tblVehicleEF	MH	5.17	0.00
tblVehicleEF	MH	1,098.66	929.33
tblVehicleEF	MH	58.67	0.00
tblVehicleEF	MH	1.12	4.20
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.02	0.14

tblVehicleEF	MH	1.0060e-003	0.00
tblVehicleEF	MH	3.2200e-003	4.0000e-003
tblVehicleEF	MH	0.02	0.13
tblVehicleEF	MH	9.2500e-004	0.00
tblVehicleEF	MH	1.03	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.40	0.00
tblVehicleEF	MH	0.07	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.01	8.7850e-003
tblVehicleEF	MH	6.7700e-004	0.00
tblVehicleEF	MH	1.03	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.40	0.00
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MHD	0.02	2.7550e-003
tblVehicleEF	MHD	3.3510e-003	8.7300e-004
tblVehicleEF	MHD	0.05	7.0300e-003
tblVehicleEF	MHD	0.34	0.33
tblVehicleEF	MHD	0.28	0.12
tblVehicleEF	MHD	5.31	0.81
tblVehicleEF	MHD	138.31	67.29
tblVehicleEF	MHD	1,125.72	911.02
tblVehicleEF	MHD	59.27	7.21

tblVehicleEF	MHD	0.37	0.40
tblVehicleEF	MHD	0.70	0.91
tblVehicleEF	MHD	1.0200e-004	4.3400e-004
tblVehicleEF	MHD	2.8090e-003	9.4670e-003
tblVehicleEF	MHD	7.6600e-004	8.3000e-005
tblVehicleEF	MHD	9.7000e-005	4.1500e-004
tblVehicleEF	MHD	2.6840e-003	9.0550e-003
tblVehicleEF	MHD	7.0500e-004	7.6000e-005
tblVehicleEF	MHD	1.0820e-003	4.1800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	6.9100e-004	2.2800e-004
tblVehicleEF	MHD	0.03	9.5450e-003
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.33	0.04
tblVehicleEF	MHD	1.3310e-003	6.3800e-004
tblVehicleEF	MHD	0.01	8.6560e-003
tblVehicleEF	MHD	6.8600e-004	7.1000e-005
tblVehicleEF	MHD	1.0820e-003	4.1800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	6.9100e-004	2.2800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.36	0.04
tblVehicleEF	MHD	0.01	2.6270e-003
tblVehicleEF	MHD	3.3970e-003	8.8800e-004

tblVehicleEF	MHD	0.04	6.7570e-003
tblVehicleEF	MHD	0.25	0.29
tblVehicleEF	MHD	0.28	0.12
tblVehicleEF	MHD	5.04	0.76
tblVehicleEF	MHD	146.49	67.24
tblVehicleEF	MHD	1,125.72	911.02
tblVehicleEF	MHD	59.27	7.14
tblVehicleEF	MHD	0.38	0.39
tblVehicleEF	MHD	0.66	0.86
tblVehicleEF	MHD	8.6000e-005	3.6900e-004
tblVehicleEF	MHD	2.8090e-003	9.4670e-003
tblVehicleEF	MHD	7.6600e-004	8.3000e-005
tblVehicleEF	MHD	8.2000e-005	3.5300e-004
tblVehicleEF	MHD	2.6840e-003	9.0550e-003
tblVehicleEF	MHD	7.0500e-004	7.6000e-005
tblVehicleEF	MHD	1.6890e-003	7.5100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.01
tblVehicleEF	MHD	1.0300e-003	4.4600e-004
tblVehicleEF	MHD	0.03	9.6090e-003
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.31	0.04
tblVehicleEF	MHD	1.4080e-003	6.3800e-004
tblVehicleEF	MHD	0.01	8.6560e-003
tblVehicleEF	MHD	6.8100e-004	7.1000e-005
tblVehicleEF	MHD	1.6890e-003	7.5100e-004
tblVehicleEF	MHD	0.04	0.02

tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.0300e-003	4.4600e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.34	0.04
tblVehicleEF	MHD	0.02	2.9460e-003
tblVehicleEF	MHD	3.3370e-003	8.7400e-004
tblVehicleEF	MHD	0.05	6.9640e-003
tblVehicleEF	MHD	0.47	0.39
tblVehicleEF	MHD	0.28	0.12
tblVehicleEF	MHD	5.36	0.80
tblVehicleEF	MHD	126.99	67.35
tblVehicleEF	MHD	1,125.72	911.02
tblVehicleEF	MHD	59.27	7.20
tblVehicleEF	MHD	0.35	0.41
tblVehicleEF	MHD	0.68	0.89
tblVehicleEF	MHD	1.2400e-004	5.2400e-004
tblVehicleEF	MHD	2.8090e-003	9.4670e-003
tblVehicleEF	MHD	7.6600e-004	8.3000e-005
tblVehicleEF	MHD	1.1900e-004	5.0100e-004
tblVehicleEF	MHD	2.6840e-003	9.0550e-003
tblVehicleEF	MHD	7.0500e-004	7.6000e-005
tblVehicleEF	MHD	1.0540e-003	4.3600e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	6.6300e-004	2.3900e-004
tblVehicleEF	MHD	0.03	9.5510e-003

tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.33	0.04
tblVehicleEF	MHD	1.2250e-003	6.3800e-004
tblVehicleEF	MHD	0.01	8.6560e-003
tblVehicleEF	MHD	6.8600e-004	7.1000e-005
tblVehicleEF	MHD	1.0540e-003	4.3600e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	6.6300e-004	2.3900e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.36	0.04
tblVehicleEF	OBUS	0.01	8.5220e-003
tblVehicleEF	OBUS	6.0000e-003	5.4050e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.25	0.49
tblVehicleEF	OBUS	0.44	0.70
tblVehicleEF	OBUS	5.22	2.68
tblVehicleEF	OBUS	91.95	64.37
tblVehicleEF	OBUS	1,222.80	1,335.49
tblVehicleEF	OBUS	68.36	21.28
tblVehicleEF	OBUS	0.19	0.23
tblVehicleEF	OBUS	0.63	0.91
tblVehicleEF	OBUS	1.8000e-005	7.5000e-005
tblVehicleEF	OBUS	2.5040e-003	8.4680e-003
tblVehicleEF	OBUS	8.5000e-004	2.1800e-004
tblVehicleEF	OBUS	1.7000e-005	7.2000e-005

