APPENDIX F.
GREENHOUSE GAS ASSESSMENT

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GREENHOUSE GAS ASSESSMENT

Piraeus Point
City of Encinitas, CA

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COMMON ACRONYMS

Assembly Bill 32 (AB32)

Business as Usual (BAU)

California Air Pollution Control Officers Association's (CAPCOA)

California Air Resource Board (CARB)

California Climate Action Registry General Reporting Protocol Version 3.1 (CCARGRPV3.1)

Carbon Dioxide (CO2)

Cubic Yards (CY)

Environmental Protection Agency (EPA)

Green House Gas (GHG)

International Residential Code (IRC)

Low Carbon Fuel Standard (LCFS)

Methane (CH4)

Nitrous Oxide (N2O)

San Diego Air Basin (SDAB)

San Diego Air Pollution Control District (SDAPCD)

South Coast Air Quality Management District (SCAQMD)

Senate Bill 97 (SB97)

Vehicle Miles Traveled (VMT)

1.0 INTRODUCTION

1.1 Project Location

The proposed Piraeus Point project is located on a 6.9-acre project site on the northeast corner of Piraeus Street and Plato Place in the Leucadia community of the City of Encinitas, California. The project is located east of Interstate 5 (I-5) between La Costa Avenue and Leucadia Boulevard. The project site is bordered by Piraeus Street to the west, Plato Place to the south, and existing single-family homes to the east and undeveloped land to the north. A general project vicinity map is shown in Figure 1-A.

1.2 Project Description

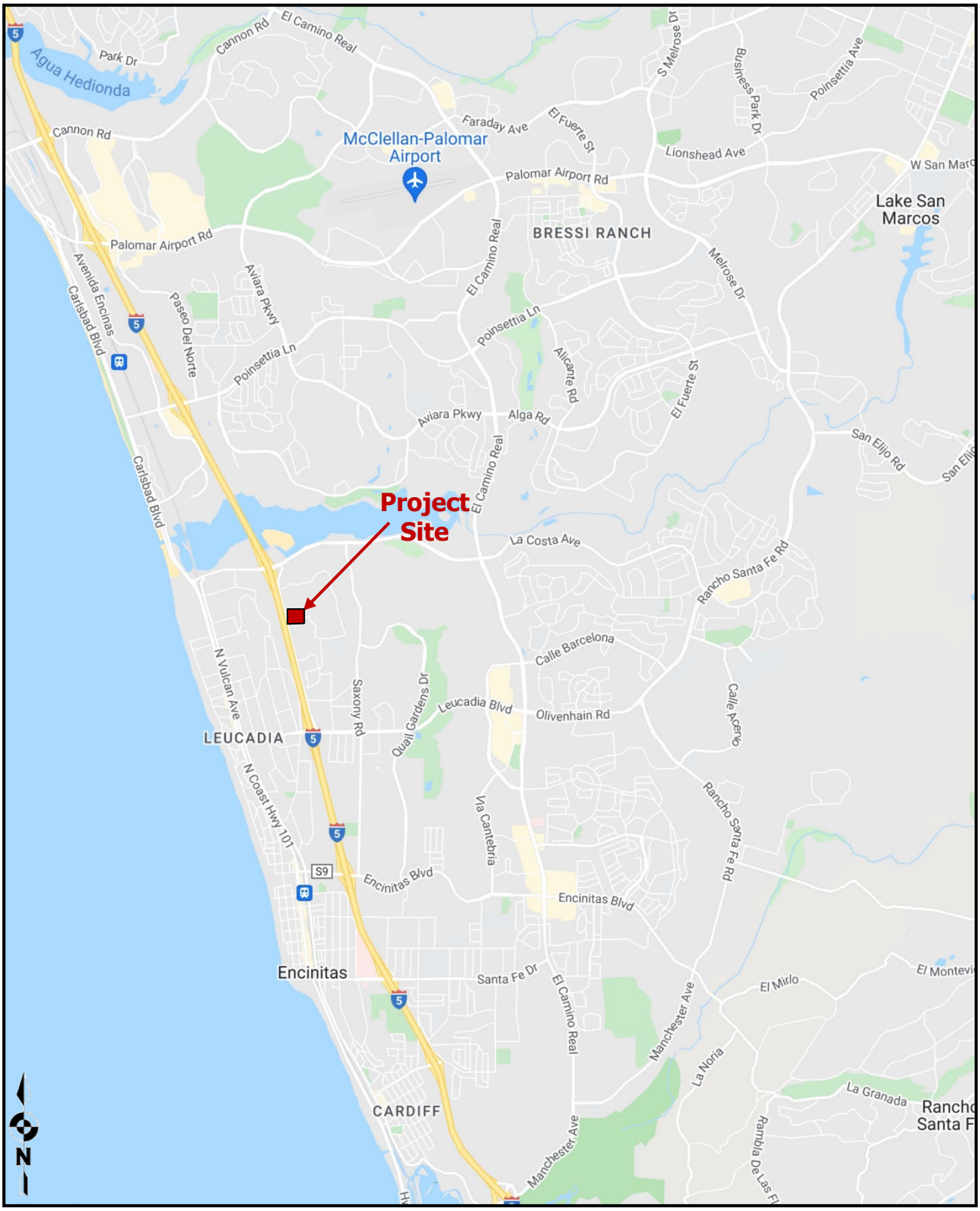
The community would be situated on a 6.88-acre site and would consist of 149 residential homes including 134 market-rate homes and 15 would be "very low" income affordable residential homes. The Project would provide 246 garage spaces and 26 open outdoor guest spaces. The proposed project site configuration is shown in Figure 1-B.

1.3 Project Design Features

Project design features (PDFs) have been incorporated into the Project to reduce emissions associated with operations of this Project and are required by the City of Encinitas per the City's Climate Action Plan (CAP). This report will define specifically which design features were included within the GHG estimation software and it should be expected that whenever a design feature is included within greenhouse gas modeling that those particular design features would be required for the Project to implement such that the City of Encinitas can recommend approval. A list of Project PDFs as analyzed within this report is provided below.

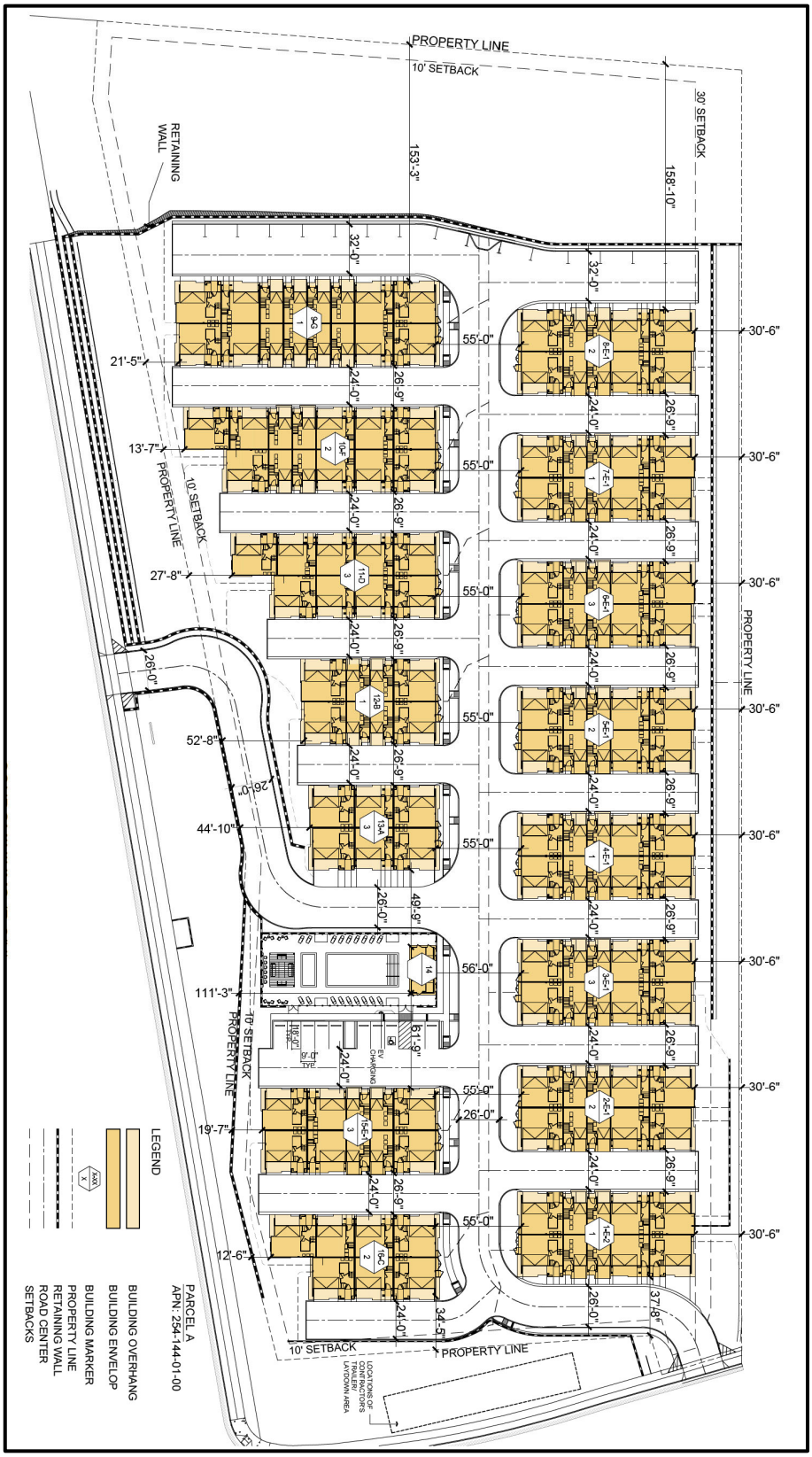
1. *The project would install Low Flow water fixtures in all the units.*
2. *All lights will be designed use LED technology and would be for both indoor and outdoor areas.*
3. *The Project would provide separate waste containers to allow for simpler material separations or the Project would pay for a waste collection service that recycles the materials in accordance with AB 341 to achieve a 75% waste diversion. All green waste will be diverted from landfills and recycled as mulch.*
4. *The project would not install hearth options.*
5. *The Project will be 100 percent electric.*
6. *The project would be required to utilize Tier 4 construction Equipment with Diesel Particulate Filters (DPF).*
7. *The Project would install 149 kilowatt (KW) of solar*
8. *The Project would install 4 Electric Vehicle (EV) Charging Stations*
9. *The Project would include construction BMPs which would include wetting soil during construction and installing a dust barrier between existing residences.*

