Greenhouse Gas Analysis for the Flamingo Bay Apartments Project (PEN22-0029) Moreno Valley, California

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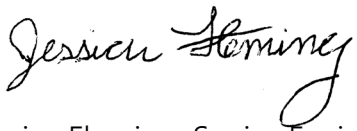

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Acronyms and Abbreviations

2017 Scoping Plan	2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target
AB	Assembly Bill
BAU	business as usual
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Moreno Valley
CO_2	carbon dioxide
COMU	Corridor Mixed Use
EO	Executive Order
GHG	greenhouse gas
GWP	global warming potential
IPCC	Intergovernmental Panel on Climate Change
MMT CO_2E	million metric tons carbon dioxide equivalent
mpg	miles per gallon
MPO	Metropolitan Planning Organizations
MT CO_2E	metric tons of carbon dioxide equivalent
MVU	Moreno Valley Electric Utility
MWh	megawatt-hour
N_2O	nitrous oxide
NO_X	oxides of nitrogen
project	Flamingo Bay Apartments Project
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SP	Service Population
U.S. EPA	U.S. Environmental Protection Agency
WRCOG	Western Riverside Council of Governments

Executive Summary

The Flamingo Bay Apartments Project (project) is located in the central portion of the city of Moreno Valley, California, approximately 4.2 miles east of Interstate 215. The 3.86-acre project site is located on Assessor's Parcel Numbers 484-030-026 and 484-030-013 bounded by Alessandro Boulevard to the north and Copper Cove Lane to the south. The project site is currently undeveloped. The project would develop a 96-unit apartment complex that would consist of four separate buildings, providing a total of 48 one-bedroom apartments and 48 two-bedroom apartments. The project would also provide a 2,588-square-foot clubhouse with an outdoor pool. Access to the project site would be provided via a new driveway connection to Alessandro Boulevard in the northeastern corner of the project site. A new gated emergency access driveway connection to Copper Cove Lane would be provided in the southeastern corner of the project site. The project would also make the following off-site improvements:

- Widen Alessandro Boulevard at the project frontage to the ultimate width on the southern half (67 feet from centerline to right-of-way) and provide two eastbound lanes.
- Widen Copper Cove at the project frontage to the ultimate width on the northern half (30 feet from centerline to right-of-way) and provide one westbound lane.

These off-site improvements would total 0.21 acre, which would increase the total project area to 4.07 acres.

This analysis evaluates the significance of potential greenhouse gas (GHG) emissions impacts that may be generated by the project in accordance with the California Environmental Quality Act (CEQA) and guidance from the City of Moreno Valley (City) and the South Coast Air Quality Management District (SCAQMD). This report evaluates the significance of potential impacts in terms of (1) the project's contribution of GHGs to cumulative statewide emissions, and (2) whether the project would conflict with local and/or state regulations, plans, and policies adopted to reduce GHG emissions.

The City's Climate Action Plan (CAP), adopted in June 2021, is a qualified GHG reduction plan that addresses the SB 32 target of reducing GHG emissions 40 percent below 1990 levels by 2030 and Executive Order S-3-15 target of reducing GHG emissions 80 percent below 1990 levels by 2050. For the purposes of this analysis, the significance of potential impacts are determined by an evaluation of project consistency with the City's CAP through completion of the CAP Consistency Checklist. As demonstrated in this analysis, the project would be consistent with the City's CAP.

Additionally, the project's GHG emissions were calculated and compared to the SCAQMD's *Interim CEQA GHG Significance Threshold*s (SCAQMD 2008). Project emissions are assessed against the 3,000 metric tons of carbon dioxide equivalent (MT CO_2E) screening level. This screening level is intended to exempt projects that are too small to have significant impacts from further analysis. This threshold is based on the concept of establishing a 90 percent GHG emission capture rate. Following rationale presented in the California Air Pollution Control Officers Association guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified capture rate would not impede achievement of the state GHG emissions reduction targets

codified by Assembly Bill 32 (2006) and Senate Bill 32 (2016). Therefore, impacts under CEQA associated with projects with individual annual emissions that are equal to or less than the identified capture rate would be less than cumulatively considerable.

GHG emissions would be generated during construction and operation of the project. Construction activities emit GHGs primarily through the combustion of fuels in on- and off-road equipment and vehicles. Operational emissions include mobile, energy (electricity and natural gas), area (landscape maintenance equipment), water and wastewater, and solid waste sources. As calculated in this analysis, the project would generate 944 MT CO_2E annually, including the amortized construction emissions, which would be less than the 3,000 MT CO_2E screening level. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

Additionally, the project would be consistent with applicable 2017 Scoping Plan and Connect SoCal measures, and is in line with the GHG reductions needed to achieve the 2050 GHG emission reduction targets identified by EO S-3-05. Furthermore, the project would be consistent with the City's CAP. Therefore, the project would not conflict with the City's CAP or an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant.

1.0 Introduction

This report evaluates the significance of potential impacts associated with greenhouse gas (GHG) emissions that would be generated during construction and operation of the Flamingo Bay Apartments Project (project).

1.1 Understanding Global Climate Change

To evaluate the incremental effect of the project on statewide GHG emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem. Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the

amount of heat trapped in the Earth's atmosphere. Recently observed increased concentrations of GHGs in the atmosphere appear to be related to increases in human activity. Therefore, the current cycle of "global warming" is believed to be largely due to human activity. Of late, the issue of global warming, or global climate change, has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is believed that the increased GHG concentrations around the world are related to human activity and the collective of human actions taking place throughout the world, it is quintessentially a global or cumulative issue.

1.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 28; this means that CH_4 has 28 times more effect on global warming than CO_2 on a molecule-by-molecule basis.

The GWP is officially defined as (U.S. Environmental Protection Agency [U.S. EPA] 2010):

> The cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

GHG emissions estimates are typically represented in terms of equivalent metric tons of CO_2 (MT CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

It should be noted that the U.S. EPA and other organizations update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy absorption of one additional ton of a gas relative to another. The GWPs shown in Table 1 are the most current. However, it should be noted that in the California Emissions Estimator Model (CalEEMod), which is the model used in this analysis to calculate emission, CH_4 has a GWP of 25 and nitrous oxide (N_2O) has a GWP of 298, consistent with the 2017 Scoping Plan.

All of the gases in Table 1 are produced by both biogenic (natural) and anthropogenic (human) sources. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the project due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of CH_4 and N_2O would be emitted from the same project operations.

Table 1 Global Warming Potentials and Atmospheric Lifetimes (years)			
Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)	12.4	25/28*	84
Nitrous oxide (N_2O)	121	298/265*	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500
SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2007, 2014. *The CH_4 and N_2O 100-year GWPs included in CalEEMod are 25 and 298, respectively, from the IPCC Fourth Assessment Report. All other values are from the current Fifth Assessment Report.			

2.0 Project Description

The project is located in the central portion of the city of Moreno Valley, California, approximately 4.2 miles east of Interstate 215. The 3.86-acre project site is located on Assessor's Parcel Numbers 484-030-026 and 484-030-013 bounded by Alessandro Boulevard to the north and Copper Cove Lane to the south. The project site is currently undeveloped. Figure 1 shows the regional location of the project site. Figure 2 shows an aerial photograph of the project site and vicinity.

The project would develop a 96-unit apartment complex that would consist of four separate buildings, providing a total of 48 one-bedroom apartments and 48 two-bedroom apartments. The total floor area of all the units within the nine apartment buildings would equal 98,290 square feet. The project would also provide a 2,588-square-foot clubhouse with an outdoor pool. The project would provide a total of 171 parking spaces consisting of 149 assigned parking spaces and 22 unassigned parking spaces, including 6 Americans with Disabilities Act-compliant parking spaces and 18 electric vehicle parking spaces wired for future installation of charging equipment. Access to the project site would be provided via a new driveway connection to Alessandro Boulevard in the northeastern corner of the project site. A new gated emergency access driveway connection to Copper Cove Lane would be provided in the southeastern corner of the project site.

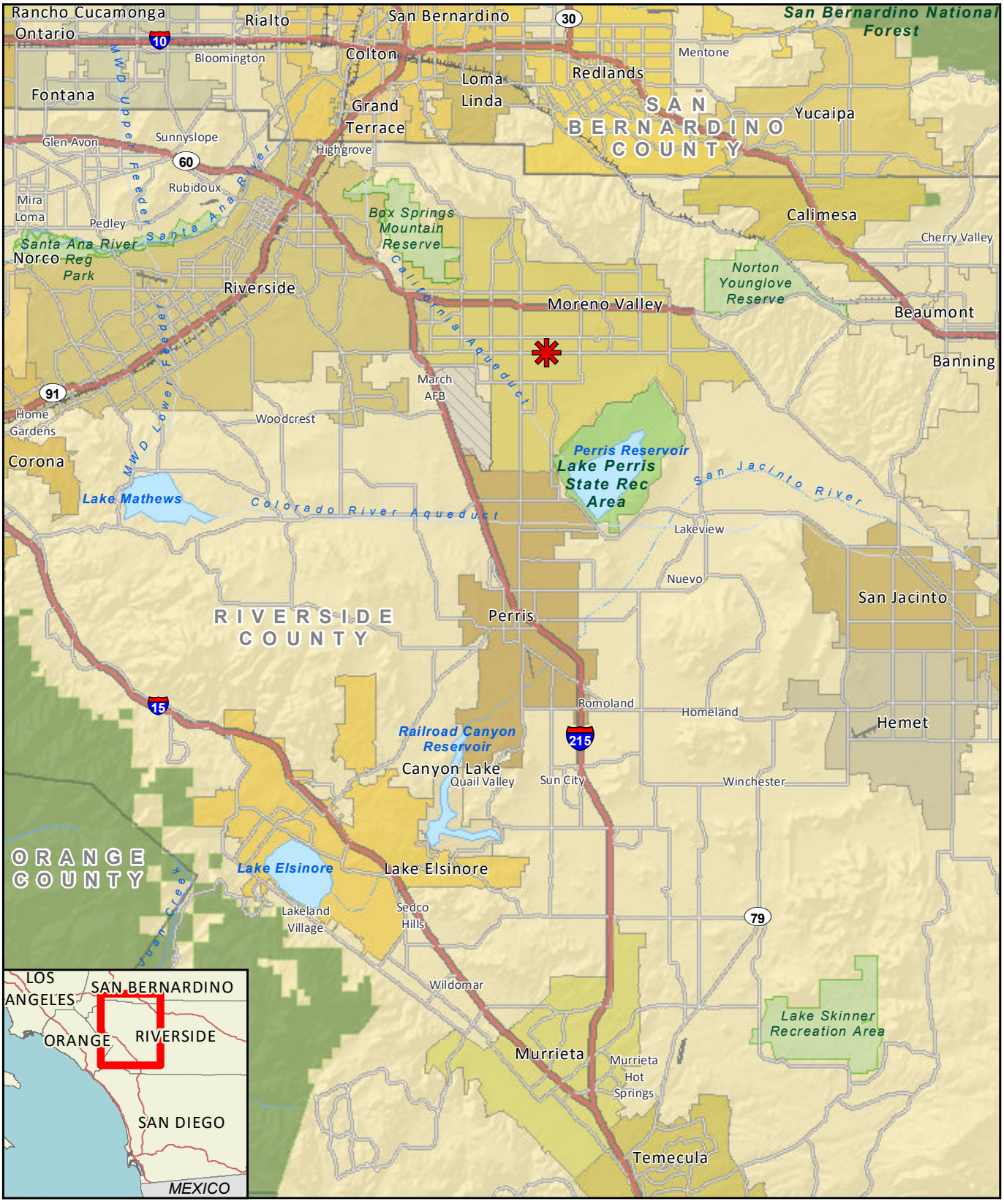

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FIGURE 1
Regional Location

Image Source: NearMap (flown September 2022)

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FIGURE 2
Project Location on Aerial Photograph

The project would also make the following off-site improvements:

- Widen Alessandro Boulevard at the project frontage to the ultimate width on the southern half (67 feet from centerline to right-of-way) and provide two eastbound lanes.
- Widen Copper Cove at the project frontage to the ultimate width on the northern half (30 feet from centerline to right-of-way) and provide one westbound lane.