tblVehicleEF	OBUS	2.3790e-003	8.0880e-003
tblVehicleEF	OBUS	7.8100e-004	2.0100e-004
tblVehicleEF	OBUS	1.5080e-003	2.6670e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	7.8700e-004	1.1770e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.04	0.29
tblVehicleEF	OBUS	0.33	0.13
tblVehicleEF	OBUS	8.8900e-004	6.1500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7500e-004	2.1100e-004
tblVehicleEF	OBUS	1.5080e-003	2.6670e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	7.8700e-004	1.1770e-003
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	0.04	0.29
tblVehicleEF	OBUS	0.36	0.14
tblVehicleEF	OBUS	0.01	8.5920e-003
tblVehicleEF	OBUS	6.1100e-003	5.5390e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.48
tblVehicleEF	OBUS	0.45	0.72
tblVehicleEF	OBUS	4.93	2.49
tblVehicleEF	OBUS	96.41	63.70
tblVehicleEF	OBUS	1,222.80	1,335.52

tblVehicleEF	OBUS	68.36	20.96
tblVehicleEF	OBUS	0.20	0.21
tblVehicleEF	OBUS	0.59	0.84
tblVehicleEF	OBUS	1.5000e-005	6.7000e-005
tblVehicleEF	OBUS	2.5040e-003	8.4680e-003
tblVehicleEF	OBUS	8.5000e-004	2.1800e-004
tblVehicleEF	OBUS	1.4000e-005	6.4000e-005
tblVehicleEF	OBUS	2.3790e-003	8.0880e-003
tblVehicleEF	OBUS	7.8100e-004	2.0100e-004
tblVehicleEF	OBUS	2.2910e-003	4.6970e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	1.1730e-003	2.2650e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.04	0.29
tblVehicleEF	OBUS	0.31	0.12
tblVehicleEF	OBUS	9.3200e-004	6.0900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7000e-004	2.0700e-004
tblVehicleEF	OBUS	2.2910e-003	4.6970e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	1.1730e-003	2.2650e-003
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	0.04	0.29
tblVehicleEF	OBUS	0.34	0.13
tblVehicleEF	OBUS	0.01	8.4630e-003

tblVehicleEF	OBUS	5.9720e-003	5.4160e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.25	0.49
tblVehicleEF	OBUS	0.44	0.70
tblVehicleEF	OBUS	5.27	2.67
tblVehicleEF	OBUS	85.78	65.29
tblVehicleEF	OBUS	1,222.80	1,335.50
tblVehicleEF	OBUS	68.36	21.26
tblVehicleEF	OBUS	0.18	0.24
tblVehicleEF	OBUS	0.62	0.89
tblVehicleEF	OBUS	2.1000e-005	8.7000e-005
tblVehicleEF	OBUS	2.5040e-003	8.4680e-003
tblVehicleEF	OBUS	8.5000e-004	2.1800e-004
tblVehicleEF	OBUS	2.0000e-005	8.3000e-005
tblVehicleEF	OBUS	2.3790e-003	8.0880e-003
tblVehicleEF	OBUS	7.8100e-004	2.0100e-004
tblVehicleEF	OBUS	1.5020e-003	2.7830e-003
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tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	7.6600e-004	1.2510e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.33	0.13
tblVehicleEF	OBUS	8.3000e-004	6.2400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7600e-004	2.1000e-004
tblVehicleEF	OBUS	1.5020e-003	2.7830e-003

tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	7.6600e-004	1.2510e-003
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.36	0.14
tblVehicleEF	SBUS	0.83	0.09
tblVehicleEF	SBUS	0.01	6.6030e-003
tblVehicleEF	SBUS	0.06	8.0990e-003
tblVehicleEF	SBUS	8.04	3.43
tblVehicleEF	SBUS	0.70	0.55
tblVehicleEF	SBUS	7.18	1.08
tblVehicleEF	SBUS	1,118.19	369.74
tblVehicleEF	SBUS	1,082.51	1,096.55
tblVehicleEF	SBUS	55.02	6.92
tblVehicleEF	SBUS	8.69	3.32
tblVehicleEF	SBUS	3.91	4.42
tblVehicleEF	SBUS	8.2920e-003	3.3040e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.8500e-004	4.8000e-005
tblVehicleEF	SBUS	7.9330e-003	3.1610e-003
tblVehicleEF	SBUS	2.6760e-003	2.6500e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	7.2100e-004	4.4000e-005
tblVehicleEF	SBUS	3.6590e-003	1.5760e-003
tblVehicleEF	SBUS	0.03	0.01

tblVehicleEF	SBUS	0.96	0.41
tblVehicleEF	SBUS	1.9290e-003	7.9200e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.07
tblVehicleEF	SBUS	0.38	0.05
tblVehicleEF	SBUS	0.01	3.5360e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.7500e-004	6.9000e-005
tblVehicleEF	SBUS	3.6590e-003	1.5760e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.38	0.59
tblVehicleEF	SBUS	1.9290e-003	7.9200e-004
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	0.01	0.07
tblVehicleEF	SBUS	0.42	0.05
tblVehicleEF	SBUS	0.83	0.09
tblVehicleEF	SBUS	0.01	6.6870e-003
tblVehicleEF	SBUS	0.06	6.7520e-003
tblVehicleEF	SBUS	7.94	3.39
tblVehicleEF	SBUS	0.71	0.56
tblVehicleEF	SBUS	5.72	0.77
tblVehicleEF	SBUS	1,168.50	378.98
tblVehicleEF	SBUS	1,082.51	1,096.56
tblVehicleEF	SBUS	55.02	6.42
tblVehicleEF	SBUS	8.97	3.40
tblVehicleEF	SBUS	3.68	4.16
tblVehicleEF	SBUS	6.9900e-003	2.7930e-003

tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.8500e-004	4.8000e-005
tblVehicleEF	SBUS	6.6880e-003	2.6720e-003
tblVehicleEF	SBUS	2.6760e-003	2.6500e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	7.2100e-004	4.4000e-005
tblVehicleEF	SBUS	5.6810e-003	2.7600e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.95	0.41
tblVehicleEF	SBUS	2.9530e-003	1.4670e-003
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.34	0.04
tblVehicleEF	SBUS	0.01	3.6240e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.5000e-004	6.3000e-005
tblVehicleEF	SBUS	5.6810e-003	2.7600e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.38	0.59
tblVehicleEF	SBUS	2.9530e-003	1.4670e-003
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.37	0.04
tblVehicleEF	SBUS	0.83	0.09
tblVehicleEF	SBUS	0.01	6.6020e-003
tblVehicleEF	SBUS	0.07	8.2440e-003