Figure 1-A: Project Vicinity Map



Source: (Google, 2022)

Figure 1-B: Proposed Project Site Plan



Source: (Schmidt Design Group, 2022)

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Understanding Greenhouse Gases

GHGs, such as water vapor and carbon dioxide, are abundant in the earth's atmosphere. These gases are called "Greenhouse Gases" because they absorb and emit thermal infrared radiation, which acts like an insulator to the planet. Without these gases, the earth's ambient temperature would either be extremely hot during the day or blistering cold at night.

Over the years, scientists have measured a rise in carbon dioxide and the consensus is that human activities contribute to the heating of the planet. Other GHGs, such as methane and nitrous oxide, also contribute to global warming.

GHGs of concern, as analyzed in this study, are CO_2, CH_4, and N_2O. Both CH_4 and N_2O are converted to an equivalent amount of CO_2, referred to as CO_2e. CO_2e is calculated by multiplying the calculated levels of CH_4 and N_2O by a Global Warming Potential (GWP). The latest California Emissions Estimator Model (CalEEMod 2016.3.2) developed by Breeze Software uses the Intergovernmental Panel on Climate Change (IPCC) 2007 report as source data for GWP factors for both CH_4 and N_2O (CAPCOA, September 2016), using the 100-year periods of 25 and 298, respectively (IPCC, 2007).

2.2 Existing Setting

The site is zoned RR-1 and RR-2 with a R-30 overlay covering a portion of the project site as part of the City's Housing Element and allows for the construction of up to 149 homes (City of Encinitas, 2019). Site topography onsite generally slopes with elevations ranging from approximately 110 to 175 feet above mean sea level (AMSL).

2.3 Climate (Encinitas)

Climate within the San Diego Air Basin (SDAB) area varies dramatically over short geographical distances due to size and topography. Most of southern California is dominated by high-pressure systems for much of the year, which keeps the high desert mostly sunny and warm. Prevailing winds are generally westerly flowing towards the east for most of the year; however, during the autumn and winter, it is common for strong warm dry winds originating in the desert having a more easterly flow characteristic. Meteorological trends within the City of Encinitas are typically cooler given the close vicinity to the ocean. Median temperatures range from approximately 55ºF in the winter to approximately 72ºF in the summer (City-Data, 2020).

3.0 CLIMATE CHANGE REGULATORY ENVIRONMENT

3.1 Federal

Massachusetts v. EPA

On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the federal Clean Air Act. On December 7, 2009, the EPA Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The Administrator found that elevated concentrations of GHGs— Carbon Dioxide CO_2, CH_4, N_2O, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur hexafluoride (SF_6)— in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

3.2 State

State Greenhouse Gas Targets

Executive Order S-3-05

EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050.

AB 32 and CARB's Climate Change Scoping Plan

In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, the California Air Resources Board (CARB) is responsible for and is recognized as having the expertise to carry out and develop the programs and regulations necessary to achieve the GHG emissions reduction mandate of AB 32. Therefore, in furtherance of AB 32, CARB adopted regulations requiring the reporting and verification of GHG emissions from specified sources, such as industrial facilities, fuel suppliers and electricity importers (see Health & Safety Code Section 35830; Cal. Code Regs., tit. 17, §§95100 et seq.). CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons (MMT) CO_2e). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (*Scoping Plan*) in accordance with Health and Safety Code Section 38561. The *Scoping Plan* established an overall framework for the measures that will be implemented to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The 2008 *Scoping Plan* evaluated opportunities for sector-specific reductions, integrated all CARB and Climate Action Team[1] early actions and additional GHG reduction features by both entities, identified additional measures to be pursued as regulations, and outlined the role of a cap-and-trade program. The key elements of the 2008 *Scoping Plan* include the following (CARB, 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33 percent
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard

[1] The Climate Action Team is comprised of state agency secretaries and heads of state agencies, boards and departments; these members work to coordinate statewide efforts to implement GHG emissions reduction programs and adaptation programs.

6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

In the 2008 *Scoping Plan*, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU]). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the *Scoping Plan's* Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations (CARB, 2011). Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (12 percent to 20 percent), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (*First Update*). The stated purpose of the *First Update* was to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050." The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the *First Update*, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050." Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and, (6) natural and working lands. The *First Update* identified key

recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

Based on CARB's research efforts presented in the *First Update*, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050." Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state's 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 percent or 16 percent) from the BAU conditions.

In November 2017, CARB released *California's 2017 Climate Change Scoping Plan* (*Second Update*) for public review and comment (CARB, 2017). This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below). The strategy includes continuing the Cap-and-Trade Program through 2030,[2] inclusive policies and broad support for clean technologies, enhanced industrial efficiency and competitiveness, prioritization of transportation sustainability, continued leadership on clean energy, putting waste resources to beneficial use, supporting resilient agricultural and rural economics and natural and working lands, securing California's water supplies, and cleaning the air and public health. When discussing project-level GHG emissions reduction actions and thresholds, the *Second Update* states "[a]chieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development." However, the *Second Update* also recognizes that such an achievement "may not be feasible or appropriate for every project … and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change." CARB's Governing Board adopted the *Second Update* in December 2017.

EO B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its

[2] In July 2017, AB 398 was enacted into law, thereby extending the legislatively-authorized lifetime of the Cap-and-Trade Program to December 31, 2030.

trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050 as set forth in S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's *Scoping Plan* to express the 2030 target in terms of MMT CO_2e. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016.

SB 32 and AB 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction target; make changes to CARB's membership, and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members. The legislation further requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and identify specific information for GHG emissions reduction measures when updating the scoping plan, including information regarding the range of projected GHG emissions and air pollution reductions that result from each measure and the cost-effectiveness (including avoided social costs) of each measure (see Health & Safety Code Section 38562.7).

<u>Building Energy</u>

Title 24, Part 6

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new buildings and alterations or additions to existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The California Energy Commission (CEC) is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy efficient technologies and

construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2013 Title 24 standards went into effect on July 1, 2014 and were estimated to reduce energy uses between 3.8% to 36.4%, depending on the energy source and land (Architectural Energy Corporation (AEC), 2013).

The 2016 Title 24 standards, which went into effect on January 1, 2017, are the currently applicable standards. When comparing the 2013 and 2016 standards for electrical consumption, it is expected that low-rise, single-family detached homes and multi-family homes would use 12% and 15% less electricity under the 2016 standards, respectively. Similarly, implementation of the 2016 standards is expected to reduce natural gas consumption by 21% in single-family homes and 31% in multi-family homes. Newly constructed non-residential buildings are estimated to achieve a 5% reduction in electricity consumption under the 2016 standards and no significant change relative to natural gas consumption (California Energy Commission, 2015). The current version of CalEEMod used in this analysis employs, as a default parameter, the 2016 Title 24 standards to estimate GHG emissions.

The Project would be required, at a minimum, to comply with the latest version of Title 24 standards at the time the Project seeks building permits. This will likely be the 2019 standards, as those standards will go into effect on January 1, 2020. The 2019 standards continue to improve upon the 2016 standards for residential and nonresidential buildings. One of the most notable changes in the 2019 standards is the requirement for the installation of rooftop solar on residential buildings (California Energy Commission, 2017). It should be noted that the State updates these regulations every three years. Thus, throughout Project construction, buildings will need comply with the most recently adopted standards.

Title 24, Part 11

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial,

low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance
- Sixty-five (65) percent of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements; stricter water conservation, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 75 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

The newest CALGreen Standards were updated in 2019 and will become effective on January 1, 2020. The updated Code includes modifications to current codes under Division 5.1 (Planning and Design), Division 5.3 (Water Efficiency and Conservation), Division 5.4 and 5.5 (Material Conservation and Resource Efficiency) and (Environmental Quality). (California Title 24, Part 11, 2019). Should building permits be required after January 2020, CALGreen standards would be applicable.