These off-site improvements would total 0.21 acre, which would increase the total project area to 4.07 acres. Figure 3 shows the proposed site plan.

3.0 Existing Conditions

3.1 Environmental Setting

3.1.1 State GHG Inventory

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of CO_2 equivalent (MMT CO_2E). Table 2 shows the estimated statewide GHG emissions for the years 1990, 2010, 2018, and 2019. Although annual GHG inventory data is available for years 2000 through 2019, the years 1990, 2010, 2018, and 2019 are highlighted in Table 2 because 1990 is the baseline year for established reduction targets, 2010 and 2018 correspond to the same years for which inventory data for the region and the City is available, and 2019 is the most recent data available.

Table 2
California GHG Emissions By Sector

Sector	1990[1] Emissions in MMT CO_2E (% total)[2]	2010[3] Emissions in MMT CO_2E (% total)[2]	2018[3] Emissions in MMT CO_2E (% total)[2]	2019[3] Emissions in MMT CO_2E (% total)[2]
Electricity Generation	110.5 (25.7%)	90.5 (20.2%)	64.3 (15.1%)	59.0 (14.1%)
Transportation	150.6 (35.0%)	170.2 (38.0%)	174.0 (40.8%)	170.3 (40.7%)
Industrial	105.3 (24.4%)	101.3 (22.6%)	100.8 (23.7%)	99.9 (23.9%)
Commercial	14.4 (3.4%)	20.1 (4.5%)	23.9 (5.6%)	24.2 (5.8%)
Residential	29.7 (6.9%)	32.1 (7.2%)	30.5 (7.2%)	33.0 (7.9%)
Agriculture & Forestry	18.9 (4.4%)	33.7 (7.5%)	32.8 (7.7%)	31.8 (7.6%)
Not Specified	1.3 (0.3%)	--	--	--
Total[4]	**430.7**	**447.9**	**426.1**	**418.2**

SOURCE: CARB 2007 and 2021.
[1]1990 data was obtained from the CARB 2007 source and are based on IPCC fourth assessment report GWPs.
[2]Percentages may not total 100 due to rounding.
[3]2010, 2018, and 2019 data was retrieved from the CARB 2021 source and are based on IPCC fourth assessment report GWPs.
[4]Totals may vary due to independent rounding.

Map Source: PROACTIVE Engineering Consultants

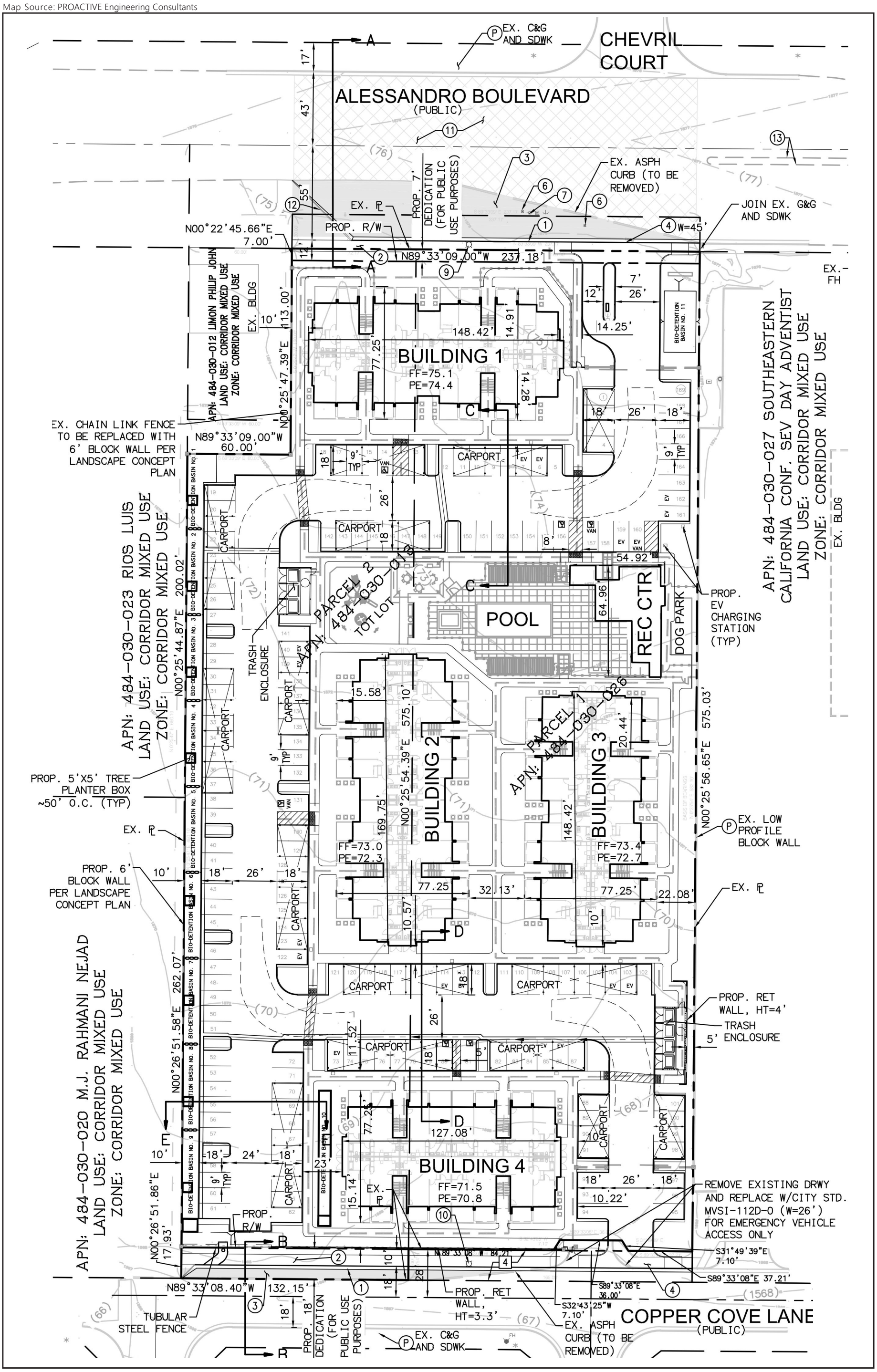

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FIGURE 3
Site Plan

As shown in Table 2, statewide GHG source emissions totaled approximately 431 MMT CO2E in 1990, 448 MMT CO_2E in 2010, 426 MMT CO_2E in 2018, and 418 MMT CO_2E in 2019. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. As shown in Table 2, transportation-related emissions consistently contribute to the most GHG emissions.

3.1.2 Regional GHG Inventory

In September 2014, the Western Riverside Council of Governments (WRCOG) adopted the *Subregional Climate Action Plan* (WRCOG 2014). The plan inventoried existing emissions within western Riverside County and outlines measures to reduce future emissions. The communitywide GHG emissions were calculated using the International Council for Local Environmental Initiatives U.S. Community Protocol. The results of the community inventory for 2010 are summarized in Table 3. Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

Table 3
Western Riverside County GHG Emissions in 2010

Source	2010 Baseline Emissions	
	MT CO_2E	%
Transportation	3,317,387	56.9%
Commercial/Industrial Energy	1,226,479	21.0%
Residential Energy	1,167,843	20.0%
Waste	112,161	1.9%
Wastewater	10,531	0.2%
TOTAL INVENTORY	**5,834,400**	-

SOURCE: WCROG 2014.
Note: Total may vary due to independent rounding.

3.1.3 Local GHG Inventory

A 2018 GHG emissions inventory was conducted in conjunction with preparation of the City's Climate Action Plan (CAP). The inventory covers GHG emissions from ten sectors within the boundaries of the City's Planning Area. The results are summarized in Table 4.

Table 4 Moreno Valley GHG Emissions in 2018		
	2018 Baseline Emissions	
Source	MT CO_2E	%
Transportation	483,063	55.8%
Industrial	19,589	2.3%
Residential	206,790	23.9%
Commercial	100,766	11.6%
Off-Road Equipment	37,784	4.4%
Solid Waste	7,737	0.9%
Wastewater	4,395	0.5%
Water Distribution	2,129	0.2%
Public Services and Lighting	2,219	0.3%
Agriculture	1,938	0.2%
Total	**866,410**	
SOURCE: City of Moreno Valley 2021a.		

3.2 Regulatory Background

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the project.

3.2.1 Federal

The federal government, U.S. EPA, and other federal agencies have many federal level programs and projects to reduce GHG emissions. In June 2012, the Council on Environmental Quality revised the Federal Greenhouse Gas Accounting and Reporting Guidance originally issued in October 2010. The Council on Environmental Quality guidance identifies ways in which federal agencies can improve consideration of GHG emissions and climate change for federal actions. The guidance states that National Environmental Policy Act documents should provide decision makers with relevant and timely information and should consider (1) GHG emissions of a Proposed Action and alternative actions and (2) the relationship of climate change effects to a Proposed Action or alternatives. Specifically, if a Proposed Action would be reasonably anticipated to cause direct emissions of 25,000 MT CO_2E GHG emissions on an annual basis, agencies should consider this as an indicator that a quantitative assessment may be meaningful to decision makers and the public (Council on Environmental Quality 2012).

3.2.1.1 U.S. Environmental Protection Agency

In 2009, the U.S. EPA issued its science-based finding that the buildup of heat-trapping GHGs in the atmosphere endangers public health and welfare. The "Endangerment Finding" reflects the overwhelming scientific evidence on the causes and impacts of climate change. It was made after a

thorough rulemaking process considering thousands of public comments, and was upheld by the federal courts.

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the project is the Energy Star program. Energy Star products such as appliances, building products, heating and cooling equipment, and other energy-efficient equipment will be utilized by the project.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy-efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2020, which provides information on exceptional products which represent the leading edge in energy-efficient products in the year 2020 (U.S. EPA 2020a).

The U.S. EPA also collaborates with the public sector, including states, tribes, localities and resource managers, to encourage smart growth, sustainability preparation, and renewable energy and climate change preparation. These initiatives include the Clean Energy – Environment State Partnership Program, the Climate Ready Water Utilities Initiative, the Climate Ready Estuaries Program, and the Sustainable Communities Partnership (U.S. EPA 2020b).