tblVehicleEF	SBUS	8.19	3.48
tblVehicleEF	SBUS	0.70	0.55
tblVehicleEF	SBUS	7.44	1.10
tblVehicleEF	SBUS	1,048.72	356.98
tblVehicleEF	SBUS	1,082.51	1,096.55
tblVehicleEF	SBUS	55.02	6.96
tblVehicleEF	SBUS	8.31	3.21
tblVehicleEF	SBUS	3.85	4.35
tblVehicleEF	SBUS	0.01	4.0110e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.8500e-004	4.8000e-005
tblVehicleEF	SBUS	9.6530e-003	3.8370e-003
tblVehicleEF	SBUS	2.6760e-003	2.6500e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	7.2100e-004	4.4000e-005
tblVehicleEF	SBUS	3.5200e-003	1.4840e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.96	0.41
tblVehicleEF	SBUS	1.8620e-003	8.1800e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	0.39	0.05
tblVehicleEF	SBUS	0.01	3.4160e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.7900e-004	6.9000e-005
tblVehicleEF	SBUS	3.5200e-003	1.4840e-003

tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.39	0.59
tblVehicleEF	SBUS	1.8620e-003	8.1800e-004
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	0.43	0.05
tblVehicleEF	UBUS	2.20	3.04
tblVehicleEF	UBUS	0.06	0.02
tblVehicleEF	UBUS	9.91	23.60
tblVehicleEF	UBUS	10.15	1.86
tblVehicleEF	UBUS	1,905.83	1,635.62
tblVehicleEF	UBUS	113.27	22.96
tblVehicleEF	UBUS	7.78	0.30
tblVehicleEF	UBUS	0.58	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.10	2.1820e-003
tblVehicleEF	UBUS	1.2130e-003	2.2400e-004
tblVehicleEF	UBUS	0.25	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0570e-003
tblVehicleEF	UBUS	0.09	2.0670e-003
tblVehicleEF	UBUS	1.1150e-003	2.0600e-004
tblVehicleEF	UBUS	5.0170e-003	2.8050e-003
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	2.8810e-003	1.1470e-003
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	0.03	0.08
tblVehicleEF	UBUS	0.79	0.10

tblVehicleEF	UBUS	9.5330e-003	6.3200e-003
tblVehicleEF	UBUS	1.3160e-003	2.2700e-004
tblVehicleEF	UBUS	5.0170e-003	2.8050e-003
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	2.8810e-003	1.1470e-003
tblVehicleEF	UBUS	2.96	3.11
tblVehicleEF	UBUS	0.03	0.08
tblVehicleEF	UBUS	0.86	0.10
tblVehicleEF	UBUS	2.20	3.04
tblVehicleEF	UBUS	0.05	0.02
tblVehicleEF	UBUS	9.96	23.60
tblVehicleEF	UBUS	8.81	1.58
tblVehicleEF	UBUS	1,905.83	1,635.63
tblVehicleEF	UBUS	113.27	22.49
tblVehicleEF	UBUS	7.32	0.30
tblVehicleEF	UBUS	0.58	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.10	2.1820e-003
tblVehicleEF	UBUS	1.2130e-003	2.2400e-004
tblVehicleEF	UBUS	0.25	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0570e-003
tblVehicleEF	UBUS	0.09	2.0670e-003
tblVehicleEF	UBUS	1.1150e-003	2.0600e-004
tblVehicleEF	UBUS	7.4730e-003	4.9810e-003
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	4.2880e-003	2.2660e-003
tblVehicleEF	UBUS	0.69	0.05

tblVehicleEF	UBUS	0.02	0.07
tblVehicleEF	UBUS	0.72	0.09
tblVehicleEF	UBUS	9.5340e-003	6.3200e-003
tblVehicleEF	UBUS	1.2930e-003	2.2300e-004
tblVehicleEF	UBUS	7.4730e-003	4.9810e-003
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	4.2880e-003	2.2660e-003
tblVehicleEF	UBUS	2.97	3.11
tblVehicleEF	UBUS	0.02	0.07
tblVehicleEF	UBUS	0.79	0.09
tblVehicleEF	UBUS	2.20	3.04
tblVehicleEF	UBUS	0.06	0.02
tblVehicleEF	UBUS	9.90	23.60
tblVehicleEF	UBUS	10.35	1.85
tblVehicleEF	UBUS	1,905.83	1,635.62
tblVehicleEF	UBUS	113.27	22.93
tblVehicleEF	UBUS	7.63	0.30
tblVehicleEF	UBUS	0.58	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.10	2.1820e-003
tblVehicleEF	UBUS	1.2130e-003	2.2400e-004
tblVehicleEF	UBUS	0.25	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0570e-003
tblVehicleEF	UBUS	0.09	2.0670e-003
tblVehicleEF	UBUS	1.1150e-003	2.0600e-004
tblVehicleEF	UBUS	5.4520e-003	2.8430e-003
tblVehicleEF	UBUS	0.09	0.02