Zero Net Energy Design Goals

As recognized in the *First Update* to the *Scoping Plan*, the California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. As background, the California Public Utilities Commission first set forth its zero net energy goals in the 2008 Energy Efficiency Strategic

Plan and the 2011 Big Bold Energy Efficiency Strategies. The key policy timelines include: (1) all new residential construction in California will be zero net energy by 2020, and (2) all new commercial construction in California will be zero net energy by 2030. As most recently defined by the CEC in its 2015 *Integrated Energy Policy Report*, a zero net energy code building is one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building using the CEC's Time Dependent Valuation metric. It should be noted that Title 24 (2019) which will be effective in 2020 requires rooftop solar for all new residential units.

Title 20

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

<u>Mobile Sources</u>

AB 1493

In response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30 percent (CARB, 2017).

EO S-1-07

Issued in January 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

In 2018, CARB extended and expanded the Low Carbon Fuel Standard regulations to include a 20 percent target for reduction in carbon intensity by 2030.

SB 375

SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan. The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible and if implemented, the GHG reduction targets. If a SCS is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), a SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for SANDAG adopted in 2010 are a 7 percent reduction in emissions per capita by 2020 and a 13 percent reduction by 2035; the targets are expressed as a percent change in per capita passenger vehicle GHG emissions relative to 2005.

In October 2015, SANDAG adopted *San Diego Forward: The Regional Plan*, which contains the region's current SCS. In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region. More specifically, as set forth in CARB Executive Order G-15-075, CARB determined that SANDAG's SCS would achieve a 15 percent per capita reduction by 2020 and a 21 percent per capita reduction by 2035.

In 2018, CARB updated the SB 375 targets. For purposes of SANDAG, the updated targets include a 15 percent reduction in emissions per capita by 2020 and a 19 percent reduction by 2035. SANDAG is in the process of preparing its next SCS, which will consider whether and how the region could attain these reduction targets.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB, 2017). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75 percent less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34 percent in 2025 (CARB, 2012).

EO B-16-12

EO B-16-12 (March 2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution of ZEVs. This EO also sets a long-term target of reaching 1.5 million zero-emission vehicles on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80 percent less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on Zero-Emission Vehicles that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet. As of January 2018, the Governor has called for as many as 1.5 million EV by 2025 and up to five million EV by 2030 (Office of Governor Edmund G. Brown Jr., 2018).

SB 350

In 2015, SB 350 – the Clean Energy and Pollution Reduction Act – was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see Public Utilities Code Section 740.12).

Renewable Energy Procurement

SB 1078

SB 1078 (2002) established the Renewables Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1 percent of sales, with an aggregate goal of 20 percent by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20 percent of their power from renewable sources by 2010.

SB X1 2

SB X1 2 (2011) expanded the RPS by establishing that 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, and 33 percent by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

SB 350

SB 350 (2015) further expanded the RPS by establishing that 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030 be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency.

SB 100

SB 100 (2018) has further accelerated and expanded the RPS, requiring achievement of a 50 percent RPS by December 31, 2026 and a 60 percent RPS by December 31, 2030. SB 100 also established a new statewide policy goal that calls for eligible renewable energy resources and zero-carbon resources to supply 100 percent of electricity retail sales and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

Water

EO B-29-15

In response to drought-related concerns, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Solid Waste

AB 939 and AB 341

In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25 percent by 1995 and 50 percent by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority

strategies that CalRecycle believes would assist the state in reaching the 75 percent goal by 2020.

Increasing the amount of commercial solid waste that is recycled, reused, or composted will reduce GHG emissions primarily by 1) reducing the energy requirements associated with the extraction, harvest, and processing of raw materials and 2) using recyclable materials that require less energy than raw materials to manufacture finished products (CalRecycle, 2018). Increased diversion of organic materials (green and food waste) will also reduce GHG emissions (CO_2 and CH_4) resulting from decomposition in landfills by redirecting this material to processes that use the solid waste material to produce vehicle fuels, heat, electricity, or compost.

3.3 Project Specific Guidelines

City of Encinitas General Plan

A project's adherence to the City's General Plan can be determined through demonstrating consistency with General Plan assumptions and policies. If a project would generate GHG emissions consistent with the maximum allowable buildout as defined by the General Plan, the Project would be consistent with the estimated GHG emissions for that site.

Per the City's latest Climate Action Plan (City of Encinitas, 2020), Encinitas' CAP serves as a guiding document and outlines a course of action for community and municipal operations to reduce greenhouse gas emissions and the potential impacts of climate change within the jurisdiction. The CAP benchmarks GHG emissions in 2012 and identifies what reductions are required to meet GHG reduction targets based on State goals embodied in AB 32, SB 32, and EOs B-30-15 and S-3-05. The CAP aims to achieve the following local community-wide GHG reduction targets:

- 13 percent below 2012 levels by 2020
- 44 percent below 2012 levels by 2030

Given this, if a project is consistent with the projections in the CAP which are directly related to the consistency with the General Plan, its associated growth in terms of GHG emissions was accounted for in the CAP's projections and would not increase emissions beyond what is anticipated in the CAP or inhibit the City from meeting its reduction targets. If a land use and/or zoning designation amendment results in a more GHG-intensive project, the project would be required to demonstrate consistency with applicable CAP measures and offset the increase in emissions.

As explained in the CAP, an implementation strategy was prepared which includes an implementation strategy matrix with 20 City actions or requirements which the city will implement directly through policy as well as require both private and municipal projects to include features such as low flow water fixtures, solar and electric vehicle (EV) charging stations, and even carbon sequestration.

If a project is consistent with the projections in the CAP, then its associated growth in terms of GHG emissions was accounted for in the CAP's projections and would not increase emissions beyond what is anticipated in the CAP or inhibit the County from reaching its reduction targets. If a project is consistent with the projections in the CAP, its GHG emissions would not conflict with an applicable plan adopted for the purpose of reducing the emissions of greenhouse gases. Additionally, if a project is consistent with the CAP, the project would be consistent with reduction targets CARB's Scoping Plan Update's recommended community targets, as well as the State's 2014 GHG emissions inventory and the targets established by AB 32, SB 32, and EOs B-30-15 and S-3-05.

Project-Specific Efficiency Threshold

An alternative analysis to the CAP is also provided and is based on GHG analysis which have evolved to look at efficiency metrics or service population (SP) thresholds. These types of analysis have been adopted in a number of air districts in the State of California for analyzing cumulative GHG emissions and significance of impacts. This project's SP refers to a project's residents and employment living and working within the Project site. This efficiency metric is expressed as MT CO_2e per SP per year (MT CO_2e/year/SP) and is determined by taking the Project emissions and dividing them by the sum of the number of residents and number of employees working in the project area. Based on SANDAG Series 13 Data, approximately 2.51 residents per home in 2020 and 2.52 residents per home in 2035 (SANDAG, 2020). The conservative 2.51 residents per home was used within this analysis. Based on this, the development would have a population of 374 people or 2.51*149 homes. Employment within the apartment development would likely be a building manager, and one maintenance worker or roughly two (2) full time employees. Given this, the Project's SP is 376.

With the release of the 2017 Climate Change Scoping Plan Update, CARB recognized the need to balance population growth with emissions reductions and in doing so, provided a new local plan level methodology for target setting that provides consistency with state GHG reduction goals using per capita efficiency targets. These statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32. The targets are generated by dividing the statewide 2030 GHG emissions targets by the statewide 2030 SP.

As discussed, at this time, the State has codified a target or reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and has developed a Scoping Plan to demonstrate how the State will achieve the 2030 target and make substantial progress toward the 2050 goal of 80% reduction in 1990 GHG emissions levels set by EO S-3-05. In the recently signed EO B-55-18, which identifies a new goal of carbon neutrality by 2045 and supersedes the goal established by EO S-3-05, CARB has been tasked with including a pathway toward EO B-55-18 goals in the next Scoping Plan update. While state and regional regulatory of energy and transportation systems, along with the State's CAP and Trade Program, are designed to be set at limits to achieve most of the reductions needed to hit the State's long term targets, local government can do their fair share toward meeting the State's targets by siting and approving projects that accommodate population growth with project that are GHG-efficient.

The Association of Environmental Professionals (AEP) Climate Change Committee recommends that GHG analysis evaluate project emission in light of the trajectory of state climate change legislation and assess their "substantial progress" toward achieving long-term reduction targets identified in available plans, legislation or EOs (AEP, 2016). Consistent with AEP Climate Change Committee recommendations. horizon year projects of 2021 or later, such as this project, are analyzed in terms of whether the project would impede "substantial progress" toward meeting the reduction goal identified in SB 32 and now EO B-55-18. As SB 32 is considered an interim target toward meeting the 2045 State goal, consistency with SB 32 would be considered contributing substantial progress toward meeting the State's long-term State targets is important as these targets have been set at levels that reduce California's fair share of emissions toward international targets that will stabilize global climate change effects and avoid the adverse environmental consequences described herein (Executive Order B-55-18).