3.2.1.2 Corporate Average Fuel Economy Standards

The project would generate vehicle trips. These vehicles would consume fuel and would result in GHG emissions. The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. The first phase of the program applied to passenger cars, new light-duty trucks, and medium-duty passenger cars with model years 2012 through 2016, and required these vehicles to achieve a standard equivalent to 35.5 miles per gallon (mpg). The second phase of the program applies to model years 2017 through 2025 and increased the standards to 54.5 mpg. Separate standards were also established for medium- and heavy-duty vehicles. The first phase applied to model years 2014 through 2018 and the second phase applies to model years 2018 through 2027. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

3.2.1.3 Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the U.S. EPA and the National Highway Traffic Safety Administration published the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program* (84 Fed. Reg. 51310). The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On April 30, 2020, the U.S. EPA and National Highway Traffic Safety Administration) published the final *SAFE Vehicles Rule: Part Two* (85 Fed. Reg. 24174). The SAFE Vehicles Rule proposes amended Corporate Average Fuel Economy (CAFE) and Light-Duty Vehicle Greenhouse Gas Emissions Standards. The SAFE Rule relaxed federal GHG emissions and CAFE standards to increase in stringency at only about 1.5 percent per year from

model year 2020 levels over model years 2021 through 2026. The previously established emission standards and related "augural" fuel economy standards would have achieved about 4 percent per year improvements through model year 2025. Part Two of the SAFE Vehicles Rule set amended fuel economy and CO_2 standards for Passenger Cars and Light Trucks for model years 2021 through 2026.

3.2.2 State

The State of California has adopted a number of plans and regulations aimed at identifying statewide and regional GHG emissions caps, GHG emissions reduction targets, and actions and timelines to achieve the target GHG reductions.

3.2.2.1 Executive Orders and Statewide GHG Emission Targets

Executive Order S-3-05

Executive Order (EO) S-3-05 established the following GHG emission reduction targets for the State of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels;
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the secretary of the California Environmental Protection Agency to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and document mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has since been updated every two years.

Executive Order B-30-15

EO B-30-15, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed CARB to update its Climate Change Scoping Plan to address the 2030 goal.

3.2.2.2 California Global Warming Solutions Act

In response to EO S-3-05, the California Legislature passed Assembly Bill 32 (AB) 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also

required CARB to adopt a plan by January 1, 2009 indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

In 2008, CARB estimated that annual statewide GHG emissions were 427 MMT CO_2E in 1990 and would reach 596 MMT CO_2E by 2020 under a business as usual (BAU) condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT CO_2E (or approximate 28.5 percent) reduction in BAU emissions was needed by 2020. In 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. CARB determined that the economic downturn reduced the 2020 BAU by 55 MMT CO_2E; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 (not 28.5) percent from the 2020 BAU. California has achieved its 2020 goal.

Approved in September 2016, Senate Bill (SB) 32 updates the California Global Warming Solutions Act of 2006 and enacts EO B-30-15. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. This is equivalent to an emissions level of approximately 260 MMT CO_2e for 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

3.2.2.3 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan), which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted BAU emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). In November 2017, CARB released the *2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target* (2017 Scoping Plan; CARB 2017). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewables Portfolio Standard (RPS), Sustainable Communities Strategy (SCS), Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands.

3.2.2.4 Regional Emissions Targets – Senate Bill 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a SCS or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan. Southern California Association of

Governments (SCAG) is the region's MPO. In 2018, CARB set targets for the SCAG region of an 8 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020 and a 19 percent reduction by 2035. These targets are periodically reviewed and updated.

3.2.2.5 Renewables Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. SB 350 (2015) increased California's renewable energy mix goal to 50 percent by year 2030. SB 100 (2018) further increased the standard set by SB 350 establishing the RPS goal of 44 percent by the end of 2024, 52 percent by the end of 2027, and 60 percent by 2030.

3.2.2.6 Assembly Bill 341 – Solid Waste Diversion

The Commercial Recycling Requirements mandate that businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of the following in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020.

3.2.2.7 California Code of Regulations, Title 24 – California Building Code

The California Code of Regulations, Title 24, is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to GHG reductions are the CBC's energy efficiency and green building standards as outlined below.

a. Title 24, Part 6 – Energy Efficiency Standards

The California Code of Regulations, Title 24, Part 6 is the California Energy Efficiency Standards for Residential and Nonresidential Buildings (also known as the California Energy Code). This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficient technologies and methodologies as they become available, and incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The current version of the Energy Code, known as 2019 Title 24, or the 2019 Energy Code, became effective January 1, 2020. The Energy Code provides mandatory energy-efficiency measures as well

as voluntary tiers for increased energy efficiency. The California Energy Commission (CEC), in conjunction with the California Public Utilities Commission, has adopted a goal that all new residential and commercial construction achieve zero net energy by 2020 and 2030, respectively. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The compliance reports must demonstrate a building's energy performance through use of CEC approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning; sealing; glazing; insulation; and other components related to the building envelope. The CEC estimates that non-residential buildings will use 30 percent less energy through implementation of the 2019 Energy Code, mainly due to lighting upgrades.

b. Title 24, Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The most recent 2019 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Outdoor water use requirements as outlined in local water efficient landscaping ordinances or current Model Water Efficient Landscape Ordinance standards, whichever is more stringent;
- Requirements for water conserving plumbing fixtures and fittings;
- 65 percent construction/demolition waste diverted from landfills;
- Infrastructure requirements for electric vehicle charging stations;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

Similar to the reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen mandatory requirements must be demonstrated through completion of compliance forms and worksheets.

3.2.3 Local

3.2.3.1 South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency responsible for air quality planning and regulation in the South Coast Air Basin. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the South Coast Air Basin. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans*, which could be applied by lead agencies. The working group met again in 2010 to review the guidance. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach (SCAQMD 2008, 2010):

- Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA).
- Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than Significance Screening Levels, where
    - Residential/Commercial Screening Level
        - Option 1: 3,000 MT CO_2E screening level for all residential/commercial land uses
        - Option 2: Screening level thresholds for land use type acceptable if used consistently by a lead agency:
            - Residential: 3,500 MT CO_2E
            - Commercial: 1,400 MT CO_2E
            - Mixed-Use: 3,000 MT CO_2E
    - 10,000 MT CO_2E is the Permitted Industrial Screening Level
- Tier 4 – The project achieves performance standards, where performance standards may include:
    - Option 1: Percent emission reduction target. SCAQMD has no recommendation regarding this approach at this time.

  - Option 2: The project would implement substantial early implementation of measures identified in the CARB's Scoping Plan. This option has been folded into Option 3.
  - Option 3: SCAQMD Efficiency Targets.
    - 2020 Targets: 4.8 MT CO_2E per service population (SP) for project-level analyses or 6.6 MT CO_2E per SP for plan level analyses where service population includes residential and employment populations provided by a project.
    - 2035 Targets: 3.0 MT CO_2E per SP for project-level analyses or 4.1 MT CO_2E per SP for plan level analyses.

- Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

If a project complies with any one of these tiers, its impacts related to GHG emissions would be considered less than significant.

The SCAQMD's interim thresholds used the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the EO's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 parts per million, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

3.2.3.2 Southern California Association of Governments

In September 2020, SCAG adopted Connect SoCal, the 2020-2045 RTP/SCS South Coast Air Basin. The Connect SoCal plan identifies that land use strategies that focus on new housing and job growth in areas with a variety of destinations and mobility options would support and complement the proposed transportation network. The overarching strategy in Connect SoCal is to provide for a plan that allows the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk, bike, and pursue other forms of active

transportation; and preserve more of the region's remaining natural lands and farmlands (SCAG 2020). The Connect SoCal plan contains transportation projects to help more efficiently distribute population, housing, and employment growth as well as projected development that promotes active transport and reduces GHG emissions.

3.2.3.3 City of Moreno Valley

a. General Plan

The City's 2040 General Plan (City of Moreno Valley 2021b) includes various goals and policies designed to help reduce GHG emissions in the City and adapt to climate hazards. The 2040 General Plan includes key goals to increase the use of public transit, improve traffic congestion, and enhance the range of transportation options in the City and reduce vehicle miles travelled, thereby reducing mobile emissions and reduce emissions. The Open Space and Resource Conservation Element contains policies and actions aimed at increasing energy efficiency and reducing water use and solid waste generation. The Safety Element contains the following policies related to climate adaptation:

- S.3-1: Continue to collaborate in regional climate action planning initiatives.
- S.3-2: Partner with local utilities, regional agencies, and local jurisdictions to assess the vulnerability of energy infrastructure and identify improvements that increase resilience of local energy infrastructure.
- S.3-3: Consider climate impacts, risk, and uncertainty in designing and evaluating capital improvement program design and adjust infrastructure design standards and project locations to address asset- and site-specific vulnerabilities.
- S.3-4: Employ best practices and protocols for outdoor safety on City operations and projects to accommodate City staff and City contractors during high temperature days and heat waves.
- S.3-5: Expand access to and awareness of cooling centers and resilience hubs throughout the city, especially for outdoor workers, seniors, and the homeless and other vulnerable populations.
- S.3-6: Encourage the use of landscaping, building materials, and site design techniques that provide passive cooling and reduce energy demand. In particular, promote the use of voluntary measures identified in the California Green Building Code (Title 24, Part 11 of the California Code of Regulations) to minimize heat island effects, including hardscape and roof materials with beneficial solar reflectance and thermal emittance values and measures for exterior wall shading.
- S.3-7: Require new development to provide and maintain shade trees suitable to local climatic conditions. A climate-appropriate strategy may involve planting mostly drought-tolerant native trees that may have less foliage, interspersed with leafier trees at points where people gather.

- S.3-8: Assess the feasibility of implementing urban heat island mitigation technologies in public gathering places, including UV-reflective materials and coatings, porous pavement, evaporative cooling towers, or other technologies that can reduce surface and air temperature and mitigate for the effects of extreme heat.
- S.3-9: Use the Alert MoVal system to notify residents by phone, text, or email of extreme weather conditions such as heat waves, and the availability of shelters, cooling centers, and resilience hubs.
- S.3-10: Encourage maintenance or removal of overgrown or dead trees that may pose a falling hazard in windy conditions.

Additionally, concurrent with the adoption of the 2040 General Plan, the City adopted a CAP (City of Moreno Valley 2021a). The CAP includes a number GHG reduction goals that would also reduce emission of criteria pollutants.

b. Climate Action Plan

The City's CAP was adopted in June 2021 (City of Moreno Valley 2021a). The proposed CAP is designed to reinforce the City's commitment to GHG emissions, and demonstrate how the City will comply with the state of California's GHG emission reduction standards. The CAP addresses the SB 32 target of reducing GHG emissions 40 percent below 1990 levels by 2030 and EO S-3-15 target of reducing GHG emissions 80 percent below 1990 levels by 2050. The GHG emission targets established in the CAP are based on the goals established by EO S-3-15 and SB 32, consistent with the CAP guidelines established in the 2017 Scoping Plan. The horizon year for analysis in the CAP is 2040. Thus, the CAP includes targets of 6 MT CO_2E per capita per year by 2030 and 4 MT CO_2E per capita per year by 2040 (derived from the Scoping Plan target of 2 MT CO_2E per capita per year in 2050). The proposed 2040 target of 4 MT CO_2E per capita per year is determined using a linear trajectory in emissions reduction between 2030 and 2050. Pursuant with CEQA Guidelines Section 15183.5(b), the CAP is considered a qualified GHG reduction strategy that will allow developments to tier off and streamline the GHG analyses under CEQA. In addition, the CAP includes a consistency checklist for project-level tiering purposes.

4.0 Significance Criteria and Analysis Methodologies

4.1 Determining Significance

Based on the CEQA Guidelines Appendix G, impacts related to GHG emissions would be significant if the project would:

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

The CEQA Guidelines allow lead agencies to establish significance thresholds for their respective jurisdictions. These significance thresholds may be adopted after considering thresholds of significance adopted or recommended by other public agencies or experts.

According to CEQA Guidelines Section 15183.5, projects can tier off of a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. As mentioned under Section 3.2.3.3(b), the City has adopted a qualified CAP. For the purposes of this analysis the project's significance is determined by consistency with the CAP, which is consistent with the 2017 Scoping Plan and emission reduction targets per SB 32. GHG emissions associated with the project would be less than significant if the project is consistent with the CAP Consistency Checklist, which is included as Attachment 1.

For further support, the GHG emissions associated with the project were calculated and compared to the SCAQMD screening threshold. The SCAQMD published its Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans in 2008 (SCAQMD 2008, 2010). The interim thresholds are a tiered approach; projects may be determined to be less than significant under each tier or require further analysis under subsequent tiers. The five tiers are discussed in Section 3.2.3.1. Consistent with the SCAQMD guidance, the recommended tiered approach for land use development projects in SCAQMD jurisdiction is assessment against the applicable screening levels. The SCAQMD screening threshold of 3,000 MT CO_2E was used. This screening level is intended to exempt projects that are too small to have significant impacts from further analysis. Emissions from all construction and operational sources were calculated and compared to the screening threshold.

4.2 Calculation Methodology

The project's GHG emissions were calculated using the CalEEMod Version 2020.4.0 (California Air Pollution Control Officers Association [CAPCOA] 2021). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects based on California-specific emission factors. CalEEMod can be used to calculate emissions from mobile (on-road vehicles), area (landscape maintenance equipment), water and wastewater, and solid waste sources. GHG emissions are estimated in terms of total MT CO_2E.

The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod User's Guide (CAPCOA 2021). Operational emissions were calculated for the projected soonest project operational year of 2024.

4.2.1 Construction Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in water use for fugitive dust control.

Every phase of the construction process, including demolition, grading, paving, and building, emits GHGs in volumes directly related to the quantity and type of construction equipment used when building the project. GHG emissions associated with each phase of project construction are calculated by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors.

Primary inputs are the numbers of each type of equipment and the length of each construction stage. Construction is anticipated to begin in January 2023 and last approximately 13 months. This is conservative since implementation of CARB regulations for off-road equipment would result in cleaner construction equipment over time. CalEEMod can estimate the required construction equipment. The estimates are based on surveys, performed by the SCAQMD and the Sacramento Metropolitan Air Quality Management District of typical construction projects, which provide a basis for scaling equipment needs and schedule with a project's size. GHG emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters. Project emissions were modeled for the following stages: site preparation, grading, building construction, paving, and architectural coatings. CalEEMod default construction equipment and usage was modeled. Table 5 summarizes the modeled construction parameters.

Table 5
Construction Phases and Equipment

Equipment	Quantity	Daily Operation Time (Hours)
Site Preparation (5 days)		
Rubber Tired Dozers	3	8
Tractors/Loaders/Backhoes	4	8
Grading (8 days)		
Excavators	1	8
Graders	1	8
Rubber Tired Dozers	1	8
Tractors/Loaders/Backhoes	3	8
Building Construction (230 days)		
Cranes	1	7
Forklifts	3	8
Generator Sets	1	8
Tractors/Loaders/Backhoes	3	7
Welders	1	8
Paving (18 days)		
Cement and Mortar Mixers	2	6
Pavers	1	8
Paving Equipment	2	6
Rollers	2	6
Tractors/Loaders/Backhoes	1	8
Architectural Coatings (18 days)		
Air Compressor	1	6
NOTE: Each phase would also include vehicles associated with work commutes, dump trucks for hauling, and trucks for deliveries.		

Based on guidance from the SCAQMD, total construction GHG emissions resulting from a project should be amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

4.2.2 Mobile Emissions

GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines. The vehicle emissions are calculated based on the vehicle type and the trip rate for each land use. Mobile source operational emissions are based on the trip rate, trip length, and vehicle mix. Based on the ITE Trip Generation Manual, 11th Edition, the project would generate 6.74 weekday trips per unit for a total of 647 daily weekday trips (K2 Traffic Engineering, Inc. 2022). Weekend trip generation rates were calculated by proportionately adjusting the default CalEEMod trip rates. CalEEMod default trip lengths were modeled.

4.2.3 Energy Use Emissions

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are emitted during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in association with a building's overall operation. Electric power generation accounts for the second largest sector contributing to both inventoried and projected statewide GHG emissions. Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building, it is considered a direct emissions source associated with the building. CalEEMod estimates emissions from the direct combustion of natural gas for space and water heating.

CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and non-residential energy consumption by the quantities of residential units and non-residential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the project location and utility provider.

Energy consumption values are based on the CEC sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies, which identify energy use by building type and climate zone. CalEEMod Version 2020.4.0 estimates the building energy use based on the application of the 2005, 2008, 2013, 2016, and 2019 standards.

Electricity would be provided to the project by Moreno Valley Electric Utility (MVU). Therefore, MVU's specific energy-intensity factors (i.e., the amount of CO_2, CH_4, and oxides of nitrogen [NO_X] per kilowatt-hour) are used in the calculations of GHG emissions. CalEEMod Version 2020.4.0 does not have energy-intensity factors for MVU. Energy-intensity factors for MVU were obtained from CalEEMod Version 2022.1 (CAPCOA 2022). Statewide RPS goals are summarized in Section 3.2.2.5.

4.2.4 Area Source Emissions

Area sources include GHG emissions that would occur from the use of landscaping equipment. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. The

landscaping equipment emission values were derived from the 2011 In-Use Off-Road Equipment Inventory Model (CARB 2011).

4.2.5 Water and Wastewater Emissions

The Eastern Municipal Water District would provide water to the project site. The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both CH_4 and N_2O.

The indoor and outdoor water use consumption data for each land use subtype comes from the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California 2003* (as cited in CAPCOA 2021). Based on that report, a percentage of total water consumption was dedicated to landscape irrigation, which is used to determine outdoor water use. Wastewater generation was similarly based on a reported percentage of total indoor water use (CAPCOA 2021).

4.2.6 Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery (CalRecycle). The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method, using the degradable organic content of waste. GHG emissions associated with the project's waste disposal were calculated using these parameters. According to a CalRecyle report to the Legislature, as of 2013 California has achieved a statewide 50 percent diversion of solid waste from landfills through "reduce/recycle/compost" programs (CalRecycle 2015). However, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020. However, as a conservative analysis, emissions were calculated using default solid waste generation rates with no additional waste diversion.

5.0 GHG Emission Calculations

Based on the methodology summarized in Section 4.2, the primary sources of direct and indirect GHG emissions have been calculated. Table 6 summarizes the total construction emissions. Table 7 summarizes the total GHG emissions associated with the project. The complete model outputs for the project are included in Attachment 2.

Table 6 Construction GHG Emissions	
Year	Construction GHG Emissions (MT CO_2E)
2023	437
2024	5
Total GHG Emissions	**442**
Amortized Over 30 Years	**15**

Table 7 Project GHG Emissions	
Source	Project GHG Emissions (MT CO_2E)
Mobile	714
Energy Source	157
Area Sources	2
Water/Wastewater Sources	34
Solid Waste Sources	22
Construction (Amortized over 30 years)	15
Total	**944**
SCAQMD Significance Threshold	*3,000*

As shown in Table 7, project emissions would be less than the SCAQMD screening threshold of 3,000 MT CO_2E.

6.0 GHG Impact Analysis

1. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

A project that complies with a qualified GHG reduction strategy would be considered to have less than significant impact related to GHG emissions. As discussed in Section 4.1, the CAP meets the criteria for a qualified GHG reduction strategy. The CAP includes a CAP Consistency Checklist to demonstrate if new developments are consistent with reduction strategies from the City's CAP The purpose of the checklist is to streamline project-level CEQA requirements by identifying clear GHG reduction strategies that all new developments would need to implement for compliance with the GHG reduction strategies. If a project meets the checklist criteria, then it would be considered to have a less than significant impact related to GHG emissions. Table 8 demonstrated the project's consistency with the CAP checklist. Refer to Attachment 1 for the full checklist.

Table 8 Project Consistency with Moreno Valley Climate Action Plan	
Goals, Targets, Policies	Project Consistency
General Plan Consistency	
Are the proposed land uses in the project consistent with the existing 2040 General Plan land use and zoning designations?	The project site is zoned Corridor Mixed Use (COMU) and is designated COMU in the 2040 General Plan. The project proposes the construction of 96 multi-family residential units, which would be consistent with the COMU zoning and land use designation.
CAP Measures Consistency	
If the project includes new residential, commercial, and/or mixed-use development, would the project implement trip reduction programs? (Examples of residential trip reduction programs, or transportation demand management (TDM) strategies include, among others, installing and maintaining on-site bicycle parking; providing designated parking spaces for car share operations; offering an annual carshare membership to building residents or employees; posting wayfinding signage near major entrances directing building users to bus stops, bicycle facilities, car sharing kiosks, and other alternative travel options; and unbundling the price of parking from rents or sale of units.)	The project would include on-site bicycle parking and electric vehicle parking. The project would include 171 parking spaces and 18 (10 percent) would be electric vehicle capable. Additionally, trips would be reduced through the use of public transit. The project would construct a high-density residential use adjacent to an existing transit route along Alessandro Boulevard immediately adjacent to the project site. Riverside Transit Agency Route 20 provides service to major destinations including Moreno Valley College southeast of the project site, the Riverside University Health System Medical Center east of the project site, commercial and retail uses along Alessandro Boulevard, and the Metrolink Moreno Valley/March Field Station west of the project site. The Metrolink 91 Perris Line provides transportation between Perris Valley and Los Angeles Union Station, and connects to other Metrolink lines that provide transportation throughout the greater region.
For projects including new construction or major remodeling of residential development, does the project include installation of real-time energy smart meters?	The project would include installation of real-time energy smart meters.
During project construction, will clear signage reminding construction workers to limit idling of construction equipment provided?	Clear signage would be provided reminding construction workers to limit idling of construction equipment.
During project construction, will the project limit construction-related GHG emissions through one or more of the following measures: substituting electrified or hybrid equipment for diesel/gas powered equipment; using alternative-fueled equipment on-site; and avoiding use of on-site diesel/gas powered generators?	The project site would be provided with temporary electrical power during construction, and no on-site diesel/gas powered generators would be used.
For any new landscaping to be included as part of the project, does the project incorporate climate-appropriate, water-wise landscaping features, such as those identified in the *County of Riverside Guide To California Friendly Landscaping*.	The project would incorporate climate-appropriate, water-wise landscaping features that are identified in the *County of Riverside Guide to California Friendly Landscaping*. The project's landscaping would be consistent with the Model Water Efficient Landscape Ordinance, as well as all City landscaping ordinance requirements specified in Section 9.17.030 of the Municipal Code. This includes drought-resistant plantings and water-efficient irrigation systems.

Table 8 Project Consistency with Moreno Valley Climate Action Plan	
Goals, Targets, Policies	Project Consistency
Voluntary CAP Measures Consistency	
The CAP establishes a citywide target of increasing alternatives to single-occupant vehicle use by 10 percent for people employed in Moreno Valley by 2040. If the project involves a business with over 50 employees or tenants with such businesses, will the project implement Transportation Demand Management strategies and programs identified in Connect SoCal, the SCAG Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS), including but not limited to: implementing commuter benefit programs, promoting telecommuting and alternative work schedule options, and other financial incentives?	The project is residential and does not include more than 50 employees.
If the project includes new multi-family residential and/or mixed-use development, will the project reduce the need for external trips by providing useful services/facilities on-site (Examples include an ATM, vehicle refueling, electric vehicle infrastructure, and shopping)?	The project would include on-site amenities including a clubhouse, pool, dog park, and tot lot. The project would not include on-site shopping. However, the project would construct a high-density residential use adjacent to an existing transit route along Alessandro Boulevard immediately adjacent to the project site. Riverside Transit Agency Route 20 provides service to major destinations including commercial and retail uses along Alessandro Boulevard.
If the project includes new industrial facilities or involves the expansion of existing industrial facilities, will the project include energy efficient building operations systems to support the citywide goal of a 40 percent energy reduction in 30 percent of industrial square footage by 2040?	The project is residential and does not include industrial uses.
If the project includes industrial or warehousing facilities, will the project install solar energy infrastructure to support the City's goal of providing 25 percent of energy needs with solar in 30 percent of industrial and warehouse square footage by 2040?	The project is residential and does not include industrial or warehousing facilities.
Will the project use water efficient lawn and garden maintenance equipment, or reduce the need for landscaping maintenance through drought-resistant planting?	The project would incorporate climate-appropriate, water-wise landscaping features that are identified in the County of Riverside Guide to California Friendly Landscaping. The project's landscaping would be consistent with the Model Water Efficient Landscape Ordinance, as well as all City landscaping ordinance requirements specified in Section 9.17.030 of the Municipal Code. This includes drought-resistant plantings and water-efficient irrigation systems.

Additionally, as shown in Table 5, construction and operation of the project would generate 944 MT CO_2E annually, which would be less than the applicable SCAQMD screening level of 3,000 MT CO_2E. Therefore, the project would not generate GHG emissions, either directly or

indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

2. *Would the project conflict with the City's CAP or an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs?*

State Plans

As discussed in Section 3.2.2, State Climate Change Regulations, EO S-3-05 established GHG emission reduction targets for the state, and AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target. As discussed under threshold one above, the project would be consistent with the City's CAP, which is a qualified GHG reduction plan that is consistent with the 2017 Scoping Plan and emission reduction targets per SB 32. Because the project would be consistent with the CAP, it would not conflict with the Scoping Plan or SB 32. Furthermore, project GHG emissions would be below the screening level of 3,000 MT CO_2E. This threshold is based on the concept of establishing a 90 percent GHG emission capture rate. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, which includes analyzing feasible alternatives and imposing feasible mitigation measures. The market capture rate is based on guidance from the CAPCOA report *CEQA & Climate Change*, dated January 2008, which identifies several potential approaches for assessing a project's GHG emissions (CAPCOA 2008). Following the market capture rate approach, a lead agency defines an acceptable capture rate and identifies the corresponding emissions level. Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified market capture rate would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016). Therefore, impacts under CEQA associated with projects with individual annual emissions that are equal to or less than the identified capture rate would be less than cumulatively considerable. A 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions.

Furthermore, project emissions would decline beyond the buildout year of the project, 2024, as a result of continued implementation of federal, state, and local reduction measures such as increased federal and state vehicle efficiency standards, and MVU's increased renewable sources of energy in accordance with RPS goals. Based on currently available models and regulatory forecasting, project emissions would continue to decline through at least 2050. Given the reasonably anticipated decline in project emissions, once fully constructed and operational, the project is in line with the GHG reductions needed to achieve the 2050 GHG emission reduction targets identified by EO S-3-05.

As noted in Section 3.2.2.3, the 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, RPS, Sustainable Communities Strategy, Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. The project would comply with all applicable provisions

contained in the 2017 Scoping Plan since the adopted regulations would apply to new development or the emission sectors associated with new development.

- Transportation – State regulations and 2017 Scoping Plan measures that would reduce the project's mobile source emissions include the California Light-Duty Vehicle GHG Standards (AB 1493/Pavley I and II), and the Low Carbon Fuel Standard, and the heavy-duty truck regulations. These measures are implemented at the state level and would result in project-related mobile source GHG emissions.

- Energy – State regulations and 2017 Scoping Plan measures that would reduce the project's energy-related GHG emissions include RPS (see Section 3.2.2.5), Title 24 Energy Efficiency Standards (see Section 3.2.2.7a), and CALGreen (see Section 3.2.2.7b). The project would be served by MVU, which has an Integrated Resource Plan (MVU 2018) that identifies how it will achieve 44 percent renewables by 2024. The project's energy related GHG emissions would decrease as MVU increases its renewables procurement towards the 2030 goal of 60 percent.

- Water – State regulations and 2017 Scoping Plan measures that would reduce the project's electricity consumption associated with water supply, treatment, and distribution, and wastewater treatment include RPS, CALGreen, and the Model Water Efficient Landscape Ordinance. The project would also be subject to all City landscaping ordinance requirements specified in Section 9.17.030 of the Municipal Code.

- Waste – State regulations and 2017 Scoping Plan measures that would reduce the project's solid waste-related GHG emissions are related to landfill methane control, increases efficiency of landfill methane capture, and high recycling/zero waste. The project would be subject to CALGreen, which requires a diversion of construction and demolition waste from landfills. Additionally, the project would include recycling storage and would divert waste from landfills in accordance with AB 341.

Therefore, the project would not conflict with an applicable state plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and impacts would be less than significant.

Regional Plans

In addition to being consistent with the CAP and meeting the SCAQMD screening thresholds, the project was evaluated for consistency with the SCS strategies contained in Connect SoCal. As discussed in Table 9 below, the project would be consistent with applicable Connect SoCal strategies, particularly by constructing a high density residential use adjacent to existing transit. Therefore, the project would not conflict with an applicable regional plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and impacts would be less than significant.

Table 9 Project Consistency with Connect SoCal Strategies	
	Project Consistency
Focus Growth Near Destinations and Mobility Options	
• Emphasize land use patterns that facilitate multimodal access to work, educational, and other destinations. • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets. • Plan for growth near transit investments and support implementation of first/last mile strategies. • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses. • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods. • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations). • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking).	The project would be consistent with Connect SoCal's strategies to focus growth near destinations and mobility options. The project site is currently undeveloped. The project would construct a high-density residential use adjacent to an existing transit route. Riverside Transit Agency Route 20 is located along Alessandro Boulevard immediately adjacent to the project site. Route 20 provides service to major destinations including Moreno Valley College southeast of the project site, the Riverside University Health System Medical Center east of the project site, commercial and retail uses along Alessandro Boulevard, and the Metrolink Moreno Valley/March Field Station west of the project site. The Metrolink 91 Perris Line provides transportation between Perris Valley and Los Angeles Union Station, and connects to other Metrolink lines that provide transportation throughout the greater region. The project would therefore be consistent with these strategies by accommodating new residential growth near a transit route that provides access to commercial and job centers.
Promote Diverse Housing Options	
• Preserve and rehabilitate affordable housing and prevent displacement. • Identify funding opportunities for new workforce and affordable housing development. • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions.	The project would support this strategy by providing much needed housing to the region.
Leverage Technology Innovations	
• Promote low emission technologies such as neighborhood electric vehicles, shared ride hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space. • Improve access to services through technology, such as telework and telemedicine as well as other incentives such as a mobility wallet. • Identify ways to incorporate micro-power grids in communities, for example solar energy, hydrogen fuel cell power storage and power generation.	These strategies are not directly applicable to the project. The project would not interfere with SCAG's efforts to promote low emission technologies, improve access to telework and telemedicine, or incorporate micro-power grids in communities.

Table 9 Project Consistency with Connect SoCal Strategies	
	Project Consistency
Support Implementation of Sustainable Policies	
• Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions. • Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations. • Support local jurisdictions in the establishment of EIFDs, CRIAS, or other tax increment or value capture tools to finance sustainable infrastructure and development projects including parks and open space. • Work with local jurisdictions/communities to identify opportunities and assess barriers for implementing sustainability strategies. • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region. • Continue to support long range planning efforts by local jurisdictions. • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy.	These strategies are not directly applicable to the project. The project would not interfere with SCAG's efforts to work with local jurisdictions, communities, and other planning organizations to implement sustainable policies. The project would result in less than significant GHG emissions and would be located near high-quality transit.
Promote a Green Region	
• Support development of local climate adaptation and hazard mitigation plans as well as project implementation that improves community resiliency to climate change and natural hazards. • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration. • Integrate local food production into the regional landscape. • Promote more resource efficient development focused on conservation, recycling and reclamation. • Preserve, enhance and restore regional wildlife connectivity. • Reduce consumption of resource areas, including agricultural land. • Identify ways to improve access to public park space.	Strategies regarding climate adaptation, food production, wildlife connectivity, agricultural lands, and park space are not applicable to the project. The project would be served by MVU, which has an Integrated Resource Plan that identifies how it will achieve 44 percent renewables by 2024. The project's energy-related GHG emissions would decrease as MVU increases its renewables procurement beyond 2020 towards the 2030 goal of 60 percent.

Local Plans

As discussed under threshold one above, the project would be consistent with the City's CAP. Therefore, the project would not conflict with an applicable local plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and impacts would be less than significant.

7.0 Conclusions

GHG emissions would be generated during construction and operation of the project. Construction activities emit GHGs primarily though the combustion of fuels in on- and off-road equipment and vehicles. Operational emissions include mobile, energy (electricity and natural gas), area (landscape maintenance equipment), water and wastewater, and solid waste sources. The City's CAP, adopted in June 2021, is a qualified GHG reduction plan that addresses the SB 32 target of reducing GHG emissions 40 percent below 1990 levels by 2030 and EO S-3-15 target of reducing GHG emissions 80 percent below 1990 levels by 2050. For the purposes of this analysis, the project's significance is determined by consistency with the CAP through completion of the CAP Consistency Checklist. As shown in Table 9, the project would be consistent with the CAP.

Additionally, GHG emission associated with construction and operation of the project were calculated and compared to the SCAQMD annual screening threshold of 3,000 MT CO_2E. This threshold is based on the concept of establishing a GHG emission market capture rate. Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified market capture rate would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016), and impacts under CEQA would, therefore, be less than cumulatively considerable. As shown in Table 7, the project would generate 944 MT CO_2E annually, which would be less than the 3,000 MT CO_2E screening level. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

Additionally, the project would be consistent with applicable 2017 Scoping Plan and Connect SoCal measures, and is in line with the GHG reductions needed to achieve the 2050 GHG emission reduction targets identified by EO S-3-05. Furthermore, the project would be consistent with the City's CAP. Therefore, the project would not conflict with the City's CAP or an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant.