tblVehicleEF	UBUS	2.9590e-003	1.2010e-003
tblVehicleEF	UBUS	0.68	0.05
tblVehicleEF	UBUS	0.03	0.09
tblVehicleEF	UBUS	0.80	0.09
tblVehicleEF	UBUS	9.5330e-003	6.3200e-003
tblVehicleEF	UBUS	1.3200e-003	2.2700e-004
tblVehicleEF	UBUS	5.4520e-003	2.8430e-003
tblVehicleEF	UBUS	0.09	0.02
tblVehicleEF	UBUS	2.9590e-003	1.2010e-003
tblVehicleEF	UBUS	2.96	3.11
tblVehicleEF	UBUS	0.03	0.09
tblVehicleEF	UBUS	0.88	0.10
tblVehicleTrips	ST_TR	9.91	9.83
tblVehicleTrips	SU_TR	8.62	8.54
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	IndoorWaterUseRate	12,835,343.05	10,268,274.44
tblWater	OutdoorWaterUseRate	8,091,846.70	6,473,477.36
tblWoodstoves	NumberCatalytic	9.85	0.00
tblWoodstoves	NumberNoncatalytic	9.85	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3633	3.6182	2.6257	5.0000e-003	0.5893	0.1848	0.7740	0.2896	0.1713	0.4609	0.0000	441.0786	441.0786	0.1138	0.0000	443.9238
2022	0.4015	3.7370	4.2431	7.9500e-003	0.1185	0.1851	0.3036	0.0319	0.1749	0.2067	0.0000	702.3671	702.3671	0.1237	0.0000	705.4586
2023	1.3332	2.0259	2.5934	4.7800e-003	0.0695	0.0965	0.1660	0.0187	0.0910	0.1097	0.0000	421.6654	421.6654	0.0797	0.0000	423.6575
Maximum	**1.3332**	**3.7370**	**4.2431**	**7.9500e-003**	**0.5893**	**0.1851**	**0.7740**	**0.2896**	**0.1749**	**0.4609**	**0.0000**	**702.3671**	**702.3671**	**0.1237**	**0.0000**	**705.4586**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1685	2.4271	2.8481	5.0000e-003	0.2388	0.1194	0.3582	0.1157	0.1178	0.2335	0.0000	441.0781	441.0781	0.1138	0.0000	443.9234
2022	0.3438	3.7752	4.3108	7.9500e-003	0.0725	0.2055	0.2780	0.0206	0.2000	0.2206	0.0000	702.3664	702.3664	0.1237	0.0000	705.4579
2023	1.3087	2.0905	2.6294	4.7800e-003	0.0424	0.1114	0.1538	0.0120	0.1078	0.1198	0.0000	421.6650	421.6650	0.0797	0.0000	423.6571
Maximum	**1.3087**	**3.7752**	**4.3108**	**7.9500e-003**	**0.2388**	**0.2055**	**0.3582**	**0.1157**	**0.2000**	**0.2335**	**0.0000**	**702.3664**	**702.3664**	**0.1237**	**0.0000**	**705.4579**

Stratford Ranch Residential - TTM 36647 - South Coast AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**13.20**	**11.60**	**-3.45**	**0.00**	**54.50**	**6.44**	**36.48**	**56.40**	**2.64**	**26.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-10-2021**	**8-9-2021**	1.7598	0.8755
2	**8-10-2021**	**11-9-2021**	1.5265	1.0733
3	**11-10-2021**	**2-9-2022**	1.1119	1.0844
4	**2-10-2022**	**5-9-2022**	1.0111	1.0064
5	**5-10-2022**	**8-9-2022**	1.0445	1.0396
6	**8-10-2022**	**11-9-2022**	1.0450	1.0401
7	**11-10-2022**	**2-9-2023**	1.0041	1.0101
8	**2-10-2023**	**5-9-2023**	1.6095	1.6291
9	**5-10-2023**	**8-9-2023**	1.3252	1.3366
		Highest	1.7598	1.6291

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4583	0.0643	2.0494	3.7000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	50.6256	50.6256	4.1000e-003	8.7000e-004	50.9865
Energy	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	525.8721	525.8721	0.0174	6.6800e-003	528.2952
Mobile	0.7244	2.0756	6.9603	0.0236	2.3839	0.0190	2.4029	0.6369	0.0178	0.6547	0.0000	2,212.5112	2,212.5112	0.0670	0.0000	2,214.1858
Waste						0.0000	0.0000		0.0000	0.0000	46.8564	0.0000	46.8564	2.7691	0.0000	116.0848
Water						0.0000	0.0000		0.0000	0.0000	3.2577	48.3778	51.6355	0.3366	8.3700e-003	62.5426
Total	**2.2014**	**2.2994**	**9.0777**	**0.0250**	**2.3839**	**0.0464**	**2.4304**	**0.6369**	**0.0453**	**0.6821**	**50.1141**	**2,837.3867**	**2,887.5008**	**3.1941**	**0.0159**	**2,972.0947**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4583	0.0643	2.0494	3.7000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	50.6256	50.6256	4.1000e-003	8.7000e-004	50.9865
Energy	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	525.8721	525.8721	0.0174	6.6800e-003	528.2952
Mobile	0.7244	2.0756	6.9603	0.0236	2.3839	0.0190	2.4029	0.6369	0.0178	0.6547	0.0000	2,212.5112	2,212.5112	0.0670	0.0000	2,214.1858
Waste						0.0000	0.0000		0.0000	0.0000	46.8564	0.0000	46.8564	2.7691	0.0000	116.0848
Water						0.0000	0.0000		0.0000	0.0000	3.2577	48.3778	51.6355	0.3366	8.3700e-003	62.5426
Total	**2.2014**	**2.2994**	**9.0777**	**0.0250**	**2.3839**	**0.0464**	**2.4304**	**0.6369**	**0.0453**	**0.6821**	**50.1141**	**2,837.3867**	**2,887.5008**	**3.1941**	**0.0159**	**2,972.0947**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/10/2021	6/18/2021	5	30	
2	Grading	Grading	6/19/2021	10/1/2021	5	75	
3	Building Construction	Building Construction	10/2/2021	6/30/2023	5	455	
4	Architectural Coating	Architectural Coating	3/18/2023	6/30/2023	5	75	
5	Paving	Paving	4/15/2023	6/30/2023	5	55	