In the Scoping Plan Update, CARB suggested substantial progress could be made if a regional or County-wide GHG reduction plan targeted reducing emissions to 6 MT CO_2e per capita by 2030 and 2 MTCO_2e per capita by 2050, but do not necessarily need to be project-specific targets. We note that considering the overall statewide emissions in 1990 and 2014 and the projected statewide population in 2030 and 2050, these per-capita goals would be equivalent to reducing 2014 emissions by 40 percent by 2030[3]. The per-capita targets were determined

[3] Setting a target with respect to a baseline year, such as 2014, is standard industry practice in climate action planning. The original 2008 Scoping Plan developed by CARB recommended a reduction below baseline levels as a valid reduction target, in recognition of the challenges in developing a 1990 inventory for a local jurisdiction. Data used for developing the 2014 inventory represent the best available data, based on improved inventory methodologies and data collection procedures. The same level of rigor cannot be applied to a 1990 inventory and any attempts to extrapolate activity data (e.g., vehicle miles traveled, energy consumption) for 1990 would introduce a large margin of error and provide an inaccurate accounting of county emissions. Therefore, reliance on State data to determine relative

to be applicable to the City of Encinitas because the City seeks to achieve State goals and CARB's per-capita metrics provide the means to accomplish that. However, following court guidance in (Golden Door Properties, LLC v. County of San Diego., 2018) and (Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall Ranch, 2015) to make the Project-specific efficiency threshold locally appropriate, one must use local data to establish an analytical path between the threshold and a project providing its fair share contribution towards meeting State targets using the project population's efficient generation of GHG.

Local Data

During preparation of the City's baseline emissions inventory, the University of San Diego's Energy Policy Initiatives Center (EPIC) calculated GHG emissions for the City for both community-wide sectors and County government operations for the year 2012, with emissions projections for 2020 and 2030. EPIC concluded that total emissions in the City of Encinitas in 2012 comprised approximately 483,773 MT CO_2e

In order to consistent with SB 32, The City's goal is to have a 44% reduction with the baseline or a reduction to a target of 254,575 MT CO_2e/year in 2030. The population used in this analysis is the City population, which in 2030 is 64,938 persons and 27,958 employees (EPIC, 2017). Thus, in order to achieve a City emission level of 254,575 MT CO_2e based on the reductions needed per SB 32, the required per PC efficiency target in 2030 would be approximately 2.74 MT CO_2e (254,575/92,896) per SP.

reduction levels that can be applied to local 2014 emissions levels is a valid methodology to determine reduction targets.

4.0 METHODOLOGY

4.1 Construction CO_2e Emissions Calculation Methodology

The Project construction dates were estimated based on a construction start date in 2023 with construction projected to end in 2025 CalEEMod was utilized for all construction calculations and has been manually updated to reflect SDAPCD Rule 67 VOC paint standards and to include Tier 4 construction equipment with DPF per the Project description. It should be noted that building construction assumes all homes are built in progression within a 230 workday progression though intensity may decrease pending market conditions pushing individual home construction through 2027. It should be expected that the shorter duration would yield higher daily emissions and is therefore worst case. Table 4.1 shows the modeled worst-case timeframes for the construction of all Project infrastructure, facilities, and improvements at the site, as well as the expected number of pieces of equipment which have been verified by the applicant's Project Engineer. Also, it should be noted that the below would be conservative in the event construction began/ended at a later date.

Table 4.1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Complete	Quantity
Site Preparation	11/01/2023	11/14/2023	
Rubber Tired Dozers			3
Tractors/Loaders/Backhoes			4
Grading	11/15/2023	06/30/2024	
Excavators			1
Graders			1
Rubber Tired Dozers			1
Tractors/Loaders/Backhoes			3
Building Construction	07/01/2024	05/16/2025	
Cranes			1
Forklifts			3
Generator Sets			1
Tractors/Loaders/Backhoes			3
Welders			1
Architectural Coating	4/5/2025	5/16/2025	
Air Compressors			1
Paving	05/17/2025	06/13/2025	
Pavers			2
Paving Equipment			2
Rollers			2
This equipment list is based upon equipment inventory within CalEEMod. The quantity and types are based upon assumptions provided by the project applicant.			

GHG impacts related to construction will be calculated using the latest CalEEMod 2020.4.0 model which was developed by BREEZE Software for South Coast Air Quality Management District (SCAQMD). CalEEMod incorporates emission factors from the EMFAC2017 model for on-road vehicle emissions and the OFFROAD2011 model for off-road vehicle emissions and are shown in ***Attachment A*** to this report. Additionally, it should be noted that default vehicle miles traveled (VMT) were updated to reflect EMFACs average miles driven per trip within the County for 2025 is shown in ***Attachment B*** to this report.

Because impacts from construction activities occur over a relatively short-term period of time, they contribute a relatively minimal portion of the overall lifetime project GHG emissions. To adequately include GHG emission from construction in the lifetime/operational GHG estimates, construction emissions are amortized over a 30-year project lifetime (SCAQMD, 2008).

4.2 Operational Emissions Calculation Methodology

Once construction is completed the proposed Project would generate air pollutants and GHG emissions from daily operations which would include sources such as area, energy, mobile, solid waste and water uses, which are calculated within CalEEMod. Area Sources include landscaping, consumer products, and architectural coatings as part of regular maintenance. Energy sources would be from electricity only. Solid waste generated in the form of trash is also considered as decomposition of organic material breaks down to form GHGs. Water and wastewater emissions from the project generate emissions from offsite water conveyance and wastewater treatment facilities. Finally, the project would also generate GHG through the use of carbon fuel burning vehicles for transportation. The Project specific traffic study estimated that Project would generate 894 average daily trips (IM Intersecting Metrics, 2022) .

Energy Intensities as recommended by CalEEMod inputs were assumed within this report and are based on Title 24 (2019) as default. It should be noted however, the project will need to comply with the latest Title 24 when project plans are submitted to the City which would likely further improve upon building efficiency requirements.

Electrical energy-intensity factors were updated within CalEEMod to reflect San Diego Gas and Electric's (SDG&E) emissions rate variations from 2009 which is the default rate data used by CalEEMod. In 2009, SDG&E achieved 10.5 percent procurement of renewable energy (California Public Utilities Commission, 2016) and in 2020 will have up to 46% in place. For purposes of analysis however the State's 33% requirement was assumed. After 2020, in 2030, an additional 27% reduction would be required or 2.7% per year. Given this, SDG&E energy-intensity factors for 2025 were calculated and were modeled as such within CalEEMod as shown in Table 4.3 and are shown in ***Attachment C*** to this report.

Table 4.3: SDG&E Energy Intensity Factors

GHG	2009 Factors (lbs/MWh) w/10.5% RPS	2025 Factors – 46.5% Renewables (lbs/MWh)
Carbon Dioxide (CO_2)	720.49	430.68
Methane (CH_4)	0.029	0.0173
Nitrous Oxide (N_2O)	0.006	0.0036

The CalEEMod model for the Project has been updated to implement design features identified in Section 1.3 of this analysis. For reduction calculations associated with the PV design feature, annual energy estimates were provided by the National Renewable Energy Laboratory (NREL, 2020) and shown as ***Attachment D*** to this report. Based on this, the Project solar 149 kW) would be estimated to generate 245,206 kWh of annual electrical energy. It should be noted that the more solar produced by the Project reduces the amount of non-renewable energy added to the grid by offsite utilities. Given this, offsite generation from renewables would not be offset from onsite renewables. Instead, it's assumed that non-renewable generation is offset at 100%. Therefore, default GHG intensities or those assumed within CalEEMod are used to determine GHG reductions and are shown in ***Attachment E*** to this report. Finally, the Project would be fully consistent with the City's CAP with respect to solar which calls for up to 1W per SF for new multifamily homes under City Action RE-2.

The City's CAP estimated that in the year 2020, 185 MT CO_2e will be reduced from Electric Vehicles EV from City requirements for projects to install EV charging stations. The CAP indicated that in 2030, 1,357 MT CO_2e will be reduced. Per CET-4, estimates that each EV will reduce GHG emissions by 2.84 MT CO_2e in 2020 and 3.62 MT CO_2e in 2030. Given this, the Project would reduce GHG emissions through the use of EV and would be Consistent with the CAP. Based on the addition of 4 EV Charging Stations, a reduction of between 11.36 and 14.48 MT CO_2e could be expected between 2020 and 2030 from the Project EV usage. In 2025 it's expected to be the average or 12.92 MT CO_2e.

5.0 FINDINGS

5.1 Project Related Construction Emissions

Utilizing the CalEEMod inputs for the model as shown in Table 4.1 above, we find that grading and construction of the project will produce approximately 880.72 MT CO_2e over the construction life of the Project. Based on SQAQMD methodology, it is recommended to average the construction emissions over the Project life which is assumed to be 30 years. Given this, the annual construction emission would be 29.36 MT CO_2e per year. A summary of the construction emissions is shown in Table 5.1 below. The analysis of GHG emissions generated during construction activities includes the application of the design features to include the application of Tier 4 Diesel Equipment with DPF.

Table 5.1: Expected Construction CO_2e Emissions Summary MT/Year

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2023	0.00	105.63	105.63	0.02	0.01	108.26
2024	0.00	567.55	567.55	0.10	0.03	579.55
2025	0.00	191.02	191.02	0.03	0.00	192.90
Total						**880.72**
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						**29.36**
Expected Construction emissions are based upon CalEEMod modeling assumptions for equipment and durations listed in Table 4.1 above.						

5.2 Project-Related Operational Emissions

As previously discussed, emissions generated from area, energy, mobile, solid waste and water uses are calculated within CalEEMod. These settings which are automatically populated throughout the model are based on the inputted land use and intensities expected at the Project site. Unless stated within this report, default values generated within CalEEMod were used. The calculated operational emissions for 2025 are identified in Table 5.2 on the following page. Specific reduction from PDF 7 and 8 require separate modeling and calculations.