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ATTACHMENTS

ATTACHMENT 1

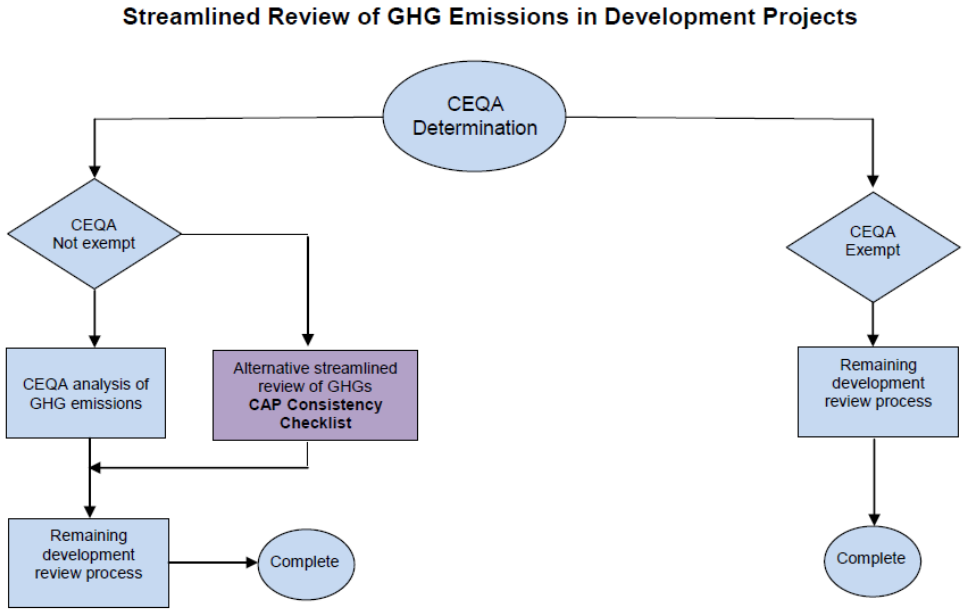
CAP Consistency Checklist

City of Moreno Valley
Climate Action Plan Consistency Checklist

The purpose of the Climate Action Plan Consistency Checklist (CAP Consistency Checklist) is to provide a streamlined review process for proposed new development projects which are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).

CEQA Guidelines require the analysis of greenhouse gas (GHG) emissions and potential climate change impacts from new development. The Moreno Valley Climate Action Plan qualifies under section 15183.5 of the CEQA Guidelines as a plan for the reduction of GHG emissions for use in cumulative impact analysis pertaining to development projects. This allows projects that demonstrate consistency with the CAP to be eligible for this streamlining procedure. Projects that demonstrate consistency with the CAP and the Moreno Valley 2040 General Plan may be able to answer "No additional significant environmental effect" in the City's initial study checklist. Projects that do not demonstrate consistency may, at the City's discretion, prepare a more comprehensive project-specific analysis of GHG emissions consistent with CEQA requirements.

The diagram below shows the context for the CAP Consistency Review Checklist within the planning review process framework.



Section A: Application Information

This Checklist is required only for discretionary projects that are subject to and not exempt from CEQA. In this context, a project is any action that meets the definition of a "Project" in Section 15378 of the State CEQA Guidelines. Projects that are exempt from CEQA are deemed to be consistent with the City's CAP, and no further review is necessary, with the exception of a Class 32 "In-Fill Development Projects" categorical exemption (State CEQA Guidelines Section 15332), for which projects are required to demonstrate consistency with the CAP through this Checklist.

This Checklist is designed to assist the applicant and the City in identifying the minimum CAP-related requirements specific to the proposed project. However, the final determination of a project's consistency with the Checklist will be made by City staff. As a result, it may be necessary to supplement the completed Checklist with supporting materials, calculations, or certifications to demonstrate full compliance with the Checklist requirements.

Projects required to complete this Checklist must first provide the following information:

CONTACT INFORMATION

Project Number: PEN22-0029 Flamingo Bay

Address of Property and APN: APNs 484-030-013 and 484-030-026

Applicant Name and Company: Deborah Hull, Empire Construction Management

Contact Phone: (951) 498-4939

Contact Email: dhull@EmpireCMinc.com

Was a special consultant retain to complete this checklist? ☒ Yes ☐ No. If yes, complete the following.

Consultant Name: Jessica Fleming

Company Name: RECON Environmental

Contact Phone: (619) 308-9333 ext. 177

Contact Email: jfleming@reconenvironmental.com

PROJECT INFORMATION

What is the size of the project (acres)? 3.86-acre project site, 0.21-acre off-site improvements, 4.07 acres total

Identify all applicable proposed land uses:

☐ Single-family residential (indicate # of single-family dwelling units):

☒ Multifamily residential (indicate # of multi-family dwelling units): 96 units

☐ Commercial (indicate total square footage):

☐ Industrial (indicate total square footage):

☐ Other (describe use and indicate size):

Provide a description of the proposed project. This description should match the basic project description used for the CEQA document. The description may be attached to the Checklist if there are space constraints.

The proposed project is located at the central portion of Moreno Valley approximately 4.2 miles east of Interstate 215 (I-215). The project site consists of approximately 3.86 acres located on Assessor's Parcel Number (APN) 484-030-026 and 484-030-013. The project site is currently undeveloped. The project site is zoned Corridor Mixed Use (COMU) and is designated as COMU.

The project would develop a 96-unit apartment complex that would consist of four separate buildings, providing a total of 48 one-bedroom apartments and 48 two-bedroom apartments. The total floor area of all the units within the nine apartment buildings would equal 98,290 square feet. The project would also provide a 2,588-square-foot clubhouse with an outdoor pool. The project would provide a total of 171 parking spaces consisting of 149 assigned parking spaces and 22 unassigned parking spaces, including 6 Americans with Disabilities Act-compliant parking spaces and 18 electric vehicle parking spaces wired for future installation of charging equipment. Access to the site would be provided via a new driveway connection to Alessandro Boulevard in the northeastern corner of the project site. A new gated emergency access driveway connection to Copper Cove Lane would be provided in the southeastern corner of the project site. The project would also make the following off-site improvements:

- Widen Alessandro Boulevard at the project frontage to the ultimate width on the southern half (67 feet from centerline to right-of-way) and provide two eastbound lanes.
- Widen Copper Cove at the project frontage to the ultimate width on the northern half (30 feet from centerline to right-of-way) and provide one westbound lane.

These off-site improvements total 0.21 acre, which would increase the total project area to 4.07 acres.

Section B: General Plan Land Use Consistency

The first step in determining CAP consistency for a discretionary development project is to assess the project's consistency with the land use assumptions in the City's General Plan and zoning designations, which were used to calculate the future GHG emissions forecasts and targets for the CAP. If the proposed project is consistent with applicable General Plan and zoning designations, the proposed project may be determined to be within the scope of emissions covered under the CAP. If General Plan and zoning designation consistency is demonstrated, the project would still need to demonstrate consistency with all applicable required measures in the CAP Checklist.

If the project is not consistent with the existing General Plan and zoning designations, it is still possible that the land use changes required for the project would be small enough to remain consistent with the growth projections used in the CAP. The questions below must be completed, as applicable, to determine whether the project is consistent with the City's General Plan and zoning designations and related GHG emissions forecasts and targets.

1. Are the proposed land uses in the project consistent with the existing 2040 General Plan land use and zoning designations? *If "Yes," questions 2 and 3 below are not applicable and the project shall proceed to Section C of the checklist.* *If "No," proceed to question 2 below.*	Yes ☒	No ☐
2. Is a General Plan amendment and/or rezoning required for the project? *If "No," question 3 below is not applicable and the project shall proceed to Section C of the checklist.* *If "Yes," proceed to question 3 below.*	Yes ☐	No ☐
3. If the proposed project is not consistent with the 2040 General Plan land use or zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations? *If "Yes", attach to this checklist the estimated project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation. If the proposed project is determined to result in an equivalent or less GHG-intensive project when compared to the existing designations, proceed to Section C of the checklist.* *If "No", the applicant must conduct a full GHG impact analysis for the project as part of the CEQA process. The project shall incorporate each of the applicable measures identified in Section C to mitigate cumulative GHG emissions impacts.*	Yes ☐	No ☐

Section C: CAP Measure Consistency

The completion of this Checklist will document a project's compliance with the GHG reduction measures in the City's CAP that are applicable to new development. The compliance requirements apply to development projects that include discretionary review, require environmental review, and, therefore, are not exempt under CEQA.

All required project-level measures that apply to the proposed project must be answered "Yes" in order to be consistent with the CAP, and documentation must be provided that substantiates how compliance would be achieved. For measures for which a "Yes" is indicated, the features must be demonstrated as part of the project's design and described. All applicable requirements in the checklist will be included in the conditions of approval or issuance of building permit stage of project approval.

If any required project-level measures are marked with a "No", the project cannot be determined to be consistent with the CAP, and project specific GHG analysis and mitigation would be required. If any questions are marked "NA" (meaning "not applicable"), a statement describing why the question is not applicable shall be provided to the satisfaction of the Planning Division.

REQUIRED PROJECT-LEVEL MEASURES

Checklist Item	Corresponding CAP Measure	Yes	No	NA
If the project includes new residential, commercial, and/or mixed-use development, would the project implement trip reduction programs? (Examples of residential trip reduction programs, or transportation demand management (TDM) strategies include, among others, installing and maintaining on-site bicycle parking; providing designated parking spaces for car share operations; offering an annual carshare membership to building residents or employees; posting wayfinding signage near major entrances directing building users to bus stops, bicycle facilities, car sharing kiosks, and other alternative travel options; and unbundling the price of parking from rents or sale of units.)	TR-5	☒	☐	☐

Please explain how the proposed project meets this requirement (i.e., list trip reduction measures). If "not applicable," explain why trip reduction measures were not required.

The project would include on-site bicycle parking and electric vehicle parking. The project would include 171 parking spaces and 18 (10 percent) would be EV capable. Additionally, trips would be reduced through the use of public transit. The project would construct a high-density residential use adjacent to an existing transit route along Alessandro Boulevard immediately adjacent to the project site. Riverside Transit Agency (RTA) Route 20 provides service to major destinations including Moreno Valley College southeast of the project site, the Riverside University Health System Medical Center east of the project site, commercial and retail uses along Alessandro Boulevard, and the Metrolink Moreno Valley/March Field Station west of the project site. The Metrolink 91 Perris Line provides transportation between Perris Valley and Los Angeles Union Station, and connects to other Metrolink lines that provide transportation throughout the greater region.

For projects including new construction or major remodeling of residential development, does the project include installation of real-time energy smart meters?	R-2	☒	☐	☐
Please explain how the proposed project meets this requirement. If "not applicable" (NA), explain why this was not required. The project would include installation of real-time energy smart meters.				
During project construction, will clear signage reminding construction workers to limit idling of construction equipment provided?	OR-2	☒	☐	☐
Please explain how the proposed project meets this requirement. If "not applicable" (NA), explain why this was not required. Clear signage would be provided reminding construction workers to limit idling of construction equipment.				
During project construction, will the project limit construction-related GHG emissions through one or more of the following measures: substituting electrified or hybrid equipment for diesel/gas powered equipment; using alternative-fueled equipment on-site; and avoiding use of on-site diesel/gas powered generators?	OR-2	☒	☐	☐
Please explain how the proposed project meets this requirement. If "not applicable" (NA), explain why this was not required. The project site would be provided with temporary electrical power during construction, and no on-site diesel/gas powered generators would be used.				
For any new landscaping to be included as part of the project, does the project incorporate climate-appropriate, water-wise landscaping features, such as those identified in the *County of Riverside Guide To California Friendly Landscaping.*	NC-1	☒	☐	☐
Please explain how the proposed project meets this requirement. If "not applicable" (NA), explain why this was not required. The project would incorporate climate-appropriate, water-wise landscaping features that are identified in the County of Riverside Guide to California Friendly Landscaping. The project's landscaping would be consistent with the Model Water Efficient Landscape Ordinance as well as all City landscaping ordinance requirements specified in Section 9.17.030 of the Municipal Code. This includes drought-resistant plantings and water-efficient irrigation systems.				

VOLUNTARY PROJECT-LEVEL MEASURES

The CAP also includes voluntary project-level measures that support municipal targets and measures included in the CAP. While not required of project applicants, compliance with these measures support implementation of the CAP and are considered evidence of consistency.

Checklist Item	Corresponding CAP Measure	Yes	No	NA
The CAP establishes a citywide target of increasing alternatives to single-occupant vehicle use by 10 percent for people employed in Moreno Valley by 2040. If the project involves a business with over 50 employees or tenants with such businesses, will the project implement Transportation Demand Management strategies and programs identified in Connect SoCal, the SCAG Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS), including but not limited to: implementing commuter benefit programs, promoting telecommuting and alternative work schedule options, and other financial incentives?	TR-3	☐	☐	☒
If the proposed project intends to include this beneficial measure, please explain how it will do so. The project is residential and does not include more than 50 employees.				
If the project includes new multi-family residential and/or mixed-use development, will the project reduce the need for external trips by providing useful services/facilities on-site (Examples include an ATM, vehicle refueling, electric vehicle infrastructure, and shopping)?	TR-9	☒	☐	☐
If the proposed project intends to include this beneficial measure, please explain how it will do so. The project would include on-site amenities including a clubhouse, pool, dog park, and tot lot. The project would not include on-site shopping. However, the project would construct a high-density residential use adjacent to an existing transit route along Alessandro Boulevard immediately adjacent to the project site. RTA Route 20 provides service to major destinations including commercial and retail uses along Alessandro Boulevard.				
If the project includes new industrial facilities or involves the expansion of existing industrial facilities, will the project include energy efficient building operations systems to support the citywide goal of a 40 percent energy reduction in 30 percent of industrial square footage by 2040?	I-1	☐	☐	☒
If the proposed project intends to include this beneficial measure, please explain how it will do so. The project is residential and does not include industrial uses.				

If the project includes industrial or warehousing facilities, will the project install solar energy infrastructure to support the City's goal of providing 25 percent of energy needs with solar in 30 percent of industrial and warehouse square footage by 2040?	I-2	☐	☐	☒
If the proposed project intends to include this beneficial measure, please explain how it will do so. The project is residential and does not include industrial or warehousing facilities.				
Will the project use water efficient lawn and garden maintenance equipment, or reduce the need for landscaping maintenance through drought-resistant planting?	NC-2	☒	☐	☐
If the proposed project intends to include this beneficial measure, please explain how it will do so. The project would incorporate climate-appropriate, water-wise landscaping features that are identified in the County of Riverside Guide to California Friendly Landscaping. The project's landscaping would be consistent with the Model Water Efficient Landscape Ordinance as well as all City landscaping ordinance requirements specified in Section 9.17.030 of the Municipal Code. This includes drought-resistant plantings and water-efficient irrigation systems.				

ATTACHMENT 2

CalEEMod Output

10112 Flamingo Bay - Riverside-South Coast County, Annual

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

10112 Flamingo Bay

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.39	Acre	1.39	60,548.40	0
Apartments Mid Rise	96.00	Dwelling Unit	2.71	100,880.00	275

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	453.21	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Moreno Valley Electric Utility intensity factors obtained from CalEEMod Version 2022

Land Use - 96 units
98,290 sf + 2,588 sf clubhouse
4.1 acres

Construction Phase -

Vehicle Trips - 6.74 weekday trips/unit

Woodstoves - No woodstoves or fireplaces

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00

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

tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	81.60	0.00
tblFireplaces	NumberNoFireplace	9.60	94.00
tblFireplaces	NumberWood	4.80	0.00
tblLandUse	LandUseSquareFeet	96,000.00	100,880.00
tblLandUse	LotAcreage	2.53	2.71
tblProjectCharacteristics	CH4IntensityFactor	0	0.033
tblProjectCharacteristics	CO2IntensityFactor	0	453.21
tblProjectCharacteristics	N2OIntensityFactor	0	0.004
tblVehicleTrips	ST_TR	4.91	6.08
tblVehicleTrips	SU_TR	4.09	5.07
tblVehicleTrips	WD_TR	5.44	6.74
tblWoodstoves	NumberCatalytic	4.80	0.00
tblWoodstoves	NumberNoncatalytic	4.80	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2427	1.9753	2.4593	4.9000e-003	0.2151	0.0917	0.3068	0.0758	0.0861	0.1619	0.0000	432.7709	432.7709	0.0766	8.2100e-003	437.1317
2024	0.3268	0.0155	0.0277	5.0000e-005	1.9900e-003	7.6000e-004	2.7500e-003	5.3000e-004	7.4000e-004	1.2700e-003	0.0000	4.6121	4.6121	4.2000e-004	4.0000e-005	4.6337
Maximum	**0.3268**	**1.9753**	**2.4593**	**4.9000e-003**	**0.2151**	**0.0917**	**0.3068**	**0.0758**	**0.0861**	**0.1619**	**0.0000**	**432.7709**	**432.7709**	**0.0766**	**8.2100e-003**	**437.1317**

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					
2023	0.2427	1.9753	2.4593	4.9000e-003	0.1679	0.0917	0.2595	0.0521	0.0861	0.1381	0.0000	432.7706	432.7706	0.0766	8.2100e-003	437.1313
2024	0.3268	0.0155	0.0277	5.0000e-005	1.9900e-003	7.6000e-004	2.7500e-003	5.3000e-004	7.4000e-004	1.2700e-003	0.0000	4.6121	4.6121	4.2000e-004	4.0000e-005	4.6337
Maximum	**0.3268**	**1.9753**	**2.4593**	**4.9000e-003**	**0.1679**	**0.0917**	**0.2595**	**0.0521**	**0.0861**	**0.1381**	**0.0000**	**432.7706**	**432.7706**	**0.0766**	**8.2100e-003**	**437.1313**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**21.77**	**0.00**	**15.27**	**31.12**	**0.00**	**14.57**	**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	**1-2-2023**	**4-1-2023**	0.5876	0.5876
2	**4-2-2023**	**7-1-2023**	0.5588	0.5588
3	**7-2-2023**	**10-1-2023**	0.5650	0.5650
4	**10-2-2023**	**1-1-2024**	0.4988	0.4988
5	**1-2-2024**	**4-1-2024**	0.3215	0.3215
		Highest	0.5876	0.5876

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	0.4306	0.0114	0.9896	5.0000e-005		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	1.6172	1.6172	1.5500e-003	0.0000	1.6560
Energy	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	156.1860	156.1860	7.4200e-003	2.0800e-003	156.9910
Mobile	0.3007	0.4861	3.1304	7.4800e-003	0.7949	6.0500e-003	0.8010	0.2124	5.6700e-003	0.2180	0.0000	702.7367	702.7367	0.0357	0.0344	713.8808
Waste						0.0000	0.0000		0.0000	0.0000	8.9641	0.0000	8.9641	0.5298	0.0000	22.2081
Water						0.0000	0.0000		0.0000	0.0000	1.9844	25.7486	27.7329	0.2057	5.0400e-003	34.3769
Total	**0.7387**	**0.5611**	**4.1471**	**7.9400e-003**	**0.7949**	**0.0167**	**0.8116**	**0.2124**	**0.0163**	**0.2287**	**10.9484**	**886.2885**	**897.2369**	**0.7801**	**0.0415**	**929.1129**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4306	0.0114	0.9896	5.0000e-005		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	1.6172	1.6172	1.5500e-003	0.0000	1.6560
Energy	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	156.1860	156.1860	7.4200e-003	2.0800e-003	156.9910
Mobile	0.3007	0.4861	3.1304	7.4800e-003	0.7949	6.0500e-003	0.8010	0.2124	5.6700e-003	0.2180	0.0000	702.7367	702.7367	0.0357	0.0344	713.8808
Waste						0.0000	0.0000		0.0000	0.0000	8.9641	0.0000	8.9641	0.5298	0.0000	22.2081
Water						0.0000	0.0000		0.0000	0.0000	1.9844	25.7486	27.7329	0.2057	5.0400e-003	34.3769
Total	**0.7387**	**0.5611**	**4.1471**	**7.9400e-003**	**0.7949**	**0.0167**	**0.8116**	**0.2124**	**0.0163**	**0.2287**	**10.9484**	**886.2885**	**897.2369**	**0.7801**	**0.0415**	**929.1129**

	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	1/2/2023	1/6/2023	5	5	
2	Grading	Grading	1/7/2023	1/18/2023	5	8	
3	Building Construction	Building Construction	1/19/2023	12/6/2023	5	230	

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

4	Paving	Paving	12/7/2023	1/1/2024	5	18	
5	Architectural Coating	Architectural Coating	1/2/2024	1/25/2024	5	18	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 1.39

Residential Indoor: 204,282; Residential Outdoor: 68,094; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,633 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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

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	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	95.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 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					
Fugitive Dust					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	**6.6500e-003**	**0.0688**	**0.0456**	**1.0000e-004**	**0.0491**	**3.1700e-003**	**0.0523**	**0.0253**	**2.9100e-003**	**0.0282**	**0.0000**	**8.3627**	**8.3627**	**2.7000e-003**	**0.0000**	**8.4303**

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

3.2 Site Preparation - 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	1.5000e-004	1.1000e-004	1.4100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3809	0.3809	1.0000e-005	1.0000e-005	0.3841
Total	**1.5000e-004**	**1.1000e-004**	**1.4100e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3809**	**0.3809**	**1.0000e-005**	**1.0000e-005**	**0.3841**

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					0.0192	0.0000	0.0192	9.8500e-003	0.0000	9.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	**6.6500e-003**	**0.0688**	**0.0456**	**1.0000e-004**	**0.0192**	**3.1700e-003**	**0.0223**	**9.8500e-003**	**2.9100e-003**	**0.0128**	**0.0000**	**8.3627**	**8.3627**	**2.7000e-003**	**0.0000**	**8.4303**

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

3.2 Site Preparation - 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	1.5000e-004	1.1000e-004	1.4100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3809	0.3809	1.0000e-005	1.0000e-005	0.3841
Total	**1.5000e-004**	**1.1000e-004**	**1.4100e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3809**	**0.3809**	**1.0000e-005**	**1.0000e-005**	**0.3841**

3.3 Grading - 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					
Fugitive Dust					0.0283	0.0000	0.0283	0.0137	0.0000	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8400e-003	0.0717	0.0590	1.2000e-004		3.1000e-003	3.1000e-003		2.8500e-003	2.8500e-003	0.0000	10.4243	10.4243	3.3700e-003	0.0000	10.5085
Total	**6.8400e-003**	**0.0717**	**0.0590**	**1.2000e-004**	**0.0283**	**3.1000e-003**	**0.0314**	**0.0137**	**2.8500e-003**	**0.0166**	**0.0000**	**10.4243**	**10.4243**	**3.3700e-003**	**0.0000**	**10.5085**

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

3.3 Grading - 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	1.9000e-004	1.4000e-004	1.8800e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5078	0.5078	1.0000e-005	1.0000e-005	0.5121
Total	**1.9000e-004**	**1.4000e-004**	**1.8800e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5078**	**0.5078**	**1.0000e-005**	**1.0000e-005**	**0.5121**

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					0.0111	0.0000	0.0111	5.3400e-003	0.0000	5.3400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8400e-003	0.0717	0.0590	1.2000e-004		3.1000e-003	3.1000e-003		2.8500e-003	2.8500e-003	0.0000	10.4242	10.4242	3.3700e-003	0.0000	10.5085
Total	**6.8400e-003**	**0.0717**	**0.0590**	**1.2000e-004**	**0.0111**	**3.1000e-003**	**0.0142**	**5.3400e-003**	**2.8500e-003**	**8.1900e-003**	**0.0000**	**10.4242**	**10.4242**	**3.3700e-003**	**0.0000**	**10.5085**

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

3.3 Grading - 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	1.9000e-004	1.4000e-004	1.8800e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5078	0.5078	1.0000e-005	1.0000e-005	0.5121
Total	**1.9000e-004**	**1.4000e-004**	**1.8800e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5078**	**0.5078**	**1.0000e-005**	**1.0000e-005**	**0.5121**

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	0.1809	1.6543	1.8681	3.1000e-003		0.0805	0.0805		0.0757	0.0757	0.0000	266.5755	266.5755	0.0634	0.0000	268.1608
Total	**0.1809**	**1.6543**	**1.8681**	**3.1000e-003**		**0.0805**	**0.0805**		**0.0757**	**0.0757**	**0.0000**	**266.5755**	**266.5755**	**0.0634**	**0.0000**	**268.1608**

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

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	2.4900e-003	0.0789	0.0314	4.0000e-004	0.0145	6.6000e-004	0.0152	4.1900e-003	6.3000e-004	4.8200e-003	0.0000	38.6976	38.6976	3.9000e-004	5.7200e-003	40.4126
Worker	0.0355	0.0263	0.3430	1.0000e-003	0.1201	5.7000e-004	0.1207	0.0319	5.3000e-004	0.0324	0.0000	92.4617	92.4617	2.2800e-003	2.4200e-003	93.2413
Total	**0.0380**	**0.1051**	**0.3744**	**1.4000e-003**	**0.1346**	**1.2300e-003**	**0.1358**	**0.0361**	**1.1600e-003**	**0.0372**	**0.0000**	**131.1594**	**131.1594**	**2.6700e-003**	**8.1400e-003**	**133.6539**

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	0.1809	1.6543	1.8681	3.1000e-003		0.0805	0.0805		0.0757	0.0757	0.0000	266.5751	266.5751	0.0634	0.0000	268.1605
Total	**0.1809**	**1.6543**	**1.8681**	**3.1000e-003**		**0.0805**	**0.0805**		**0.0757**	**0.0757**	**0.0000**	**266.5751**	**266.5751**	**0.0634**	**0.0000**	**268.1605**

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

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	2.4900e-003	0.0789	0.0314	4.0000e-004	0.0145	6.6000e-004	0.0152	4.1900e-003	6.3000e-004	4.8200e-003	0.0000	38.6976	38.6976	3.9000e-004	5.7200e-003	40.4126
Worker	0.0355	0.0263	0.3430	1.0000e-003	0.1201	5.7000e-004	0.1207	0.0319	5.3000e-004	0.0324	0.0000	92.4617	92.4617	2.2800e-003	2.4200e-003	93.2413
Total	**0.0380**	**0.1051**	**0.3744**	**1.4000e-003**	**0.1346**	**1.2300e-003**	**0.1358**	**0.0361**	**1.1600e-003**	**0.0372**	**0.0000**	**131.1594**	**131.1594**	**2.6700e-003**	**8.1400e-003**	**133.6539**

3.5 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	7.8000e-003	0.0747	0.1036	1.6000e-004		3.7000e-003	3.7000e-003		3.4200e-003	3.4200e-003	0.0000	13.9218	13.9218	4.3700e-003	0.0000	14.0312
Paving	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.5200e-003**	**0.0747**	**0.1036**	**1.6000e-004**		**3.7000e-003**	**3.7000e-003**		**3.4200e-003**	**3.4200e-003**	**0.0000**	**13.9218**	**13.9218**	**4.3700e-003**	**0.0000**	**14.0312**

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

3.5 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	5.5000e-004	4.1000e-004	5.3400e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.0000e-004	0.0000	1.4388	1.4388	4.0000e-005	4.0000e-005	1.4509
Total	**5.5000e-004**	**4.1000e-004**	**5.3400e-003**	**2.0000e-005**	**1.8700e-003**	**1.0000e-005**	**1.8800e-003**	**5.0000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4388**	**1.4388**	**4.0000e-005**	**4.0000e-005**	**1.4509**

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	7.8000e-003	0.0747	0.1036	1.6000e-004		3.7000e-003	3.7000e-003		3.4200e-003	3.4200e-003	0.0000	13.9218	13.9218	4.3700e-003	0.0000	14.0311
Paving	1.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.5200e-003**	**0.0747**	**0.1036**	**1.6000e-004**		**3.7000e-003**	**3.7000e-003**		**3.4200e-003**	**3.4200e-003**	**0.0000**	**13.9218**	**13.9218**	**4.3700e-003**	**0.0000**	**14.0311**

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

3.5 Paving - 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	5.5000e-004	4.1000e-004	5.3400e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.0000e-004	0.0000	1.4388	1.4388	4.0000e-005	4.0000e-005	1.4509
Total	**5.5000e-004**	**4.1000e-004**	**5.3400e-003**	**2.0000e-005**	**1.8700e-003**	**1.0000e-005**	**1.8800e-003**	**5.0000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.4388**	**1.4388**	**4.0000e-005**	**4.0000e-005**	**1.4509**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4000e-004	4.1400e-003	6.1100e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.8190	0.8190	2.6000e-004	0.0000	0.8255
Paving	1.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4000e-004**	**4.1400e-003**	**6.1100e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.8190**	**0.8190**	**2.6000e-004**	**0.0000**	**0.8255**

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

3.5 Paving - 2024

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	3.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0826	0.0826	0.0000	0.0000	0.0833
Total	**3.0000e-005**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0826**	**0.0826**	**0.0000**	**0.0000**	**0.0833**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4000e-004	4.1400e-003	6.1100e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.8190	0.8190	2.6000e-004	0.0000	0.8255
Paving	1.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4000e-004**	**4.1400e-003**	**6.1100e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.8190**	**0.8190**	**2.6000e-004**	**0.0000**	**0.8255**

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

3.5 Paving - 2024

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	3.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0826	0.0826	0.0000	0.0000	0.0833
Total	**3.0000e-005**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0826**	**0.0826**	**0.0000**	**0.0000**	**0.0833**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3240					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**0.3257**	**0.0110**	**0.0163**	**3.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

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

3.6 Architectural Coating - 2024

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	5.2000e-004	3.7000e-004	5.0300e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4126	1.4126	3.0000e-005	4.0000e-005	1.4239
Total	**5.2000e-004**	**3.7000e-004**	**5.0300e-003**	**2.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.8900e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4126**	**1.4126**	**3.0000e-005**	**4.0000e-005**	**1.4239**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3240					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**0.3257**	**0.0110**	**0.0163**	**3.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

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

3.6 Architectural Coating - 2024

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	5.2000e-004	3.7000e-004	5.0300e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4126	1.4126	3.0000e-005	4.0000e-005	1.4239
Total	**5.2000e-004**	**3.7000e-004**	**5.0300e-003**	**2.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.8900e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4126**	**1.4126**	**3.0000e-005**	**4.0000e-005**	**1.4239**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3007	0.4861	3.1304	7.4800e-003	0.7949	6.0500e-003	0.8010	0.2124	5.6700e-003	0.2180	0.0000	702.7367	702.7367	0.0357	0.0344	713.8808
Unmitigated	0.3007	0.4861	3.1304	7.4800e-003	0.7949	6.0500e-003	0.8010	0.2124	5.6700e-003	0.2180	0.0000	702.7367	702.7367	0.0357	0.0344	713.8808

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	647.04	583.68	486.72	2,101,841	2,101,841
Parking Lot	0.00	0.00	0.00		
Total	647.04	583.68	486.72	2,101,841	2,101,841

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

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

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	82.5072	82.5072	6.0100e-003	7.3000e-004	82.8744
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	82.5072	82.5072	6.0100e-003	7.3000e-004	82.8744
NaturalGas Mitigated	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	73.6788	73.6788	1.4100e-003	1.3500e-003	74.1166
NaturalGas Unmitigated	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	73.6788	73.6788	1.4100e-003	1.3500e-003	74.1166

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.38069e+006	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	73.6788	73.6788	1.4100e-003	1.3500e-003	74.1166
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.4400e-003**	**0.0636**	**0.0271**	**4.1000e-004**		**5.1400e-003**	**5.1400e-003**		**5.1400e-003**	**5.1400e-003**	**0.0000**	**73.6788**	**73.6788**	**1.4100e-003**	**1.3500e-003**	**74.1166**

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					
Apartments Mid Rise	1.38069e+006	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	73.6788	73.6788	1.4100e-003	1.3500e-003	74.1166
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**7.4400e-003**	**0.0636**	**0.0271**	**4.1000e-004**		**5.1400e-003**	**5.1400e-003**		**5.1400e-003**	**5.1400e-003**	**0.0000**	**73.6788**	**73.6788**	**1.4100e-003**	**1.3500e-003**	**74.1166**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	380161	78.1507	5.6900e-003	6.9000e-004	78.4985
Parking Lot	21191.9	4.3565	3.2000e-004	4.0000e-005	4.3759
Total		**82.5072**	**6.0100e-003**	**7.3000e-004**	**82.8744**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	380161	78.1507	5.6900e-003	6.9000e-004	78.4985
Parking Lot	21191.9	4.3565	3.2000e-004	4.0000e-005	4.3759
Total		**82.5072**	**6.0100e-003**	**7.3000e-004**	**82.8744**

6.0 Area Detail

10112 Flamingo Bay - Riverside-South Coast County, Annual

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

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	0.4306	0.0114	0.9896	5.0000e-005		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	1.6172	1.6172	1.5500e-003	0.0000	1.6560
Unmitigated	0.4306	0.0114	0.9896	5.0000e-005		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	1.6172	1.6172	1.5500e-003	0.0000	1.6560

10112 Flamingo Bay - Riverside-South Coast County, Annual

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3684					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0298	0.0114	0.9896	5.0000e-005		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	1.6172	1.6172	1.5500e-003	0.0000	1.6560
Total	**0.4306**	**0.0114**	**0.9896**	**5.0000e-005**		**5.4800e-003**	**5.4800e-003**		**5.4800e-003**	**5.4800e-003**	**0.0000**	**1.6172**	**1.6172**	**1.5500e-003**	**0.0000**	**1.6560**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3684					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0298	0.0114	0.9896	5.0000e-005		5.4800e-003	5.4800e-003		5.4800e-003	5.4800e-003	0.0000	1.6172	1.6172	1.5500e-003	0.0000	1.6560
Total	**0.4306**	**0.0114**	**0.9896**	**5.0000e-005**		**5.4800e-003**	**5.4800e-003**		**5.4800e-003**	**5.4800e-003**	**0.0000**	**1.6172**	**1.6172**	**1.5500e-003**	**0.0000**	**1.6560**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.7329	0.2057	5.0400e-003	34.3769
Unmitigated	27.7329	0.2057	5.0400e-003	34.3769

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	6.25479 / 3.94323	27.7329	0.2057	5.0400e-003	34.3769
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**27.7329**	**0.2057**	**5.0400e-003**	**34.3769**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	6.25479 / 3.94323	27.7329	0.2057	5.0400e-003	34.3769
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**27.7329**	**0.2057**	**5.0400e-003**	**34.3769**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.9641	0.5298	0.0000	22.2081
Unmitigated	8.9641	0.5298	0.0000	22.2081

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	44.16	8.9641	0.5298	0.0000	22.2081
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**8.9641**	**0.5298**	**0.0000**	**22.2081**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	44.16	8.9641	0.5298	0.0000	22.2081
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**8.9641**	**0.5298**	**0.0000**	**22.2081**

9.0 Operational Offroad

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

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