Acres of Grading (Site Preparation Phase): 48.62

Acres of Grading (Grading Phase): 48.62

Acres of Paving: 0

Residential Indoor: 718,065; Residential Outdoor: 239,355; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Crawler Tractors	2	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	5	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	71.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2968	0.0000	0.2968	0.1517	0.0000	0.1517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0726	0.7086	0.3338	5.7000e-004		0.0417	0.0417		0.0383	0.0383	0.0000	50.1906	50.1906	0.0162	0.0000	50.5964
Total	**0.0726**	**0.7086**	**0.3338**	**5.7000e-004**	**0.2968**	**0.0417**	**0.3384**	**0.1517**	**0.0383**	**0.1901**	**0.0000**	**50.1906**	**50.1906**	**0.0162**	**0.0000**	**50.5964**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1300e-003	8.3000e-004	9.4100e-003	3.0000e-005	2.9600e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.5803	2.5803	7.0000e-005	0.0000	2.5820
Total	**1.1300e-003**	**8.3000e-004**	**9.4100e-003**	**3.0000e-005**	**2.9600e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.5803**	**2.5803**	**7.0000e-005**	**0.0000**	**2.5820**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1157	0.0000	0.1157	0.0592	0.0000	0.0592	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.2860	0.3444	5.7000e-004		0.0142	0.0142		0.0142	0.0142	0.0000	50.1906	50.1906	0.0162	0.0000	50.5964
Total	**0.0140**	**0.2860**	**0.3444**	**5.7000e-004**	**0.1157**	**0.0142**	**0.1299**	**0.0592**	**0.0142**	**0.0734**	**0.0000**	**50.1906**	**50.1906**	**0.0162**	**0.0000**	**50.5964**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1300e-003	8.3000e-004	9.4100e-003	3.0000e-005	1.7800e-003	2.0000e-005	1.8000e-003	5.0000e-004	2.0000e-005	5.2000e-004	0.0000	2.5803	2.5803	7.0000e-005	0.0000	2.5820
Total	**1.1300e-003**	**8.3000e-004**	**9.4100e-003**	**3.0000e-005**	**1.7800e-003**	**2.0000e-005**	**1.8000e-003**	**5.0000e-004**	**2.0000e-005**	**5.2000e-004**	**0.0000**	**2.5803**	**2.5803**	**7.0000e-005**	**0.0000**	**2.5820**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2516	0.0000	0.2516	0.1269	0.0000	0.1269	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1751	1.8664	1.1786	2.3300e-003		0.0882	0.0882		0.0811	0.0811	0.0000	204.4025	204.4025	0.0661	0.0000	206.0552
Total	**0.1751**	**1.8664**	**1.1786**	**2.3300e-003**	**0.2516**	**0.0882**	**0.3398**	**0.1269**	**0.0811**	**0.2080**	**0.0000**	**204.4025**	**204.4025**	**0.0661**	**0.0000**	**206.0552**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	9.1000e-004	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2613	0.2613	2.0000e-005	0.0000	0.2618
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1300e-003	2.3100e-003	0.0261	8.0000e-005	8.2300e-003	6.0000e-005	8.2900e-003	2.1900e-003	6.0000e-005	2.2400e-003	0.0000	7.1675	7.1675	1.9000e-004	0.0000	7.1723
Total	**3.1600e-003**	**3.2200e-003**	**0.0263**	**8.0000e-005**	**8.2900e-003**	**6.0000e-005**	**8.3500e-003**	**2.2100e-003**	**6.0000e-005**	**2.2600e-003**	**0.0000**	**7.4288**	**7.4288**	**2.1000e-004**	**0.0000**	**7.4341**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0981	0.0000	0.0981	0.0495	0.0000	0.0495	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0571	1.1242	1.3771	2.3300e-003		0.0487	0.0487		0.0487	0.0487	0.0000	204.4022	204.4022	0.0661	0.0000	206.0549
Total	**0.0571**	**1.1242**	**1.3771**	**2.3300e-003**	**0.0981**	**0.0487**	**0.1469**	**0.0495**	**0.0487**	**0.0982**	**0.0000**	**204.4022**	**204.4022**	**0.0661**	**0.0000**	**206.0549**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	9.1000e-004	1.9000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2613	0.2613	2.0000e-005	0.0000	0.2618
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1300e-003	2.3100e-003	0.0261	8.0000e-005	4.9500e-003	6.0000e-005	5.0100e-003	1.3800e-003	6.0000e-005	1.4400e-003	0.0000	7.1675	7.1675	1.9000e-004	0.0000	7.1723
Total	**3.1600e-003**	**3.2200e-003**	**0.0263**	**8.0000e-005**	**4.9900e-003**	**6.0000e-005**	**5.0500e-003**	**1.3900e-003**	**6.0000e-005**	**1.4500e-003**	**0.0000**	**7.4288**	**7.4288**	**2.1000e-004**	**0.0000**	**7.4341**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0997	0.9660	0.9808	1.5800e-003		0.0545	0.0545		0.0515	0.0515	0.0000	137.7616	137.7616	0.0295	0.0000	138.5002
Total	**0.0997**	**0.9660**	**0.9808**	**1.5800e-003**		**0.0545**	**0.0545**		**0.0515**	**0.0515**	**0.0000**	**137.7616**	**137.7616**	**0.0295**	**0.0000**	**138.5002**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9400e-003	0.0660	0.0164	1.7000e-004	4.3000e-003	1.3000e-004	4.4300e-003	1.2400e-003	1.3000e-004	1.3700e-003	0.0000	16.6630	16.6630	1.0500e-003	0.0000	16.6893