PDF 7 will reduce annual operational emissions through the addition of 149 kW of PV which would generate 245,206 kWh annually. PV is considered 100 percent renewable and once installed would offset GHG emissions generated from non-renewable energy sources. To calculate GHG emission reductions from the PV panels, a separate CalEEMod file excluding

RPS reductions was prepared and is shown in ***Attachment E*** to this report. Based on this, the GHG emission reductions from solar are expected to be 80.41 MT CO_2e annually.

PDF 8 above would enable Project drivers to utilize EV and would reduce GHG emissions by as much as 12.92 MT CO_2e annually in 2025. It should be noted that all garages will have electrical infrastructure installed for EV chargers. Reductions from these sources was not taken into account.

Based on the CalEEMod analysis, the proposed Project buildout would generate 1,090.80 MT CO_2e annually with construction which is shown in Table 5.2. These emissions include PDFs 1-6 shown above. PDFs 7 and -8 reduce emissions a further 93.34 MT reducing project emissions to 997.46 MT CO_2e after all PDFs have been implemented.

The Project would be consistent with the City's General Plan (Pending approval by the City) and is therefore consistent with the City's CAP assuming CAP measures are implemented on the Project. It should be noted that the design features identified above have been included to address the requirements of the CAP and will be a requirement of this project. Based on this, a less than significant GHG impact is expected.

Table 5.2: Proposed Project Operational GHG emissions (MT/Year)

Source	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e (MT/Yr)
Area	0.00	1.81	1.81	0.00	0.00	1.85
Electrical Usage	0.00	141.87	141.87	0.01	0.00	142.38
Mobile	0.00	819.13	819.13	0.06	0.04	831.37
Waste	13.91	0.00	13.91	0.82	0.00	34.47
Water	3.08	38.02	41.10	0.32	0.01	51.37
Total includes reductions from PDFs 1-6						1,061.44
Amortized Construction Emissions						29.36
PDF 7 – 149 kWh of PV						-80.42
PDF 8 EV 4 EV Chargers – EV Vehicle Usage						-12.92
Project Total GHG Emissions						**997.46**
Residents (374 persons) + Employment (2 persons): SP						**376**
MT/SP						**2.65**
Data is presented in decimal format and may have rounding errors.						

The Project was also analyzed using an alternative approach for consistency with SB 32 using a Project-specific locally appropriate efficiency-based threshold based on forecasted population and the allowable emissions which the City must achieve in 2030 to be compliant

with SB 32. Based on this approach, the Project would be required to generate fewer service population emission than 2.74 MT CO_2e. The Project was found to generate 997.46 MT CO_2e with both annualized construction and annual operation GHG emissions averaged over a Project population of 376 persons. Given this, the Project would have a projected GHG emission rate of 2.65 MT CO_2e per SP or (997.46 MT CO_2e/376 persons). Based on this, the proposed Project would generate fewer emissions than a City-specific localized efficiency metric of 2.74 MT CO_2e per SP. Given this, the Project would be found to generate a less than significant impact.

5.3 General Plan GHG Impacts

The Project will comply with the City of Encinitas' CAP and all applicable measures. The City adopted it's fifth cycle of HEU in March 2019. In accordance with mitigation measures GHG-2 of the HEU's Environmental Assessment, the City of Encinitas committed to updating the 2018 CAP within 20 months of the effective date of the HEU to reflect the impact of additional projected HEU housing units on GHG emissions. The additional housing units affect population, employment, and vehicle miles trave forecasts. In November 2020, the City updated its CAP to accommodate the adopted HEU maximum realistic yield of 2,494 additional dwelling units of 17 candidate sites within the City under build-out conditions. These additional dwelling units are based upon the HEU's permitted maximum density of 30 dwelling units per net acre on the candidate sites. Therefore, the impact will be less than significant.

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7.0 CERTIFICATIONS

The contents of this report represent an accurate depiction of the projected CO_2e emissions from the project development based upon the best available information at the time of preparation.

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Date November 15, 2022

ATTACHMENT A

CalEEMod 2020.4.0 (149 Units)

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

Piraeus Point 149 Unit MF

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	26.00	Space	0.23	10,400.00	0
Condo/Townhouse	149.00	Dwelling Unit	6.65	149,000.00	426

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	431.18	**CH4 Intensity (lb/MWhr)**	0.026	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS 2025 46.5%

Land Use - Area is 6.88 acres

Construction Phase - schedule provided by applicant

Trips and VMT -

Grading -

Architectural Coating - Rule 67 Paint

Vehicle Trips - Updated based on Project Traffic Trip Generation

Woodstoves - No hearth

Area Coating - Rule 67 Paint

Energy Use - Project will be 100% electric

Water And Wastewater -

Piraeus Point 149 Unit MF - San Diego County, Annual

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

Solid Waste -

Construction Off-road Equipment Mitigation - T4

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	100
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	163.00
tblConstructionPhase	NumDays	20.00	30.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	T24NG	9,243.79	0.00
tblFireplaces	NumberGas	81.95	0.00
tblFireplaces	NumberNoFireplace	14.90	149.00
tblFireplaces	NumberWood	52.15	0.00
tblGrading	MaterialExported	0.00	57,600.00
tblLandUse	LotAcreage	9.31	6.65
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.026
tblProjectCharacteristics	CO2IntensityFactor	539.98	431.18
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.003

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

tblVehicleTrips	ST_TR	8.14	6.00
tblVehicleTrips	SU_TR	6.28	6.00
tblVehicleTrips	WD_TR	7.32	6.00
tblWoodstoves	NumberCatalytic	7.45	0.00
tblWoodstoves	NumberNoncatalytic	7.45	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	0.0441	0.5331	0.3686	1.1400e-003	0.3033	0.0199	0.3233	0.1192	0.0184	0.1376	0.0000	105.6345	105.6345	0.0216	7.0200e-003	108.2647
2024	0.2340	2.4471	2.3286	6.1900e-003	0.6061	0.0914	0.6975	0.2587	0.0851	0.3438	0.0000	567.5486	567.5486	0.1021	0.0317	579.5528
2025	1.0281	0.7616	1.0942	2.1500e-003	0.0537	0.0313	0.0850	0.0144	0.0294	0.0438	0.0000	191.0180	191.0180	0.0349	3.4000e-003	192.9024
Maximum	**1.0281**	**2.4471**	**2.3286**	**6.1900e-003**	**0.6061**	**0.0914**	**0.6975**	**0.2587**	**0.0851**	**0.3438**	**0.0000**	**567.5486**	**567.5486**	**0.1021**	**0.0317**	**579.5528**

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	0.0108	0.1356	0.4313	1.1400e-003	0.3033	9.9000e-004	0.3043	0.1192	9.5000e-004	0.1202	0.0000	105.6344	105.6344	0.0216	7.0200e-003	108.2647
2024	0.0741	0.7025	2.6085	6.1900e-003	0.6061	4.7500e-003	0.6108	0.2587	4.5700e-003	0.2633	0.0000	567.5482	567.5482	0.1021	0.0317	579.5524
2025	0.9687	0.1712	1.1891	2.1500e-003	0.0537	8.4000e-004	0.0546	0.0144	8.1000e-004	0.0152	0.0000	191.0178	191.0178	0.0349	3.4000e-003	192.9023
Maximum	**0.9687**	**0.7025**	**2.6085**	**6.1900e-003**	**0.6061**	**4.7500e-003**	**0.6108**	**0.2587**	**4.5700e-003**	**0.2633**	**0.0000**	**567.5482**	**567.5482**	**0.1021**	**0.0317**	**579.5524**

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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	**19.33**	**73.03**	**-11.54**	**0.00**	**0.00**	**95.39**	**12.31**	**0.00**	**95.24**	**24.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-1-2023**	**1-31-2024**	0.8596	0.2383
2	**2-1-2024**	**4-30-2024**	0.7951	0.2565
3	**5-1-2024**	**7-31-2024**	0.7144	0.2126
4	**8-1-2024**	**10-31-2024**	0.5319	0.1260
5	**11-1-2024**	**1-31-2025**	0.5211	0.1272
6	**2-1-2025**	**4-30-2025**	1.0708	0.7016
7	**5-1-2025**	**7-31-2025**	0.5455	0.3945
		Highest	1.0708	0.7016

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7092	0.0127	1.1055	6.0000e-005		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	1.8077	1.8077	1.7300e-003	0.0000	1.8510
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	141.8680	141.8680	8.5500e-003	9.9000e-004	142.3760
Mobile	0.4325	0.4811	4.0676	8.6400e-003	0.9549	6.7300e-003	0.9616	0.2548	6.2800e-003	0.2611	0.0000	819.1321	819.1321	0.0571	0.0363	831.3664
Waste						0.0000	0.0000		0.0000	0.0000	13.9130	0.0000	13.9130	0.8222	0.0000	34.4689
Water						0.0000	0.0000		0.0000	0.0000	3.0799	38.0213	41.1012	0.3186	7.7300e-003	51.3716
Total	**1.1417**	**0.4938**	**5.1732**	**8.7000e-003**	**0.9549**	**0.0129**	**0.9677**	**0.2548**	**0.0124**	**0.2672**	**16.9929**	**1,000.8291**	**1,017.8220**	**1.2082**	**0.0450**	**1,061.4337**