Worker	9.6200e-003	7.1100e-003	0.0804	2.4000e-004	0.0253	1.9000e-004	0.0255	6.7200e-003	1.7000e-004	6.9000e-003	0.0000	22.0519	22.0519	5.9000e-004	0.0000	22.0666
Total	**0.0116**	**0.0732**	**0.0968**	**4.1000e-004**	**0.0296**	**3.2000e-004**	**0.0299**	**7.9600e-003**	**3.0000e-004**	**8.2700e-003**	**0.0000**	**38.7149**	**38.7149**	**1.6400e-003**	**0.0000**	**38.7560**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0816	0.9398	0.9941	1.5800e-003		0.0561	0.0561		0.0545	0.0545	0.0000	137.7614	137.7614	0.0295	0.0000	138.5000
Total	**0.0816**	**0.9398**	**0.9941**	**1.5800e-003**		**0.0561**	**0.0561**		**0.0545**	**0.0545**	**0.0000**	**137.7614**	**137.7614**	**0.0295**	**0.0000**	**138.5000**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9400e-003	0.0660	0.0164	1.7000e-004	2.9000e-003	1.3000e-004	3.0300e-003	9.0000e-004	1.3000e-004	1.0200e-003	0.0000	16.6630	16.6630	1.0500e-003	0.0000	16.6893
Worker	9.6200e-003	7.1100e-003	0.0804	2.4000e-004	0.0152	1.9000e-004	0.0154	4.2500e-003	1.7000e-004	4.4200e-003	0.0000	22.0519	22.0519	5.9000e-004	0.0000	22.0666
Total	**0.0116**	**0.0732**	**0.0968**	**4.1000e-004**	**0.0181**	**3.2000e-004**	**0.0184**	**5.1500e-003**	**3.0000e-004**	**5.4400e-003**	**0.0000**	**38.7149**	**38.7149**	**1.6400e-003**	**0.0000**	**38.7560**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3581	3.4608	3.8842	6.3300e-003		0.1839	0.1839		0.1738	0.1738	0.0000	551.2570	551.2570	0.1175	0.0000	554.1937
Total	**0.3581**	**3.4608**	**3.8842**	**6.3300e-003**		**0.1839**	**0.1839**		**0.1738**	**0.1738**	**0.0000**	**551.2570**	**551.2570**	**0.1175**	**0.0000**	**554.1937**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2800e-003	0.2505	0.0619	6.8000e-004	0.0172	4.6000e-004	0.0177	4.9700e-003	4.4000e-004	5.4100e-003	0.0000	66.0652	66.0652	4.0600e-003	0.0000	66.1666
Worker	0.0361	0.0257	0.2970	9.4000e-004	0.1013	7.4000e-004	0.1020	0.0269	6.8000e-004	0.0276	0.0000	85.0449	85.0449	2.1400e-003	0.0000	85.0984
Total	**0.0434**	**0.2762**	**0.3589**	**1.6200e-003**	**0.1185**	**1.2000e-003**	**0.1197**	**0.0319**	**1.1200e-003**	**0.0330**	**0.0000**	**151.1101**	**151.1101**	**6.2000e-003**	**0.0000**	**151.2649**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3004	3.4990	3.9519	6.3300e-003		0.2043	0.2043		0.1989	0.1989	0.0000	551.2563	551.2563	0.1175	0.0000	554.1930
Total	**0.3004**	**3.4990**	**3.9519**	**6.3300e-003**		**0.2043**	**0.2043**		**0.1989**	**0.1989**	**0.0000**	**551.2563**	**551.2563**	**0.1175**	**0.0000**	**554.1930**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2800e-003	0.2505	0.0619	6.8000e-004	0.0116	4.6000e-004	0.0121	3.5900e-003	4.4000e-004	4.0300e-003	0.0000	66.0652	66.0652	4.0600e-003	0.0000	66.1666
Worker	0.0361	0.0257	0.2970	9.4000e-004	0.0609	7.4000e-004	0.0616	0.0170	6.8000e-004	0.0177	0.0000	85.0449	85.0449	2.1400e-003	0.0000	85.0984
Total	**0.0434**	**0.2762**	**0.3589**	**1.6200e-003**	**0.0725**	**1.2000e-003**	**0.0737**	**0.0206**	**1.1200e-003**	**0.0217**	**0.0000**	**151.1101**	**151.1101**	**6.2000e-003**	**0.0000**	**151.2649**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1650	1.5885	1.9320	3.1700e-003		0.0793	0.0793		0.0749	0.0749	0.0000	275.7274	275.7274	0.0584	0.0000	277.1868
Total	**0.1650**	**1.5885**	**1.9320**	**3.1700e-003**		**0.0793**	**0.0793**		**0.0749**	**0.0749**	**0.0000**	**275.7274**	**275.7274**	**0.0584**	**0.0000**	**277.1868**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0942	0.0277	3.3000e-004	8.6000e-003	1.1000e-004	8.7100e-003	2.4800e-003	1.0000e-004	2.5900e-003	0.0000	32.0369	32.0369	1.7600e-003	0.0000	32.0810
Worker	0.0170	0.0116	0.1369	4.5000e-004	0.0506	3.6000e-004	0.0510	0.0135	3.3000e-004	0.0138	0.0000	40.9366	40.9366	9.6000e-004	0.0000	40.9607
Total	**0.0197**	**0.1059**	**0.1646**	**7.8000e-004**	**0.0592**	**4.7000e-004**	**0.0597**	**0.0159**	**4.3000e-004**	**0.0164**	**0.0000**	**72.9735**	**72.9735**	**2.7200e-003**	**0.0000**	**73.0417**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1405	1.6531	1.9680	3.1700e-003		0.0941	0.0941		0.0918	0.0918	0.0000	275.7270	275.7270	0.0584	0.0000	277.1865
Total	**0.1405**	**1.6531**	**1.9680**	**3.1700e-003**		**0.0941**	**0.0941**		**0.0918**	**0.0918**	**0.0000**	**275.7270**	**275.7270**	**0.0584**	**0.0000**	**277.1865**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0942	0.0277	3.3000e-004	5.8000e-003	1.1000e-004	5.9100e-003	1.7900e-003	1.0000e-004	1.9000e-003	0.0000	32.0369	32.0369	1.7600e-003	0.0000	32.0810
Worker	0.0170	0.0116	0.1369	4.5000e-004	0.0304	3.6000e-004	0.0308	8.4900e-003	3.3000e-004	8.8200e-003	0.0000	40.9366	40.9366	9.6000e-004	0.0000	40.9607
Total	**0.0197**	**0.1059**	**0.1646**	**7.8000e-004**	**0.0362**	**4.7000e-004**	**0.0367**	**0.0103**	**4.3000e-004**	**0.0107**	**0.0000**	**72.9735**	**72.9735**	**2.7200e-003**	**0.0000**	**73.0417**