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	0.7092	0.0127	1.1055	6.0000e-005		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	1.8077	1.8077	1.7300e-003	0.0000	1.8510
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	141.8680	141.8680	8.5500e-003	9.9000e-004	142.3760
Mobile	0.4325	0.4811	4.0676	8.6400e-003	0.9549	6.7300e-003	0.9616	0.2548	6.2800e-003	0.2611	0.0000	819.1321	819.1321	0.0571	0.0363	831.3664
Waste						0.0000	0.0000		0.0000	0.0000	13.9130	0.0000	13.9130	0.8222	0.0000	34.4689
Water						0.0000	0.0000		0.0000	0.0000	3.0799	38.0213	41.1012	0.3186	7.7300e-003	51.3716
Total	**1.1417**	**0.4938**	**5.1732**	**8.7000e-003**	**0.9549**	**0.0129**	**0.9677**	**0.2548**	**0.0124**	**0.2672**	**16.9929**	**1,000.8291**	**1,017.8220**	**1.2082**	**0.0450**	**1,061.4337**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2023	11/14/2023	5	10	
2	Grading	Grading	11/15/2023	6/30/2024	5	163	
3	Building Construction	Building Construction	7/1/2024	5/16/2025	5	230	

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

4	Architectural Coating	Architectural Coating	4/5/2025	5/16/2025	5	30	
5	Paving	Paving	5/17/2025	6/13/2025	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 163

Acres of Paving: 0.23

Residential Indoor: 301,725; Residential Outdoor: 100,575; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 624 (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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

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

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	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	7,200.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	112.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

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	2.4000e-004	1.7000e-004	2.0600e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5783	0.5783	2.0000e-005	2.0000e-005	0.5834
Total	**2.4000e-004**	**1.7000e-004**	**2.0600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5783**	**0.5783**	**2.0000e-005**	**2.0000e-005**	**0.5834**

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3300e-003	0.0101	0.1043	1.9000e-004		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**2.3300e-003**	**0.0101**	**0.1043**	**1.9000e-004**	**0.0983**	**5.0000e-005**	**0.0983**	**0.0505**	**5.0000e-005**	**0.0506**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

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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	2.4000e-004	1.7000e-004	2.0600e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5783	0.5783	2.0000e-005	2.0000e-005	0.5834
Total	**2.4000e-004**	**1.7000e-004**	**2.0600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5783**	**0.5783**	**2.0000e-005**	**2.0000e-005**	**0.5834**

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					0.1898	0.0000	0.1898	0.0646	0.0000	0.0646	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0282	0.2959	0.2434	4.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	43.0000	43.0000	0.0139	0.0000	43.3477
Total	**0.0282**	**0.2959**	**0.2434**	**4.9000e-004**	**0.1898**	**0.0128**	**0.2026**	**0.0646**	**0.0118**	**0.0763**	**0.0000**	**43.0000**	**43.0000**	**0.0139**	**0.0000**	**43.3477**

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	1.6100e-003	0.0989	0.0263	4.4000e-004	0.0125	8.1000e-004	0.0133	3.4300e-003	7.7000e-004	4.2000e-003	0.0000	43.7407	43.7407	2.2000e-003	6.9600e-003	45.8686
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	6.7000e-004	4.6000e-004	5.6600e-003	2.0000e-005	1.9800e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5902	1.5902	5.0000e-005	4.0000e-005	1.6044
Total	**2.2800e-003**	**0.0994**	**0.0320**	**4.6000e-004**	**0.0145**	**8.2000e-004**	**0.0153**	**3.9600e-003**	**7.8000e-004**	**4.7400e-003**	**0.0000**	**45.3309**	**45.3309**	**2.2500e-003**	**7.0000e-003**	**47.4730**

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					0.1898	0.0000	0.1898	0.0646	0.0000	0.0646	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9900e-003	0.0260	0.2929	4.9000e-004		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	43.0000	43.0000	0.0139	0.0000	43.3476
Total	**5.9900e-003**	**0.0260**	**0.2929**	**4.9000e-004**	**0.1898**	**1.2000e-004**	**0.1900**	**0.0646**	**1.2000e-004**	**0.0647**	**0.0000**	**43.0000**	**43.0000**	**0.0139**	**0.0000**	**43.3476**

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	1.6100e-003	0.0989	0.0263	4.4000e-004	0.0125	8.1000e-004	0.0133	3.4300e-003	7.7000e-004	4.2000e-003	0.0000	43.7407	43.7407	2.2000e-003	6.9600e-003	45.8686
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	6.7000e-004	4.6000e-004	5.6600e-003	2.0000e-005	1.9800e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5902	1.5902	5.0000e-005	4.0000e-005	1.6044
Total	**2.2800e-003**	**0.0994**	**0.0320**	**4.6000e-004**	**0.0145**	**8.2000e-004**	**0.0153**	**3.9600e-003**	**7.8000e-004**	**4.7400e-003**	**0.0000**	**45.3309**	**45.3309**	**2.2500e-003**	**7.0000e-003**	**47.4730**

3.3 Grading - 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					
Fugitive Dust					0.4819	0.0000	0.4819	0.2251	0.0000	0.2251	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1080	1.1070	0.9594	1.9300e-003		0.0471	0.0471		0.0433	0.0433	0.0000	169.4154	169.4154	0.0548	0.0000	170.7852
Total	**0.1080**	**1.1070**	**0.9594**	**1.9300e-003**	**0.4819**	**0.0471**	**0.5290**	**0.2251**	**0.0433**	**0.2684**	**0.0000**	**169.4154**	**169.4154**	**0.0548**	**0.0000**	**170.7852**

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

3.3 Grading - 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	6.2600e-003	0.3863	0.1051	1.6800e-003	0.0492	3.2100e-003	0.0524	0.0135	3.0700e-003	0.0166	0.0000	169.2795	169.2795	8.9400e-003	0.0269	177.5314
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4800e-003	1.6400e-003	0.0209	7.0000e-005	7.8200e-003	4.0000e-005	7.8600e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	6.1074	6.1074	1.7000e-004	1.6000e-004	6.1597
Total	**8.7400e-003**	**0.3879**	**0.1260**	**1.7500e-003**	**0.0570**	**3.2500e-003**	**0.0603**	**0.0156**	**3.1100e-003**	**0.0187**	**0.0000**	**175.3870**	**175.3870**	**9.1100e-003**	**0.0271**	**183.6910**

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					0.4819	0.0000	0.4819	0.2251	0.0000	0.2251	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.1023	1.1539	1.9300e-003		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	169.4152	169.4152	0.0548	0.0000	170.7850
Total	**0.0236**	**0.1023**	**1.1539**	**1.9300e-003**	**0.4819**	**4.7000e-004**	**0.4824**	**0.2251**	**4.7000e-004**	**0.2256**	**0.0000**	**169.4152**	**169.4152**	**0.0548**	**0.0000**	**170.7850**

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

3.3 Grading - 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	6.2600e-003	0.3863	0.1051	1.6800e-003	0.0492	3.2100e-003	0.0524	0.0135	3.0700e-003	0.0166	0.0000	169.2795	169.2795	8.9400e-003	0.0269	177.5314
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4800e-003	1.6400e-003	0.0209	7.0000e-005	7.8200e-003	4.0000e-005	7.8600e-003	2.0800e-003	4.0000e-005	2.1200e-003	0.0000	6.1074	6.1074	1.7000e-004	1.6000e-004	6.1597
Total	**8.7400e-003**	**0.3879**	**0.1260**	**1.7500e-003**	**0.0570**	**3.2500e-003**	**0.0603**	**0.0156**	**3.1100e-003**	**0.0187**	**0.0000**	**175.3870**	**175.3870**	**9.1100e-003**	**0.0271**	**183.6910**

3.4 Building Construction - 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	0.0971	0.8873	1.0670	1.7800e-003		0.0405	0.0405		0.0381	0.0381	0.0000	153.0204	153.0204	0.0362	0.0000	153.9250
Total	**0.0971**	**0.8873**	**1.0670**	**1.7800e-003**		**0.0405**	**0.0405**		**0.0381**	**0.0381**	**0.0000**	**153.0204**	**153.0204**	**0.0362**	**0.0000**	**153.9250**

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

3.4 Building Construction - 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	1.3400e-003	0.0524	0.0182	2.4000e-004	7.8900e-003	3.1000e-004	8.2000e-003	2.2800e-003	3.0000e-004	2.5800e-003	0.0000	23.4221	23.4221	7.4000e-004	3.3900e-003	24.4517
Worker	0.0188	0.0125	0.1581	4.9000e-004	0.0593	3.1000e-004	0.0596	0.0158	2.9000e-004	0.0160	0.0000	46.3037	46.3037	1.2700e-003	1.2200e-003	46.6998
Total	**0.0201**	**0.0648**	**0.1763**	**7.3000e-004**	**0.0672**	**6.2000e-004**	**0.0678**	**0.0180**	**5.9000e-004**	**0.0186**	**0.0000**	**69.7258**	**69.7258**	**2.0100e-003**	**4.6100e-003**	**71.1515**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0216	0.1475	1.1524	1.7800e-003		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	153.0202	153.0202	0.0362	0.0000	153.9249
Total	**0.0216**	**0.1475**	**1.1524**	**1.7800e-003**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**153.0202**	**153.0202**	**0.0362**	**0.0000**	**153.9249**

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

3.4 Building Construction - 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	1.3400e-003	0.0524	0.0182	2.4000e-004	7.8900e-003	3.1000e-004	8.2000e-003	2.2800e-003	3.0000e-004	2.5800e-003	0.0000	23.4221	23.4221	7.4000e-004	3.3900e-003	24.4517
Worker	0.0188	0.0125	0.1581	4.9000e-004	0.0593	3.1000e-004	0.0596	0.0158	2.9000e-004	0.0160	0.0000	46.3037	46.3037	1.2700e-003	1.2200e-003	46.6998
Total	**0.0201**	**0.0648**	**0.1763**	**7.3000e-004**	**0.0672**	**6.2000e-004**	**0.0678**	**0.0180**	**5.9000e-004**	**0.0186**	**0.0000**	**69.7258**	**69.7258**	**2.0100e-003**	**4.6100e-003**	**71.1515**

3.4 Building Construction - 2025

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	0.0670	0.6110	0.7882	1.3200e-003		0.0259	0.0259		0.0243	0.0243	0.0000	113.6405	113.6405	0.0267	0.0000	114.3084
Total	**0.0670**	**0.6110**	**0.7882**	**1.3200e-003**		**0.0259**	**0.0259**		**0.0243**	**0.0243**	**0.0000**	**113.6405**	**113.6405**	**0.0267**	**0.0000**	**114.3084**

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

3.4 Building Construction - 2025

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	9.6000e-004	0.0385	0.0133	1.7000e-004	5.8600e-003	2.3000e-004	6.0900e-003	1.6900e-003	2.2000e-004	1.9100e-003	0.0000	17.0577	17.0577	5.6000e-004	2.4700e-003	17.8077
Worker	0.0132	8.3700e-003	0.1102	3.5000e-004	0.0440	2.2000e-004	0.0442	0.0117	2.0000e-004	0.0119	0.0000	33.5374	33.5374	8.6000e-004	8.5000e-004	33.8127
Total	**0.0141**	**0.0469**	**0.1235**	**5.2000e-004**	**0.0499**	**4.5000e-004**	**0.0503**	**0.0134**	**4.2000e-004**	**0.0138**	**0.0000**	**50.5950**	**50.5950**	**1.4200e-003**	**3.3200e-003**	**51.6205**

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	0.0161	0.1095	0.8556	1.3200e-003		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	113.6404	113.6404	0.0267	0.0000	114.3082
Total	**0.0161**	**0.1095**	**0.8556**	**1.3200e-003**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**113.6404**	**113.6404**	**0.0267**	**0.0000**	**114.3082**

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

3.4 Building Construction - 2025

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	9.6000e-004	0.0385	0.0133	1.7000e-004	5.8600e-003	2.3000e-004	6.0900e-003	1.6900e-003	2.2000e-004	1.9100e-003	0.0000	17.0577	17.0577	5.6000e-004	2.4700e-003	17.8077
Worker	0.0132	8.3700e-003	0.1102	3.5000e-004	0.0440	2.2000e-004	0.0442	0.0117	2.0000e-004	0.0119	0.0000	33.5374	33.5374	8.6000e-004	8.5000e-004	33.8127
Total	**0.0141**	**0.0469**	**0.1235**	**5.2000e-004**	**0.0499**	**4.5000e-004**	**0.0503**	**0.0134**	**4.2000e-004**	**0.0138**	**0.0000**	**50.5950**	**50.5950**	**1.4200e-003**	**3.3200e-003**	**51.6205**

3.5 Architectural Coating - 2025

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	0.9338					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5600e-003	0.0172	0.0271	4.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	3.8299	3.8299	2.1000e-004	0.0000	3.8351
Total	**0.9363**	**0.0172**	**0.0271**	**4.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**3.8299**	**3.8299**	**2.1000e-004**	**0.0000**	**3.8351**

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

3.5 Architectural Coating - 2025

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	7.9000e-004	5.0000e-004	6.6300e-003	2.0000e-005	2.6500e-003	1.0000e-005	2.6600e-003	7.0000e-004	1.0000e-005	7.2000e-004	0.0000	2.0166	2.0166	5.0000e-005	5.0000e-005	2.0332
Total	**7.9000e-004**	**5.0000e-004**	**6.6300e-003**	**2.0000e-005**	**2.6500e-003**	**1.0000e-005**	**2.6600e-003**	**7.0000e-004**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**2.0166**	**2.0166**	**5.0000e-005**	**5.0000e-005**	**2.0332**

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	0.9338					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5000e-004	1.9300e-003	0.0275	4.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.8299	3.8299	2.1000e-004	0.0000	3.8351
Total	**0.9342**	**1.9300e-003**	**0.0275**	**4.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.8299**	**3.8299**	**2.1000e-004**	**0.0000**	**3.8351**

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

3.5 Architectural Coating - 2025

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	7.9000e-004	5.0000e-004	6.6300e-003	2.0000e-005	2.6500e-003	1.0000e-005	2.6600e-003	7.0000e-004	1.0000e-005	7.2000e-004	0.0000	2.0166	2.0166	5.0000e-005	5.0000e-005	2.0332
Total	**7.9000e-004**	**5.0000e-004**	**6.6300e-003**	**2.0000e-005**	**2.6500e-003**	**1.0000e-005**	**2.6600e-003**	**7.0000e-004**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**2.0166**	**2.0166**	**5.0000e-005**	**5.0000e-005**	**2.0332**

3.6 Paving - 2025

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	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	3.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.4500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0193**	**20.0193**	**6.4700e-003**	**0.0000**	**20.1811**

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

3.6 Paving - 2025

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	3.6000e-004	2.3000e-004	3.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9167	0.9167	2.0000e-005	2.0000e-005	0.9242
Total	**3.6000e-004**	**2.3000e-004**	**3.0100e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9167**	**0.9167**	**2.0000e-005**	**2.0000e-005**	**0.9242**

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	2.8000e-003	0.0122	0.1730	2.3000e-004		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	3.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1000e-003**	**0.0122**	**0.1730**	**2.3000e-004**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**20.0192**	**20.0192**	**6.4700e-003**	**0.0000**	**20.1811**

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

3.6 Paving - 2025

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	3.6000e-004	2.3000e-004	3.0100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9167	0.9167	2.0000e-005	2.0000e-005	0.9242
Total	**3.6000e-004**	**2.3000e-004**	**3.0100e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9167**	**0.9167**	**2.0000e-005**	**2.0000e-005**	**0.9242**

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	0.4325	0.4811	4.0676	8.6400e-003	0.9549	6.7300e-003	0.9616	0.2548	6.2800e-003	0.2611	0.0000	819.1321	819.1321	0.0571	0.0363	831.3664
Unmitigated	0.4325	0.4811	4.0676	8.6400e-003	0.9549	6.7300e-003	0.9616	0.2548	6.2800e-003	0.2611	0.0000	819.1321	819.1321	0.0571	0.0363	831.3664

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	894.00	894.00	894.00	2,552,641	2,552,641
Parking Lot	0.00	0.00	0.00		
Total	894.00	894.00	894.00	2,552,641	2,552,641

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
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Parking Lot	9.50	7.30	7.30	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
Condo/Townhouse	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751
Parking Lot	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

5.0 Energy Detail

Piraeus Point 149 Unit MF - San Diego County, Annual

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	141.8680	141.8680	8.5500e-003	9.9000e-004	142.3760
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	141.8680	141.8680	8.5500e-003	9.9000e-004	142.3760
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	721731	141.1561	8.5100e-003	9.8000e-004	141.6615
Parking Lot	3640	0.7119	4.0000e-005	0.0000	0.7145
Total		**141.8680**	**8.5500e-003**	**9.8000e-004**	**142.3760**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	721731	141.1561	8.5100e-003	9.8000e-004	141.6615
Parking Lot	3640	0.7119	4.0000e-005	0.0000	0.7145
Total		**141.8680**	**8.5500e-003**	**9.8000e-004**	**142.3760**

6.0 Area Detail

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	0.7092	0.0127	1.1055	6.0000e-005		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	1.8077	1.8077	1.7300e-003	0.0000	1.8510
Unmitigated	0.7092	0.0127	1.1055	6.0000e-005		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	1.8077	1.8077	1.7300e-003	0.0000	1.8510

Piraeus Point 149 Unit MF - San Diego 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	0.0934					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5826					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	0.0332	0.0127	1.1055	6.0000e-005		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	1.8077	1.8077	1.7300e-003	0.0000	1.8510
Total	**0.7092**	**0.0127**	**1.1055**	**6.0000e-005**		**6.1300e-003**	**6.1300e-003**		**6.1300e-003**	**6.1300e-003**	**0.0000**	**1.8077**	**1.8077**	**1.7300e-003**	**0.0000**	**1.8510**

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	0.0934					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5826					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	0.0332	0.0127	1.1055	6.0000e-005		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	1.8077	1.8077	1.7300e-003	0.0000	1.8510
Total	**0.7092**	**0.0127**	**1.1055**	**6.0000e-005**		**6.1300e-003**	**6.1300e-003**		**6.1300e-003**	**6.1300e-003**	**0.0000**	**1.8077**	**1.8077**	**1.7300e-003**	**0.0000**	**1.8510**