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1094					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0489	0.0679	1.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	9.5747	9.5747	5.7000e-004	0.0000	9.5890
Total	**1.1166**	**0.0489**	**0.0679**	**1.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**9.5747**	**9.5747**	**5.7000e-004**	**0.0000**	**9.5890**

3.5 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	1.3200e-003	0.0156	5.0000e-005	5.7600e-003	4.0000e-005	5.8000e-003	1.5300e-003	4.0000e-005	1.5700e-003	0.0000	4.6569	4.6569	1.1000e-004	0.0000	4.6597
Total	**1.9300e-003**	**1.3200e-003**	**0.0156**	**5.0000e-005**	**5.7600e-003**	**4.0000e-005**	**5.8000e-003**	**1.5300e-003**	**4.0000e-005**	**1.5700e-003**	**0.0000**	**4.6569**	**4.6569**	**1.1000e-004**	**0.0000**	**4.6597**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1094					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0489	0.0679	1.1000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	9.5747	9.5747	5.7000e-004	0.0000	9.5890
Total	**1.1166**	**0.0489**	**0.0679**	**1.1000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**9.5747**	**9.5747**	**5.7000e-004**	**0.0000**	**9.5890**

3.5 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	1.3200e-003	0.0156	5.0000e-005	3.4600e-003	4.0000e-005	3.5000e-003	9.7000e-004	4.0000e-005	1.0000e-003	0.0000	4.6569	4.6569	1.1000e-004	0.0000	4.6597
Total	**1.9300e-003**	**1.3200e-003**	**0.0156**	**5.0000e-005**	**3.4600e-003**	**4.0000e-005**	**3.5000e-003**	**9.7000e-004**	**4.0000e-005**	**1.0000e-003**	**0.0000**	**4.6569**	**4.6569**	**1.1000e-004**	**0.0000**	**4.6597**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0284	0.2803	0.4011	6.3000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	55.0739	55.0739	0.0178	0.0000	55.5192
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0284**	**0.2803**	**0.4011**	**6.3000e-004**		**0.0140**	**0.0140**		**0.0129**	**0.0129**	**0.0000**	**55.0739**	**55.0739**	**0.0178**	**0.0000**	**55.5192**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5200e-003	1.0400e-003	0.0122	4.0000e-005	4.5300e-003	3.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	3.6590	3.6590	9.0000e-005	0.0000	3.6612
Total	**1.5200e-003**	**1.0400e-003**	**0.0122**	**4.0000e-005**	**4.5300e-003**	**3.0000e-005**	**4.5600e-003**	**1.2000e-003**	**3.0000e-005**	**1.2300e-003**	**0.0000**	**3.6590**	**3.6590**	**9.0000e-005**	**0.0000**	**3.6612**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0284	0.2803	0.4011	6.3000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	55.0738	55.0738	0.0178	0.0000	55.5191
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0284**	**0.2803**	**0.4011**	**6.3000e-004**		**0.0140**	**0.0140**		**0.0129**	**0.0129**	**0.0000**	**55.0738**	**55.0738**	**0.0178**	**0.0000**	**55.5191**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5200e-003	1.0400e-003	0.0122	4.0000e-005	2.7200e-003	3.0000e-005	2.7500e-003	7.6000e-004	3.0000e-005	7.9000e-004	0.0000	3.6590	3.6590	9.0000e-005	0.0000	3.6612
Total	**1.5200e-003**	**1.0400e-003**	**0.0122**	**4.0000e-005**	**2.7200e-003**	**3.0000e-005**	**2.7500e-003**	**7.6000e-004**	**3.0000e-005**	**7.9000e-004**	**0.0000**	**3.6590**	**3.6590**	**9.0000e-005**	**0.0000**	**3.6612**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7244	2.0756	6.9603	0.0236	2.3839	0.0190	2.4029	0.6369	0.0178	0.6547	0.0000	2,212.5112	2,212.5112	0.0670	0.0000	2,214.1858
Unmitigated	0.7244	2.0756	6.9603	0.0236	2.3839	0.0190	2.4029	0.6369	0.0178	0.6547	0.0000	2,212.5112	2,212.5112	0.0670	0.0000	2,214.1858

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,859.68	1,936.51	1682.38	6,305,763	6,305,763
Total	1,859.68	1,936.51	1,682.38	6,305,763	6,305,763

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.553184	0.042828	0.203573	0.117591	0.015120	0.005857	0.021819	0.035126	0.000000	0.000000	0.004903	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	341.1004	341.1004	0.0138	3.2900e-003	342.4255
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	341.1004	341.1004	0.0138	3.2900e-003	342.4255
NaturalGas Mitigated	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.7716	184.7716	3.5400e-003	3.3900e-003	185.8696
NaturalGas Unmitigated	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.7716	184.7716	3.5400e-003	3.3900e-003	185.8696

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.46249e+006	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.7716	184.7716	3.5400e-003	3.3900e-003	185.8696
Total		**0.0187**	**0.1596**	**0.0679**	**1.0200e-003**		**0.0129**	**0.0129**		**0.0129**	**0.0129**	**0.0000**	**184.7716**	**184.7716**	**3.5400e-003**	**3.3900e-003**	**185.8696**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.46249e+006	0.0187	0.1596	0.0679	1.0200e-003		0.0129	0.0129		0.0129	0.0129	0.0000	184.7716	184.7716	3.5400e-003	3.3900e-003	185.8696
Total		**0.0187**	**0.1596**	**0.0679**	**1.0200e-003**		**0.0129**	**0.0129**		**0.0129**	**0.0129**	**0.0000**	**184.7716**	**184.7716**	**3.5400e-003**	**3.3900e-003**	**185.8696**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.4498e+006	341.1004	0.0138	3.2900e-003	342.4255
Total		**341.1004**	**0.0138**	**3.2900e-003**	**342.4255**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.4498e+006	341.1004	0.0138	3.2900e-003	342.4255
Total		**341.1004**	**0.0138**	**3.2900e-003**	**342.4255**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4583	0.0643	2.0494	3.7000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	50.6256	50.6256	4.1000e-003	8.7000e-004	50.9865
Unmitigated	1.4583	0.0643	2.0494	3.7000e-004		0.0146	0.0146		0.0146	0.0146	0.0000	50.6256	50.6256	4.1000e-003	8.7000e-004	50.9865

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1109					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2814					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.7800e-003	0.0409	0.0174	2.6000e-004		3.3000e-003	3.3000e-003		3.3000e-003	3.3000e-003	0.0000	47.3070	47.3070	9.1000e-004	8.7000e-004	47.5881
Landscaping	0.0612	0.0234	2.0321	1.1000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	3.3186	3.3186	3.1900e-003	0.0000	3.3984
Total	**1.4583**	**0.0643**	**2.0494**	**3.7000e-004**		**0.0146**	**0.0146**		**0.0146**	**0.0146**	**0.0000**	**50.6256**	**50.6256**	**4.1000e-003**	**8.7000e-004**	**50.9865**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1109					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2814					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.7800e-003	0.0409	0.0174	2.6000e-004		3.3000e-003	3.3000e-003		3.3000e-003	3.3000e-003	0.0000	47.3070	47.3070	9.1000e-004	8.7000e-004	47.5881
Landscaping	0.0612	0.0234	2.0321	1.1000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	3.3186	3.3186	3.1900e-003	0.0000	3.3984
Total	**1.4583**	**0.0643**	**2.0494**	**3.7000e-004**		**0.0146**	**0.0146**		**0.0146**	**0.0146**	**0.0000**	**50.6256**	**50.6256**	**4.1000e-003**	**8.7000e-004**	**50.9865**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	51.6355	0.3366	8.3700e-003	62.5426
Unmitigated	51.6355	0.3366	8.3700e-003	62.5426

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	10.2683 / 6.47348	51.6355	0.3366	8.3700e-003	62.5426
Total		**51.6355**	**0.3366**	**8.3700e-003**	**62.5426**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	10.2683 / 6.47348	51.6355	0.3366	8.3700e-003	62.5426
Total		**51.6355**	**0.3366**	**8.3700e-003**	**62.5426**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	46.8564	2.7691	0.0000	116.0848
Unmitigated	46.8564	2.7691	0.0000	116.0848

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	230.83	46.8564	2.7691	0.0000	116.0848
Total		**46.8564**	**2.7691**	**0.0000**	**116.0848**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	230.83	46.8564	2.7691	0.0000	116.0848
Total		**46.8564**	**2.7691**	**0.0000**	**116.0848**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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APPENDIX 4.2:

EMFAC2017

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Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calenc	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class	
San Bernardino (SC)	2022	HHDT	Aggregate	Aggregate	Gasoli	5.738390567	475.6178858	114.8137	112.3834031	290203.3429	475.6178858	1836855.091	6.33	HHDT	0.50201
San Bernardino (SC)	2022	HHDT	Aggregate	Aggregate	Diesel	14883.97368	1789151.452	152272.4	268190.7848		1789151.452				
San Bernardino (SC)	2022	HHDT	Aggregate	Aggregate	Natur	1157.767624	47228.02172	4515.294	21900.17462		47228.02172				
San Bernardino (SC)	2022	LDA	Aggregate	Aggregate	Gasoli	543957.3772	23065957.3	2563744	735758.4163	739612.8822	23065957.3	23615949.6	31.93	LDA	0.706417
San Bernardino (SC)	2022	LDA	Aggregate	Aggregate	Diesel	4325.601093	197774.636	20802.16	3854.465902		197774.636				
San Bernardino (SC)	2022	LDA	Aggregate	Aggregate	Electr	8565.692529	352217.6714	43034.91	0		352217.6714				
San Bernardino (SC)	2022	LDT1	Aggregate	Aggregate	Gasoli	56195.86841	2019926.608	254845	75915.57909	75938.79873	2019926.608	2034372.961	26.79	LDT1	0.07174
San Bernardino (SC)	2022	LDT1	Aggregate	Aggregate	Diesel	30.18816941	569.3508455	99.609	23.21963925		569.3508455				
San Bernardino (SC)	2022	LDT1	Aggregate	Aggregate	Electr	324.4928921	13877.00183	1649.842	0		13877.00183				
San Bernardino (SC)	2022	LDT2	Aggregate	Aggregate	Gasoli	172388.4413	6504289.119	803134.5	261212.0947	262301.5224	6504289.119	6595584.808	25.15	LDT2	0.221843
San Bernardino (SC)	2022	LDT2	Aggregate	Aggregate	Diesel	945.5703737	41265.88695	4678.034	1089.427653		41265.88695				
San Bernardino (SC)	2022	LDT2	Aggregate	Aggregate	Electr	1538.819096	50029.80218	7798.615	0		50029.80218				
San Bernardino (SC)	2022	LHDT1	Aggregate	Aggregate	Gasoli	14369.52529	483946.4297	214084.5	45954.60177	66338.08762	483946.4297	911984.1949	13.75	LHDT1	
San Bernardino (SC)	2022	LHDT1	Aggregate	Aggregate	Diesel	11813.96292	428037.7653	148604.8	20383.48585		428037.7653				
San Bernardino (SC)	2022	LHDT2	Aggregate	Aggregate	Gasoli	2566.416218	84834.80397	38235.78	9275.102025	17759.38097	84834.80397	246397.2785	13.87	LHDT2	
San Bernardino (SC)	2022	LHDT2	Aggregate	Aggregate	Diesel	4468.655223	161562.4745	56210.06	8484.278943		161562.4745				
San Bernardino (SC)	2022	MCY	Aggregate	Aggregate	Gasoli	23940.89968	154635.86	47881.8	4153.326569	4153.326569	154635.86	154635.86	37.23	MCY	
San Bernardino (SC)	2022	MDV	Aggregate	Aggregate	Gasoli	141538.2102	5144209.705	645868	255613.6238	259695.0211	5144209.705	5287468.043	20.36	MDV	
San Bernardino (SC)	2022	MDV	Aggregate	Aggregate	Diesel	2634.747756	115566.3521	12857	4081.397273		115566.3521				
San Bernardino (SC)	2022	MDV	Aggregate	Aggregate	Electr	829.5186217	27691.98636	4239.476	0		27691.98636				
San Bernardino (SC)	2022	MH	Aggregate	Aggregate	Gasoli	3599.155888	30327.10079	360.0596	5946.31971	7047.71226	30327.10079	41882.48855	5.94	MH	
San Bernardino (SC)	2022	MH	Aggregate	Aggregate	Diesel	1326.593838	11555.38776	132.6594	1101.39255		11555.38776				
San Bernardino (SC)	2022	MHDT	Aggregate	Aggregate	Gasoli	1426.666165	78373.2467	28544.74	15192.67393	104293.6617	78373.2467	1051136.413	10.08	MHDT	0.49799
San Bernardino (SC)	2022	MHDT	Aggregate	Aggregate	Diesel	14492.29473	972763.1661	145806.4	89100.98778		972763.1661				
San Bernardino (SC)	2022	OBUS	Aggregate	Aggregate	Gasoli	409.5822199	18358.32454	8194.921	3596.414899	5628.514468	18358.32454	35953.61331	6.39	OBUS	
San Bernardino (SC)	2022	OBUS	Aggregate	Aggregate	Diesel	235.5339692	17595.28877	2280.101	2032.09957		17595.28877				
San Bernardino (SC)	2022	SBUS	Aggregate	Aggregate	Gasoli	236.4064257	10313.05593	945.6257	1141.902256	4281.325881	10313.05593	34494.49484	8.06	SBUS	
San Bernardino (SC)	2022	SBUS	Aggregate	Aggregate	Diesel	761.8554538	24181.43891	8791.706	3139.423625		24181.43891				
San Bernardino (SC)	2022	UBUS	Aggregate	Aggregate	Gasoli	114.8207422	13058.35426	459.283	1433.837711	1465.519996	13058.35426	13297.88963	9.07	UBUS	
San Bernardino (SC)	2022	UBUS	Aggregate	Aggregate	Diesel	2.896720367	238.2836669	11.58688	31.68228493		238.2836669				
San Bernardino (SC)	2022	UBUS	Aggregate	Aggregate	Electr	0.058469431	1.251702935	0.233878	0		1.251702935				
San Bernardino (SC)	2022	UBUS	Aggregate	Aggregate	Natur	209.2602095	27968.07558	837.0408							

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