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	41.1012	0.3186	7.7300e-003	51.3716
Unmitigated	41.1012	0.3186	7.7300e-003	51.3716

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	9.70795 / 6.12023	41.1012	0.3186	7.7300e-003	51.3716
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**41.1012**	**0.3186**	**7.7300e-003**	**51.3716**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	9.70795 / 6.12023	41.1012	0.3186	7.7300e-003	51.3716
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**41.1012**	**0.3186**	**7.7300e-003**	**51.3716**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.9130	0.8222	0.0000	34.4689
Unmitigated	13.9130	0.8222	0.0000	34.4689

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			
Condo/Townhouse	68.54	13.9130	0.8222	0.0000	34.4689
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**13.9130**	**0.8222**	**0.0000**	**34.4689**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	68.54	13.9130	0.8222	0.0000	34.4689
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**13.9130**	**0.8222**	**0.0000**	**34.4689**

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

ATTACHMENT B

EMFAC 2017 (VMT per Trip Calculations)

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: County
Region: SAN DIEGO
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips
SAN DIEGC	2025	HHDT	Aggregatec	Aggregatec	GAS	16.62122221	2160.811939	332.5574139
SAN DIEGC	2025	HHDT	Aggregatec	Aggregatec	DSL	16598.3373	2003179.862	175728.9665
SAN DIEGC	2025	HHDT	Aggregatec	Aggregatec	NG	1151.00669	46869.15421	4488.926092
SAN DIEGC	2025	LDA	Aggregatec	Aggregatec	GAS	1519467.966	56754206.9	7177849.803
SAN DIEGC	2025	LDA	Aggregatec	Aggregatec	DSL	18671.09045	690321.6682	87491.64666
SAN DIEGC	2025	LDA	Aggregatec	Aggregatec	ELEC	46846.2012	2068368.302	231742.7734
SAN DIEGC	2025	LDT1	Aggregatec	Aggregatec	GAS	173946.4981	5960108.863	792515.1534
SAN DIEGC	2025	LDT1	Aggregatec	Aggregatec	DSL	88.98633906	1609.123945	290.8164719
SAN DIEGC	2025	LDT1	Aggregatec	Aggregatec	ELEC	2074.792295	96350.24747	10426.80834
SAN DIEGC	2025	LDT2	Aggregatec	Aggregatec	GAS	487846.2103	17314400.12	2266966.955
SAN DIEGC	2025	LDT2	Aggregatec	Aggregatec	DSL	3717.387288	145971.1301	17997.14738
SAN DIEGC	2025	LDT2	Aggregatec	Aggregatec	ELEC	7882.174997	251820.3477	39576.16286
SAN DIEGC	2025	LHDT1	Aggregatec	Aggregatec	GAS	33781.5608	1211073.799	503294.9214
SAN DIEGC	2025	LHDT1	Aggregatec	Aggregatec	DSL	33448.59921	1237477.078	420741.2997
SAN DIEGC	2025	LHDT2	Aggregatec	Aggregatec	GAS	5525.568531	197013.8476	82322.73801
SAN DIEGC	2025	LHDT2	Aggregatec	Aggregatec	DSL	12294.59157	458167.0327	154650.4954
SAN DIEGC	2025	MCY	Aggregatec	Aggregatec	GAS	81028.57501	619719.7885	162057.15
SAN DIEGC	2025	MDV	Aggregatec	Aggregatec	GAS	317946.1921	11174917.09	1463572.656
SAN DIEGC	2025	MDV	Aggregatec	Aggregatec	DSL	8729.716022	345420.9236	41931.27104
SAN DIEGC	2025	MDV	Aggregatec	Aggregatec	ELEC	4973.835827	162831.9841	25175.9628
SAN DIEGC	2025	MH	Aggregatec	Aggregatec	GAS	9512.058939	82862.93297	951.5863762
SAN DIEGC	2025	MH	Aggregatec	Aggregatec	DSL	3889.548074	33693.78742	388.9548074
SAN DIEGC	2025	MHDT	Aggregatec	Aggregatec	GAS	3848.928068	223952.1122	77009.35279
SAN DIEGC	2025	MHDT	Aggregatec	Aggregatec	DSL	21396.9528	1290825.445	205355.7976
SAN DIEGC	2025	OBUS	Aggregatec	Aggregatec	GAS	1227.727046	60038.83634	24564.36274
SAN DIEGC	2025	OBUS	Aggregatec	Aggregatec	DSL	760.5320306	56501.90488	7611.281128
SAN DIEGC	2025	SBUS	Aggregatec	Aggregatec	GAS	338.3875584	17301.8374	1353.550234
SAN DIEGC	2025	SBUS	Aggregatec	Aggregatec	DSL	2355.631184	73642.28935	27183.65726
SAN DIEGC	2025	UBUS	Aggregatec	Aggregatec	GAS	441.5686833	46393.9065	1766.274733
SAN DIEGC	2025	UBUS	Aggregatec	Aggregatec	DSL	0	0	0
SAN DIEGC	2025	UBUS	Aggregatec	Aggregatec	NG	1184.772312	133157.9791	4739.089249

Total Trips		14010078.12
Total VMT	102760359.1	
VMT/Trip	7.334745619	

ATTACHMENT C

RPS Calculations for CalEEMod

SDG&E GHG Energy Emission Factors with RPS

Year	RPS Achieved	Co2 Intensity	CH4 Intensity	N2O Intensity	
2020 Base Year	33.00%	539.98	0.0330	0.0040	
Any Year No RPS Included	0.0%	805.94	0.0493	0.0060	
2009	10.5%	721.32	0.0441	0.0053	
2020	33.0%	539.98	0.0330	0.0040	33% Required by Law
2021	35.7%	518.22	0.0317	0.0038	
2022	38.4%	496.46	0.0303	0.0037	
2023	41.1%	474.70	0.0290	0.0035	
2024	43.8%	452.94	0.0277	0.0034	
2025	46.5%	431.18	0.0264	0.0032	
2026	49.2%	409.42	0.0250	0.0030	
2027	51.9%	387.66	0.0237	0.0029	
2028	54.6%	365.90	0.0224	0.0027	
2029	57.3%	344.14	0.0210	0.0025	
2030	60.0%	322.38	0.0197	0.0024	60% Required by Law

ATTACHMENT D

NREL PV Watts Energy Calculations

NREL
NATIONAL RENEWABLE ENERGY LABORATORY

Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at https://sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

The energy output range is based on analysis of 30 years of historical weather data for nearby, and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

RESULTS

245,206 kWh/Year*

System output may range from 235,692 to 246,751 kWh per year near this location.

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)	Value ($)
January	4.51	16,300	2,665
February	5.21	17,157	2,805
March	6.03	21,767	3,559
April	6.81	23,563	3,853
May	6.53	23,524	3,846
June	6.54	22,689	3,710
July	6.63	23,249	3,801
August	6.74	23,700	3,875
September	6.29	21,341	3,489
October	5.40	18,982	3,104
November	4.93	17,201	2,812
December	4.30	15,733	2,572
Annual	**5.83**	**245,206**	**$ 40,091**

Location and Station Identification

Requested Location	encinitas ca
Weather Data Source	Lat, Lon: 33.05, -117.3 0.6 mi
Latitude	33.05° N
Longitude	117.30° W

PV System Specifications *(Residential)*

DC System Size	149 kW
Module Type	Premium
Array Type	Fixed (open rack)
Array Tilt	20°
Array Azimuth	180°
System Losses	14.08%
Inverter Efficiency	96%
DC to AC Size Ratio	1.2

Economics

Average Retail Electricity Rate	0.164 $/kWh

Performance Metrics

Capacity Factor	18.8%

ATTACHMENT E

CalEEMod (149 kW Solar)

Piraeus Solar - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Piraeus Solar

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project would install 149kw solar

Land Use - Rooftop Solar

Construction Phase -

Off-road Equipment -

Off-road Equipment - zero hours

Trips and VMT - zero

Grading -

Architectural Coating -

Vehicle Trips -

Woodstoves - o

Area Coating -

Landscape Equipment - zero

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation -

Energy Mitigation - Based on PVWatts, 149 kw of solar would generate 245206 kWh per year.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintParkingValue	0	250
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.029
tblProjectCharacteristics	CO2IntensityFactor	539.98	720.49
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.006
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated 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					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

		Highest		

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-80.1355	-80.1355	-0.0032	-0.0007	-80.4150
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**-80.1355**	**-80.1355**	**-0.0032**	**-0.0007**	**-80.4150**

	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**	**400,677,350.00**	**400,677,350.00**	**0.00**	**0.00**	**402,074,900.00**

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	1/1/2024	1/1/2024	5	1	

Acres of Grading (Site Preparation Phase): 0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	0.00	174	0.41

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	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	14.70	6.60	6.60	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
User Defined Industrial	0.561854	0.062428	0.177046	0.117565	0.023832	0.006317	0.008949	0.006298	0.000705	0.000577	0.028723	0.000955	0.004751

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	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	-80.1355	-80.1355	-0.0032	-0.0007	-80.4150
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	-245206	-80.1355	-0.0032	-0.0007	-80.4150
Total		**-80.1355**	**-0.0032**	**-0.0007**	**-80.4150**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation