

Appendix H

Greenhouse Gas Report

GREENHOUSE GAS

Iris Lane Multi-Family Development City of Escondido, CA

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LIST OF 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)

California Environmental Quality Act (CEQA)

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)

EXECUTIVE SUMMARY

This greenhouse gas assessment (GHG) was prepared according to guidelines established within the California Global Warming Solutions Act of 2006 – Assembly Bill 32 (AB32), Senate Bill 97 (SB97), California Environmental Quality Act (CEQA) and SB32. Greenhouse Gases (GHGs) analyzed in this study are Carbon Dioxide (CO₂), Methane (CH₄), and Nitrous Oxide (N₂O). To simplify GHG calculations, both CH₄ and N₂O are converted to equivalent amounts of CO₂ and are identified as carbon dioxide equivalent (CO₂e).

The Project is located at 2085 N Iris Lane. The Project proposes to annex a 7.69 acre site from the County of San Diego to the City of Escondido. The project would construct a 102 multi-family residential development. Project design features (PDFs) have been included in this Project. The applicant has agreed to implement all PDFs, which will be included in the Project's Conditions of approval and are shown in Section 1.4 of this report.

The proposed project shall be annexed into the City of Escondido from the County of San Diego. Under the County's General plan, the project site has a zoning density of R24 or 24 dwelling units per acre (DU/acre) and the project applicant is seeking an Urban 3 General Plan land-use designation that allows up to 18 du/ac and this specific project would be 13.2 DU/acre. The project zoning would be Planned Development-Residential (PD-R). Since SANDAG regional growth projections are based on zoning classifications of R24 within the County, a reduction from 24 to 18 units per acre would decrease projected growth within the region. Given this, the proposed density of 13.2 DU/Acre would produce no significant cumulative operational greenhouse gas impacts.

During construction of the Project, it is expected that approximately 917.01 Metric Tons (MT) of CO₂e will be generated. Given this, the Project would generate 30.57 MT CO₂e per year over the amortized 30-year minimum life of the Project. After Construction and during operations of the Project, a combined GHG emissions of 495.66 MT CO₂e is expected. Again, as noted above, the project PDFs will be a condition of approval as a project requirement.

The City of Escondido has a CAP Checklist screening level of 500 MT CO₂e. Projects which do not exceed this threshold would have a less than significant impact on the environment. Also, an alternative method would be to identify the annual GHG emissions divided by the project population or service population (SP) and should be less than 2.0 MT CO₂e within the City. This threshold ratio is sometimes called the GHG Efficiency Threshold. The proposed project would produce 495.66 MT CO₂e per year with a GHG efficiency of 1.56 MT CO₂e per service population. These emissions would be less than both thresholds. The project will also install multiple PDFs which are consistent with the CAP checklist. Based on this, the project would have a less than significant GHG impact and no GHG mitigation measures would be required.

1.0 INTRODUCTION

1.1 Purpose of this Study

The purpose of this GHG assessment is to provide documentation in support of the City's CEQA compliance requirement. The proposed Project's GHG emissions impacts are based on the recommendations provided in Appendix G of the CEQA Guidelines which are (14 CCR 15000 et seq.):

- 1. Will the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- 2. Will the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

1.2 Project Location

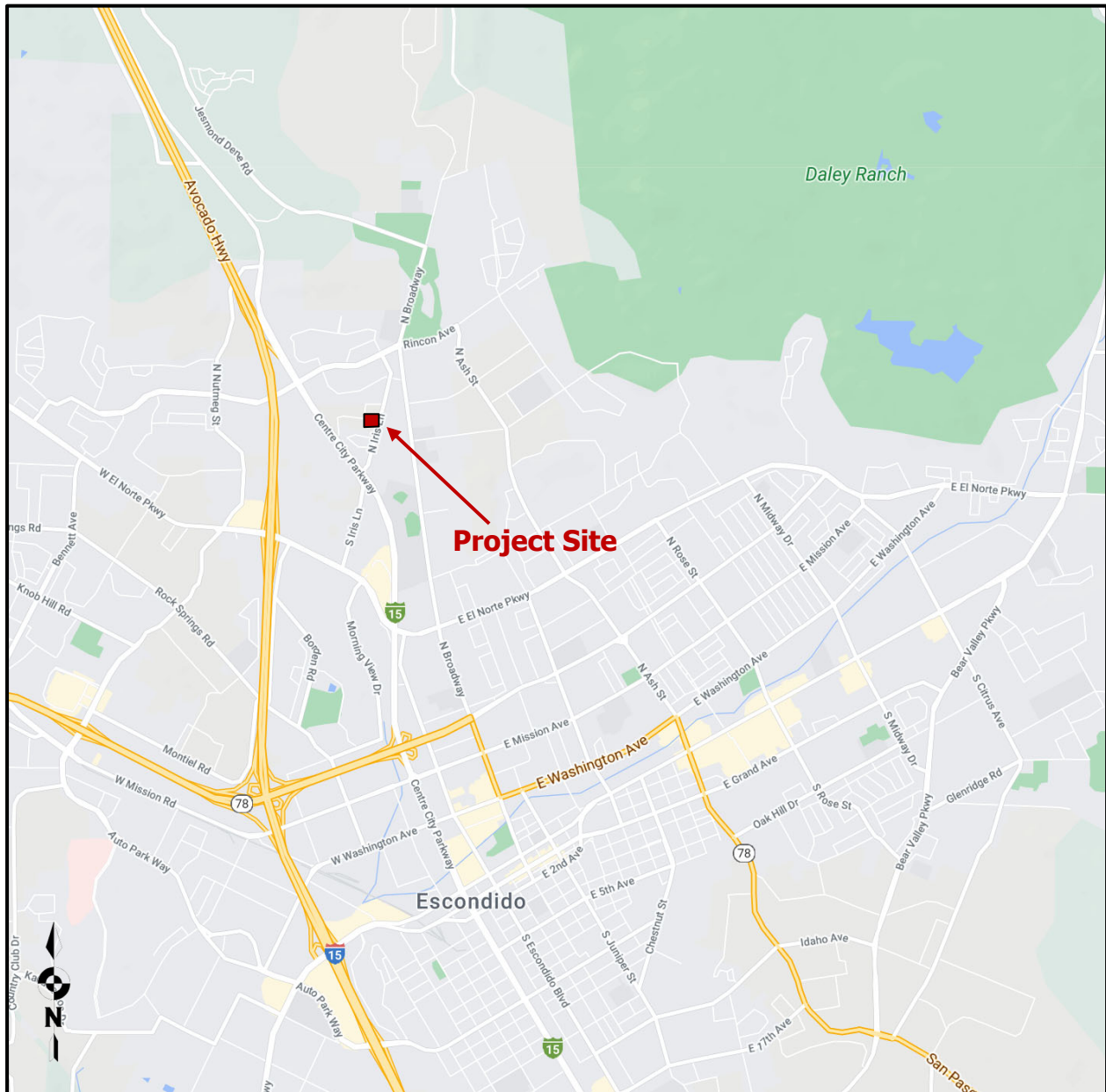
The Project site is located on a 7.69-acre site located in the northern area of the City of Escondido on 2085 North Iris Lane. A Project vicinity map is shown in Figure 1-A.

1.3 Project Description

The Project proposes to annex a 7.69 acre site from the County of San Diego to the City of Escondido. The project would construct a 102 multi-family residential development with approximately 230 parking of which 26 would be common area parking and the remaining would be within garages. The proposed project would require demolishing the existing structures onsite (approximately 10,000 Square Feet (SF)). The project also may require some blasting-related activities and materials blasted would be exported offsite and clean soils would be brought in to replace. Grading of the Project site will consist of approximately 6,812 cubic yards (CY) export and 22,112 CY of import. It is expected that the Project would begin work sometime in 2023 and be completed sometime in 2025 with full occupancy and operations expected sometime in 2025.

Of relevance to this analysis, blasting-related activities would utilize ammonium nitrate with fuel oil (ANFO) based explosives. When ANFO detonates, the blast would produce both CO and NO_x (EPA, 1995) neither of which are considered GHGs.

Figure 1-A: Annexation Vicinity Map



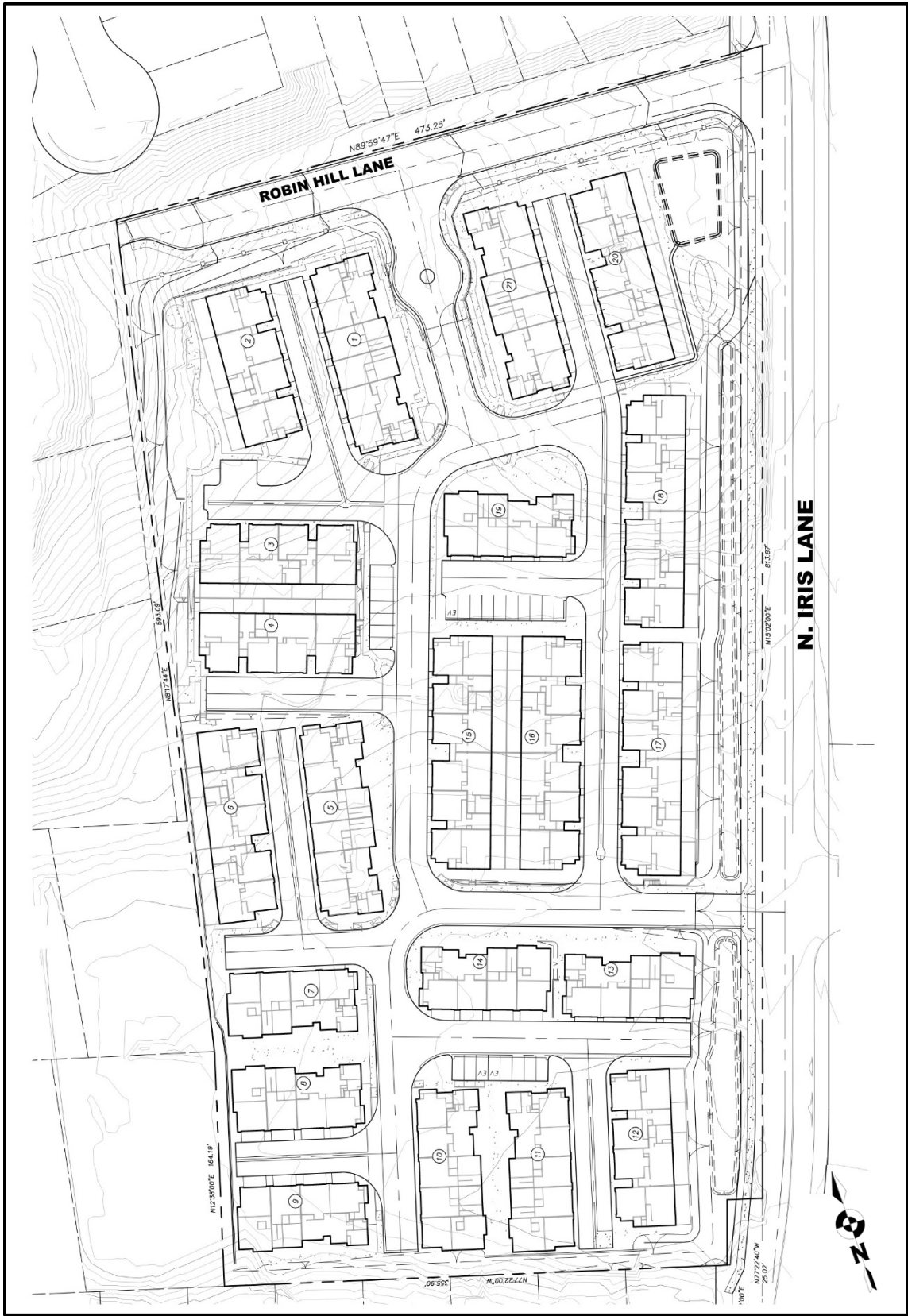
Source: (Google, 2020)

1.4 Project Design Features

Project design features (PDFs) have been incorporated into the Project to reduce emissions associated with operations of this Project. 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 Escondido can recommend approval. If mitigation measures are required for compliance, they will be identified later in this analysis. A list of Project PDFs are provided below. The Project site plan is shown in Figure 1-B.

1. The Project would install Low Flow water fixtures in all the units.
2. All lights within the facility 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 utilize Energy Star Appliances
6. The Project would utilize Tier 4 construction Equipment with Diesel Particulate Filters (DPF) attached or equivalent.
7. The Project will plant 102 trees to sequester Carbon Dioxide (CO₂)
8. The Project shall install 2kW of solar per unit or roughly 204 kilowatts (KW) of solar in total at the project site.
9. The Project will install Electric Heat Pump Water Heaters in all units.

Figure 1-B: Project Site Development Plan



Source: (SB&O Inc., 2021)

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Understanding Greenhouse Gasses

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. However, because these gases can both absorb and emit heat, the earth's temperature does not sway too far in either direction.

Over the years as human activities require the use of burning fossil fuels stored carbon is released into the air in the form of CO₂ and to a much lesser extent Carbon Monoxide (CO). Additionally, over the years scientist have measured this rise in Carbon Dioxide and the general consensus is that human activities contribute to the heating of the planet. Additionally, other GHGs such as Methane and Nitrous Oxide would contribute to global warming.

GHGs of concern as analyzed in this study are CO₂, Methane (CH₄), and Nitrous Oxide (N₂O). To simplify GHG calculations, both CH₄ and N₂O can be converted to an equivalent amount of CO₂ or CO₂e. CO₂e is calculated by multiplying the calculated levels of CH₄ and N₂O by a Global Warming Potential (GWP). The latest California Emissions Estimator Model (CalEEMod 2020.4.0) developed by Breeze Software uses the Intergovernmental Panel on Climate Change (IPCC) 2007 report as source data for GWP factors for both CH₄ and N₂O (CAPCOA, September 2016), using the 100-year period of 25 and 298, respectively (IPCC, 2007). Furthermore, it should be noted that biogenic GHGs from the degradation of organic materials produced by human activities such as solid waste breakdown and wastewater breakdown are also calculated within CalEEMod and presented in this report.

2.2 Existing Setting

The Project site lies in the northern portion of the County of San Diego in the City of Escondido. The existing site is occupied by residential uses. The Project would demolish approximately 10,000 SF of existing buildings prior to construction. The site is mostly disturbed. Elevations onsite average about 720 feet above sea level.

2.3 Climate (Escondido)

Climate within the San Diego Air Basin (SDAB) area often varies dramatically over short geographical distances with cooler temperatures on the western coast gradually warming to

the east as prevailing winds from the west heat up. Most of southern California is dominated by high-pressure systems for much of the year, which keeps San Diego mostly sunny and warm. Typically, during the winter months, the high-pressure system drops to the south and brings cooler, moister weather from the north. It is common for inversion layers to develop within high-pressure areas, which mostly define pressure patterns over the SDAB. These inversions are caused when a thin layer of the atmosphere increases in temperature with height. An inversion acts like a lid preventing vertical mixing of air through convective overturning.

Meteorological trends within Escondido produce daytime highs ranging between 65°F in the winter to approximately 88°F in the summer with August usually being the hottest month. Median temperatures range from approximately 57°F in the winter to approximately 78°F in the summer. Precipitation is generally about 16.2 inches per year (WRCC, 2018). Prevailing wind patterns for the area vary during any given month during the year and also vary depending on the time of day or night. The predominant pattern though throughout the year is usually from the west or westerly (WRCC, 2018).

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 CO₂, CH₄, N₂O, Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur hexafluoride (SF₆)— 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—CO₂, CH₄, N₂O, 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 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) CO₂E). 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 (2008 Scoping Plan)* in accordance with Health and Safety Code Section 38561. The *2008 Scoping Plan* established an overall framework for the measures to 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 Team¹ 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.

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 *2008 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. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020

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.

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 was on track to meet the 2020 emissions reduction mandate established by AB 32, 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.

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 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 CO₂e. 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).

2017 Climate Change Scoping Plan

In November 2017, CARB released *California's 2017 Climate Change Scoping Plan* for public review and comment (CARB, 2017). This update includes 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 *2017 Scoping Plan* 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 *2017 Scoping Plan* 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 under CEQA." CARB's Governing Board adopted the *2017 Scoping Plan* in December 2017.

Building Energy

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.

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.

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 2016 Title 24 standards, which went into effect on January 1, 2017. 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 percent and 15 percent less electricity under the 2016 standards, respectively. Similarly, implementation of the 2016 standards is expected to reduce natural gas consumption by 21 percent in single-family homes and 31 percent in multi-family homes. Newly constructed non-residential buildings are estimated to achieve a 5 percent 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. At the time this report was written, the 2019 standards were applicable and went 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 initially 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 EV 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 CALGreen standards were again updated in 2019 which includes mandatory measures for planning and design, energy efficiency, water and conservation efficiency, material and resource conservation as well as Environmental Quality. A thorough checklist is provided by California's Housing and Community Development Department (Housing and Community Development, 2019). The project would be required to utilize the latest CalGreen standards (International Code Council, 2019).

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.

Mobile Sources

AB 1493

In response to the transportation sector accounting for more than half of California's CO₂ 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, Clean Car Standards - Pavley, Assembly Bill 1493, 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 CO₂e grams per unit of fuel energy sold in California. 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 and began implementation in 2011. The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector.

The latest amendment to LCFS implementation regulations was in 2018 and CARB approved amendments which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32 (CARB, 2018).

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 cities or counties 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 (CARB, 2018). SANDAG is in the process of preparing its next SCS, which will consider whether and how the region could attain these reduction targets.

Currently SANDAG is working on the 2021 Regional Plan. The current Draft Plan provides a big picture vision for how the San Diego region will grow through 2050 and beyond with an implementation program to help make the plan a reality. Within the Draft Plan, SANDAG introduced a transformative vision for transportation in San Diego County that completely reimagines how people and goods could move throughout the region in the 21st century. The plan outlines the “5 Big Moves” which are: Complete Corridors, Transit Leap, Mobility Hubs, Flexible Fleets, and the Next OS. The SANDAG Board of Directors will be asked to adopt the 2021 Regional Plan in late 2021. Once adopted, it will become the region’s long-term plan to be implemented incrementally through the Regional Transportation Improvement Program (RTIP) (SANDAG, 2021).

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 also 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, also 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 (California Air Resources Board, 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.

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 within the State of California 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

AB 939 (1989), 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, 2020). Increased diversion of organic materials (green and food waste) will also reduce GHG

emissions (CO₂ and CH₄) 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

Appendix G of the CEQA Guidelines

Amendments to Appendix G of the CEQA Guidelines were finalized in December 2018. According to Appendix G of the CEQA Guidelines, a project would have a significant environmental impact related to GHGs if it would:

- 1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*
- 2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

For purposes of this analysis, the two Appendix G checklist questions set forth above are utilized as the thresholds of significance when evaluating the environmental effects of the Project's GHG emissions. In applying these thresholds, reference is made to CEQA Guidelines Section 15064.4(b)(1)-(3).

City of Escondido 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.

City of Escondido Climate Action Plan

The City of Escondido developed an update to the 2013 Climate Action Plan (CAP) (City of Escondido, 2020). The CAP outlines strategies and measures that the City will undertake to achieve its proportional share of State GHG emissions reduction targets. The CAP's strategies and measures are designed to reduce GHG emissions for build-out under the General Plan. The CAP does so by (1) calculating a baseline GHG emissions level as of 2012; and (2) estimating future 2030 and 2035 emissions under a business as usual standard; and (3) implementing state mandated GHG reduction targets. Measures to reduce GHG emissions for projects with land use consistent with the City's General Plan are found in the CAP. The CAP aims to achieve the following local community wide GHG reduction targets:

- 4 percent below 2012 levels (907,000 MTCO₂e) by 2020,
- 42 percent below 2012 levels (547,000 MTCO₂e) by 2030, and
- 52 percent below 2012 levels (456,000 MTCO₂e) by 2035.

The City has also developed a Climate Action Plan Consistency Review Checklist (CAP Consistency Checklist), in conjunction with the CAP, to provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. This memorandum summarizes the methodology and application of a GHG screening threshold (set at 500 metric tons carbon dioxide equivalent [MTCO₂e] per year) for new development projects in order to determine if a project would need to demonstrate consistency with the CAP through the CAP Consistency Checklist. The memorandum also describes application of a numerical GHG threshold (set at 2.0 MTCO₂e per service population (SP) per year) for use as a supplemental method for demonstrating consistency with the CAP.

A Project's "service population" refers to a Project's residential population plus employment population which would be generated by a proposed project development. This efficiency metric is expressed as MT CO₂e per service population per year (MT CO₂e/year/service population). Therefore, sometimes a residential project expresses its GHG efficiency in terms of GHG efficiency per Capita (PC) per year, instead of per service person (Project MT CO₂e/year/PC).

The San Diego Association of Governments (SANDAG), San Diego's regional planning agency, projects and estimates population for all jurisdictions in the San Diego region (SANDAG, 2020). The population in 2035 within the City of Escondido is based on SANDAG Series 13 projection year 2035 which is 172,892. Housing within the city is 55,633 units. Therefore, the 2035 population per home is 172,892 divided by the anticipated number of residential units which equates to approximately 3.1 people per residential unit in 2035.

4.0 METHODOLOGY

4.1 Construction CO₂e Emissions Calculation Methodology

Project construction dates were estimated based on a construction start date in 23 with construction ending in 25. As part of the construction operations, the Project would demolish existing structures onsite which would be approximately 10,000 SF. The project also may require some blasting-related activities and materials blasted would be exported offsite and clean soils would be brought in to replaced. Grading of the Project site will consist of approximately 6,812 cubic yards (CY) export and 22,112 CY of import.. CalEEMod was utilized for all construction calculations and has been manually updated to reflect Project Design Features. CalEEMod automatically includes haul trips based on the total quantities of demolition and soil inputs and is included in this analysis.

The Project applicant has indicated that construction design features identified in Section 1.4 would be fully utilized, and those would be made conditions of approval. Table 4.1 shows the expected timeframes for the construction of all project infrastructure, facilities, and improvements, as well as the expected number of pieces of equipment.

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 EMFAC 2017 average miles driven per trip within the County for 2035 and 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). Also, it should be noted that the assumptions above in Table 4.1 would be conservative in the event construction began/ended at a later date as annual building codes, vehicles and construction fleets improve over time and emit fewer air quality emissions as technologies improve.

Table 4.1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Complete	Quantity
Demolition	06/01/2023	06/28/2023	
Concrete/Industrial Saws			1
Excavators			1
Tractors/Loaders/Backhoes			1
Site Preparation	06/01/2023	07/12/2023	
Rubber Tired Dozers			3
Tractors/Loaders/Backhoes			4
Grading	07/13/2023	08/30/2023	
Excavators			1
Graders			1
Rubber Tired Dozers			1
Bore/Drill Rigs			1
Tractors/Loaders/Backhoes			3
Paving	08/31/2023	09/27/2023	
Pavers			2
Paving Equipment			2
Rollers			2
Building Construction	09/28/2023	02/12/2025	
Cranes			1
Forklifts			3
Generator Sets			1
Tractors/Loaders/Backhoes			3
Welders			1
Architectural Coating	12/15/2024	02/12/2025	
Air Compressors			1
This equipment list is based upon equipment inventory within CalEEMod. The quantity and types are based upon assumptions provided by the Project applicant.			

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 uses such as electricity and natural gas consumption. 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 GHGs through the use of carbon fuel burning vehicles for

transportation which were assumed to be 8 trips per a residential unit or 816 trips (LOS Engineering, 2022).

Energy Intensities as recommended by CalEEMod inputs were assumed within this report. Title 24 efficiencies as modeled within CalEEMod 2020.4.0 utilize Title 24 (2019) as defaults.

It should be noted that electrical energy-intensity factors were updated in CalEEMod 2020.4.0 to reflect San Diego Gas and Electric's (SDG&E) latest emissions rates which SDG&E provided to CAPCOA for the model update. CalEEMod 2016.3.2 (the model prior to 2020.4.0) was based on default emissions from 2009 which included a 10.5% RPS factor as indicated by California Public Utilities Commission (CPUC) (CPUC, 2016). The default CalEEMod 2020.4.0 emissions are now 540 pounds per megawatt hour (lb/MWh) which when compared with the defaults in 2016.3.2 represents a 33% achievement for RPS in 2020 which is consistent with SBX1-2.

In accordance with SB 100, SDG&E will achieve an RPS of 60% in 2030. The 4.3 identifies what the emissions in 2030 will be assuming a 60% RPS is achieved as required by current law. For purposes of this analysis, 2030 emission generation rates are used.

Table 4.3: SDG&E Energy Intensity Factors

GHG	2009 Factors (lbs/MWh) w/10.5% RPS	Current RPS Factors 2020 33% Achieved (lbs/MWh)	Current RPS Factors 2030 60% Achieved (lbs/MWh)
Carbon Dioxide (CO ₂)	720.49	539.98	322.38
Methane (CH ₄)	0.029	0.033	0.0197
Nitrous Oxide (N ₂ O)	0.006	0.004	0.0024

The CalEEMod model for the Project has been updated to implement design features identified in Section 1.4 of this analysis. PDFs 1-6 were all modeled within CalEEMod as shown in Section 1.4 above. Outputs from CalEEMod are discussed further in Section 5 of this analysis.

PDF 7 would be to plant a minimum 102 trees. CalEEMod uses the IPCC's protocol for vegetation sequestration calculations. Based on this, the model estimates how much CO₂ newly planted trees will sequester and reports the sequestration as a one-time carbon-stock change. (Per the IPCC, trees sequester CO₂ while they are actively growing) CalEEMod estimates a one-time emission reduction from each tree over the trees growing lifecycle of 20 years. The output from CalEEMod was then adjusted to reflect the 30-year annual average assumed as the facility lifecycle. Outputs from CalEEMod are discussed further in Section 5 of this analysis.

PDF 8 calls for the installation of 2kW of solar per unit. For reduction calculations associated with the PV design feature, annual energy estimates were provided by the National Renewable Energy Laboratory (NREL, 2020) and are shown as **Attachment C** to this report. Based on this, the Project solar (204 kW) would be estimated to generate 384,400 kWh of annual electrical energy. It should be noted that the more solar produced by the Project, the project reduces the amount of non-renewable energy added to the grid by offsite utilities. Given this, offsite generation from offsite renewables would not be offset from onsite renewables. Instead, it is assumed that an equivalent of non-renewable generation is offset at 100% from all onsite solar generation by the project. Therefore, GHG intensities identified in 2009 shown in Table 4.3 above are used within CalEEMod 2020.4.0 to determine GHG reductions from onsite solar and are shown in **Attachment D** to this report.

PDF-9 calls for the project to be consistent with the City's guidelines to install Heat Pump water heaters in new developments (See E-4.1 of the City's CAP). The City's CAP estimated that in the year 2035, 822 MT CO₂e will be reduced from Heat Pump water heaters which is based on the installation of 1,204 Heat Pump water heaters or roughly 0.68 MT/Heat Pump. Based on the addition of 102 heat pump water heaters, a reduction of 69.63 MT CO₂e would be expected in 2035.

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 917.01 MT CO₂e 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 30.57 MT CO₂e 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 attached.

Table 5.1: Expected Construction CO₂e Emissions Summary MT/Year

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2023	0.00	377.32	377.32	0.07	0.02	385.28
2024	0.00	465.14	465.14	0.08	0.01	470.68
2025	0.00	60.39	60.39	0.01	0.00	61.06
Total						917.01
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						30.57
Expected Construction emissions are based upon CalEEMod assumptions for equipment and durations listed in Table 4.1.						

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 2035 are identified in Table 5.2 below.

Based on PDF 7, the project would plant a minimum 102 trees and was modeled as such within CalEEMod. As noted in Section 4.2 of this report, CalEEMod estimates a onetime sequestration from planted trees. Based on the model outputs, the 102 trees would sequester 72.21 MT CO₂e over the tree's lifecycle. Similar to construction, the average yearly amortization over a 30 year period would be 2.41 MT CO₂e per year.

PDF 8 will reduce annual operational emissions through the addition of 204 kW of PV which would generate 384,400 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 126.06 MT CO₂e annually.

PDF 9 would install heat pump water heaters which will reduce GHG emissions by 69.63 MT CO₂e annually.

Based on the CalEEMod analysis, the proposed Project buildout with annualized construction emissions would generate 693.76 MT CO₂e annually which is shown in Table 5.2. These emissions include PDFs 1-6 shown above. PDFs 7-9 reduce emissions a further 198.10 MT reducing project emissions to 495.66 MT CO₂e after all PDFs have been implemented.

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

Source	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e (MT/Yr)
Area	0.00	1.24	1.24	0.00	0.00	1.27
Energy	0.00	111.70	111.70	0.00	0.00	112.23
Mobile	0.00	497.30	497.30	0.04	0.02	504.78
Waste	7.14	0.00	7.14	0.42	0.00	17.70
Water	2.11	18.10	20.21	0.22	0.01	27.21
Total includes reductions from PDFs 1-6						663.19
Amortized Construction Emissions						30.57
Total						693.76
PDF 7 Plant a minimum of 102 Trees						-2.41
PDF 8 – 204 kWh of PV						-126.06
PDF 9 Install 102 heat pump water heaters						-69.63
Project Total GHG Emissions						495.66
SP = SANDAG Person Per household (3.1) = (102*3.1)						316.2
MT/SP						1.57

The proposed project seeks to be annexed into the City of Escondido from the County of San Diego. The County's General plan had a zoning density of 24 DU/acre and the proposed site is seeking a zoning classification of 13.2 DU/acre. Since SANDAG regional growth projections are based on zoning classifications of R24 within the County, a reduction from 24 to 13.2 DU/acre would decrease projected growth within the Region. Given this the proposed R13.2 zoning classification would be less intense in terms of GHGs for the region.

The City of Escondido has a CAP Checklist screening level suggesting that projects that emit fewer than 500 MT CO₂e would have a less than significant impact on the environment. Also,

an alternative method would be to identify the annual GHG emissions divided by the SP which should be less than 2.0 within the City. The proposed project would produce 495.66 MT CO₂e per year which produces a 1.57 MT CO₂e per service population. These emissions would be less than both thresholds. The project will also install multiple PDFs which are consistent with the CAP checklist. Based on this, the project would have a less than significant GHG impact and no GHG mitigation measures would be necessary.

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7.0 CERTIFICATIONS

The contents of this report represent an accurate depiction of the projected CO₂e emissions from the Project development based upon the best available information at the time of preparation.

DRAFT

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Date June 21, 2022

ATTACHMENT A

CalEEMod 2020.4.0 (102 Units)

IRIS MF (102 units) - San Diego County, Annual

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

IRIS MF (102 units)
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	230.00	Space	2.70	92,000.00	0
Apartment Low Rise	102.00	Dwelling Unit	4.99	102,000.00	292

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	322.38	CH4 Intensity (lb/MWhr)	0.02	N2O Intensity (lb/MWhr)	0.002

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - RPS 2030 which is conservative... projections and RPS estimates for 2035 would be lower
- Land Use - 7.69 acres
- Construction Phase - Estimated Construction Schedule
- Off-road Equipment - CE
- Off-road Equipment - ce
- Trips and VMT -
- Demolition -
- Grading -
- Architectural Coating - Rule 67 Paint

IRIS MF (102 units) - San Diego County, Annual

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

Vehicle Trips - SANDAG MF 8 trip/unit; EMFAC 2017 for 2035 is 6.875 miles

Woodstoves - No hearth options onsite

Area Coating - Rule 67 Paint

Energy Use -

Water And Wastewater -

Solid Waste -

Sequestration -

Construction Off-road Equipment Mitigation - Tier 4 Equipment

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix -

[illegible]

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

[illegible]

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	20.00	35.00
tblConstructionPhase	NumDays	230.00	360.00
tblConstructionPhase	NumDays	20.00	43.00
tblFireplaces	NumberGas	56.10	0.00
tblFireplaces	NumberNoFireplace	10.20	102.00
tblFireplaces	NumberWood	35.70	0.00
tblGrading	MaterialExported	0.00	6,812.00
tblGrading	MaterialImported	0.00	17,012.00
tblGrading	MaterialImported	0.00	5,100.00
tblLandUse	LotAcreage	2.07	2.70
tblLandUse	LotAcreage	6.38	4.99
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.02
tblProjectCharacteristics	CO2IntensityFactor	539.98	322.38
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.002
tblSequestration	NumberOfNewTrees	0.00	102.00
tblVehicleTrips	HO_TL	7.50	6.88
tblVehicleTrips	HO_TTP	39.60	39.00
tblVehicleTrips	HS_TL	7.30	6.88
tblVehicleTrips	HS_TTP	18.80	19.00
tblVehicleTrips	HW_TL	10.80	6.88
tblVehicleTrips	HW_TTP	41.60	42.00
tblVehicleTrips	ST_TR	8.14	8.00
tblVehicleTrips	SU_TR	6.28	8.00
tblVehicleTrips	WD_TR	7.32	8.00
tblWoodstoves	NumberCatalytic	5.10	0.00

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

tblWoodstoves	:	NumberNoncatalytic	:	5.10	:	0.00
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2.0 Emissions Summary

IRIS MF (102 units) - San Diego County, Annual

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	0.1643	1.6986	1.5329	4.1200e-003	0.4996	0.0675	0.5671	0.2326	0.0628	0.2953	0.0000	377.3220	377.3220	0.0702	0.0208	385.2779
2024	0.4170	1.9436	2.4974	5.2200e-003	0.1413	0.0822	0.2236	0.0381	0.0774	0.1155	0.0000	465.1382	465.1382	0.0766	0.0122	470.6811
2025	0.4986	0.2318	0.3251	6.8000e-004	0.0193	9.1600e-003	0.0285	5.2000e-003	8.6700e-003	0.0139	0.0000	60.3916	60.3916	9.2500e-003	1.4500e-003	61.0552
Maximum	0.4986	1.9436	2.4974	5.2200e-003	0.4996	0.0822	0.5671	0.2326	0.0774	0.2953	0.0000	465.1382	465.1382	0.0766	0.0208	470.6811

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	0.0518	0.4565	1.7419	4.1200e-003	0.4996	3.0700e-003	0.5026	0.2326	2.9500e-003	0.2355	0.0000	377.3218	377.3218	0.0702	0.0208	385.2777
2024	0.2663	0.4686	2.6670	5.2200e-003	0.1413	2.3200e-003	0.1437	0.0381	2.2400e-003	0.0403	0.0000	465.1378	465.1378	0.0766	0.0122	470.6808
2025	0.4803	0.0574	0.3468	6.8000e-004	0.0193	2.9000e-004	0.0196	5.2000e-003	2.8000e-004	5.4800e-003	0.0000	60.3916	60.3916	9.2500e-003	1.4500e-003	61.0551
Maximum	0.4803	0.4686	2.6670	5.2200e-003	0.4996	3.0700e-003	0.5026	0.2326	2.9500e-003	0.2355	0.0000	465.1378	465.1378	0.0766	0.0208	470.6808

IRIS MF (102 units) - San Diego County, Annual

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
Percent Reduction	26.07	74.64	-9.19	0.00	0.00	96.43	18.70	0.00	96.32	33.76	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)
6	4-1-2023	6-30-2023	0.4213	0.0699
7	7-1-2023	9-30-2023	0.8600	0.2911
8	10-1-2023	12-31-2023	0.5814	0.1413
9	1-1-2024	3-31-2024	0.5396	0.1381
10	4-1-2024	6-30-2024	0.5366	0.1351
11	7-1-2024	9-30-2024	0.5425	0.1366
12	10-1-2024	12-31-2024	0.7385	0.3251
13	1-1-2025	3-31-2025	0.7243	0.5334
		Highest	0.8600	0.5334

IRIS MF (102 units) - San Diego County, Annual

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	0.5898	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710
Energy	5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	124.2461	124.2461	5.1700e-003	1.4900e-003	124.8193
Mobile	0.2575	0.2479	2.4302	4.9700e-003	0.6785	2.9800e-003	0.6815	0.1811	2.7800e-003	0.1838	0.0000	497.3008	497.3008	0.0350	0.0222	504.7792
Waste						0.0000	0.0000		0.0000	0.0000	9.5243	0.0000	9.5243	0.5629	0.0000	23.5961
Water						0.0000	0.0000		0.0000	0.0000	2.1084	19.4604	21.5687	0.2178	5.2300e-003	28.5724
Total	0.8533	0.3078	3.2088	5.3400e-003	0.6785	0.0113	0.6899	0.1811	0.0111	0.1922	11.6327	642.2485	653.8812	0.8220	0.0289	683.0380

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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	0.5898	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710
Energy	5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	111.7012	111.7012	4.3900e-003	1.4100e-003	112.2318
Mobile	0.2575	0.2479	2.4302	4.9700e-003	0.6785	2.9800e-003	0.6815	0.1811	2.7800e-003	0.1838	0.0000	497.3008	497.3008	0.0350	0.0222	504.7792
Waste						0.0000	0.0000		0.0000	0.0000	7.1433	0.0000	7.1433	0.4222	0.0000	17.6971
Water						0.0000	0.0000		0.0000	0.0000	2.1084	18.0990	20.2074	0.2177	5.2300e-003	27.2065
Total	0.8533	0.3078	3.2088	5.3400e-003	0.6785	0.0113	0.6899	0.1811	0.0111	0.1922	9.2516	628.3423	637.5940	0.6804	0.0288	663.1855

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.47	2.17	2.49	17.23	0.28	2.91

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**2.3 Vegetation****Vegetation**

	CO2e
Category	MT
New Trees	72.2160
Total	72.2160

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2023	6/28/2023	5	20	
2	Site Preparation	Site Preparation	6/1/2023	7/12/2023	5	30	
3	Grading	Grading	7/13/2023	8/30/2023	5	35	
4	Paving	Paving	8/31/2023	9/27/2023	5	20	
5	Building Construction	Building Construction	9/28/2023	2/12/2025	5	360	
6	Architectural Coating	Architectural Coating	12/15/2024	2/12/2025	5	43	

Acres of Grading (Site Preparation Phase): 45**Acres of Grading (Grading Phase): 35****Acres of Paving: 2.7**

Residential Indoor: 206,550; Residential Outdoor: 68,850; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 5,520 (Architectural Coating – sqft)

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

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Bore/Drill Rigs	1	8.00	221	0.50
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
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
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

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
Demolition	3	8.00	0.00	45.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	638.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	2,978.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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

Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	112.00	26.00	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

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Demolition - 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					4.9800e-003	0.0000	4.9800e-003	7.5000e-004	0.0000	7.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7400e-003	0.0567	0.0915	1.5000e-004		2.8000e-003	2.8000e-003		2.6800e-003	2.6800e-003	0.0000	12.6493	12.6493	2.6200e-003	0.0000	12.7147
Total	6.7400e-003	0.0567	0.0915	1.5000e-004	4.9800e-003	2.8000e-003	7.7800e-003	7.5000e-004	2.6800e-003	3.4300e-003	0.0000	12.6493	12.6493	2.6200e-003	0.0000	12.7147

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

3.2 Demolition - 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	5.0000e-005	3.0500e-003	8.1000e-004	1.0000e-005	3.9000e-004	3.0000e-005	4.1000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.3503	1.3503	7.0000e-005	2.1000e-004	1.4160
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	2.2000e-004	1.5000e-004	1.8300e-003	1.0000e-005	6.4000e-004	0.0000	6.5000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5140	0.5140	2.0000e-005	1.0000e-005	0.5186
Total	2.7000e-004	3.2000e-003	2.6400e-003	2.0000e-005	1.0300e-003	3.0000e-005	1.0600e-003	2.8000e-004	2.0000e-005	3.0000e-004	0.0000	1.8643	1.8643	9.0000e-005	2.2000e-004	1.9346

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					4.9800e-003	0.0000	4.9800e-003	7.5000e-004	0.0000	7.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6400e-003	7.1100e-003	0.1012	1.5000e-004		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	12.6493	12.6493	2.6200e-003	0.0000	12.7147
Total	1.6400e-003	7.1100e-003	0.1012	1.5000e-004	4.9800e-003	3.0000e-005	5.0100e-003	7.5000e-004	3.0000e-005	7.8000e-004	0.0000	12.6493	12.6493	2.6200e-003	0.0000	12.7147

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

3.2 Demolition - 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	5.0000e-005	3.0500e-003	8.1000e-004	1.0000e-005	3.9000e-004	3.0000e-005	4.1000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.3503	1.3503	7.0000e-005	2.1000e-004	1.4160
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	2.2000e-004	1.5000e-004	1.8300e-003	1.0000e-005	6.4000e-004	0.0000	6.5000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5140	0.5140	2.0000e-005	1.0000e-005	0.5186
Total	2.7000e-004	3.2000e-003	2.6400e-003	2.0000e-005	1.0300e-003	3.0000e-005	1.0600e-003	2.8000e-004	2.0000e-005	3.0000e-004	0.0000	1.8643	1.8643	9.0000e-005	2.2000e-004	1.9346

3.3 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					0.2952	0.0000	0.2952	0.1516	0.0000	0.1516	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0399	0.4129	0.2737	5.7000e-004		0.0190	0.0190		0.0175	0.0175	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817
Total	0.0399	0.4129	0.2737	5.7000e-004	0.2952	0.0190	0.3142	0.1516	0.0175	0.1691	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817

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

3.3 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	7.0000e-004	0.0433	0.0115	1.9000e-004	5.4600e-003	3.5000e-004	5.8200e-003	1.5000e-003	3.4000e-004	1.8400e-003	0.0000	19.1446	19.1446	9.6000e-004	3.0400e-003	20.0760
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	7.3000e-004	5.1000e-004	6.1700e-003	2.0000e-005	2.1700e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.7348	1.7348	5.0000e-005	5.0000e-005	1.7503
Total	1.4300e-003	0.0438	0.0177	2.1000e-004	7.6300e-003	3.6000e-004	8.0000e-003	2.0800e-003	3.5000e-004	2.4300e-003	0.0000	20.8794	20.8794	1.0100e-003	3.0900e-003	21.8263

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					0.2952	0.0000	0.2952	0.1516	0.0000	0.1516	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9800e-003	0.0303	0.3130	5.7000e-004		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817
Total	6.9800e-003	0.0303	0.3130	5.7000e-004	0.2952	1.4000e-004	0.2954	0.1516	1.4000e-004	0.1517	0.0000	50.1760	50.1760	0.0162	0.0000	50.5817

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

3.3 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	7.0000e-004	0.0433	0.0115	1.9000e-004	5.4600e-003	3.5000e-004	5.8200e-003	1.5000e-003	3.4000e-004	1.8400e-003	0.0000	19.1446	19.1446	9.6000e-004	3.0400e-003	20.0760
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	7.3000e-004	5.1000e-004	6.1700e-003	2.0000e-005	2.1700e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.7348	1.7348	5.0000e-005	5.0000e-005	1.7503
Total	1.4300e-003	0.0438	0.0177	2.1000e-004	7.6300e-003	3.6000e-004	8.0000e-003	2.0800e-003	3.5000e-004	2.4300e-003	0.0000	20.8794	20.8794	1.0100e-003	3.0900e-003	21.8263

3.4 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					0.1256	0.0000	0.1256	0.0602	0.0000	0.0602	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0337	0.3496	0.2937	6.8000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	60.1388	60.1388	0.0195	0.0000	60.6250
Total	0.0337	0.3496	0.2937	6.8000e-004	0.1256	0.0147	0.1403	0.0602	0.0135	0.0737	0.0000	60.1388	60.1388	0.0195	0.0000	60.6250

IRIS MF (102 units) - San Diego County, Annual

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

3.4 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	3.2900e-003	0.2021	0.0538	8.9000e-004	0.0255	1.6500e-003	0.0272	7.0100e-003	1.5800e-003	8.5900e-003	0.0000	89.3616	89.3616	4.5000e-003	0.0142	93.7091
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	8.5000e-004	5.9000e-004	7.2000e-003	2.0000e-005	2.5300e-003	1.0000e-005	2.5400e-003	6.7000e-004	1.0000e-005	6.8000e-004	0.0000	2.0239	2.0239	6.0000e-005	6.0000e-005	2.0420
Total	4.1400e-003	0.2027	0.0610	9.1000e-004	0.0280	1.6600e-003	0.0297	7.6800e-003	1.5900e-003	9.2700e-003	0.0000	91.3855	91.3855	4.5600e-003	0.0143	95.7510

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					0.1256	0.0000	0.1256	0.0602	0.0000	0.0602	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.4000e-003	0.0364	0.3857	6.8000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	60.1387	60.1387	0.0195	0.0000	60.6250
Total	8.4000e-003	0.0364	0.3857	6.8000e-004	0.1256	1.7000e-004	0.1258	0.0602	1.7000e-004	0.0604	0.0000	60.1387	60.1387	0.0195	0.0000	60.6250

IRIS MF (102 units) - San Diego County, Annual

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

3.4 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	3.2900e-003	0.2021	0.0538	8.9000e-004	0.0255	1.6500e-003	0.0272	7.0100e-003	1.5800e-003	8.5900e-003	0.0000	89.3616	89.3616	4.5000e-003	0.0142	93.7091
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	8.5000e-004	5.9000e-004	7.2000e-003	2.0000e-005	2.5300e-003	1.0000e-005	2.5400e-003	6.7000e-004	1.0000e-005	6.8000e-004	0.0000	2.0239	2.0239	6.0000e-005	6.0000e-005	2.0420
Total	4.1400e-003	0.2027	0.0610	9.1000e-004	0.0280	1.6600e-003	0.0297	7.6800e-003	1.5900e-003	9.2700e-003	0.0000	91.3855	91.3855	4.5600e-003	0.0143	95.7510

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	3.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0139	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888

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

3.5 Paving - 2023

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	4.1000e-004	2.8000e-004	3.4300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9638	0.9638	3.0000e-005	3.0000e-005	0.9724
Total	4.1000e-004	2.8000e-004	3.4300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9638	0.9638	3.0000e-005	3.0000e-005	0.9724

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	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	3.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.3400e-003	0.0122	0.1730	2.3000e-004		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888

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

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.8000e-004	3.4300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9638	0.9638	3.0000e-005	3.0000e-005	0.9724
Total	4.1000e-004	2.8000e-004	3.4300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9638	0.9638	3.0000e-005	3.0000e-005	0.9724

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0527	0.4819	0.5442	9.0000e-004		0.0234	0.0234		0.0221	0.0221	0.0000	77.6546	77.6546	0.0185	0.0000	78.1164
Total	0.0527	0.4819	0.5442	9.0000e-004		0.0234	0.0234		0.0221	0.0221	0.0000	77.6546	77.6546	0.0185	0.0000	78.1164

IRIS MF (102 units) - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Building Construction - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0200e-003	0.0387	0.0136	1.8000e-004	5.7800e-003	2.3000e-004	6.0100e-003	1.6700e-003	2.2000e-004	1.8900e-003	0.0000	17.4767	17.4767	5.3000e-004	2.5300e-003	18.2445
Worker	0.0102	7.0300e-003	0.0857	2.6000e-004	0.0301	1.7000e-004	0.0303	8.0000e-003	1.5000e-004	8.1500e-003	0.0000	24.1068	24.1068	7.1000e-004	6.6000e-004	24.3224
Total	0.0112	0.0457	0.0994	4.4000e-004	0.0359	4.0000e-004	0.0363	9.6700e-003	3.7000e-004	0.0100	0.0000	41.5834	41.5834	1.2400e-003	3.1900e-003	42.5669

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	0.0110	0.0749	0.5849	9.0000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	77.6545	77.6545	0.0185	0.0000	78.1163
Total	0.0110	0.0749	0.5849	9.0000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	77.6545	77.6545	0.0185	0.0000	78.1163

IRIS MF (102 units) - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 Building Construction - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0200e-003	0.0387	0.0136	1.8000e-004	5.7800e-003	2.3000e-004	6.0100e-003	1.6700e-003	2.2000e-004	1.8900e-003	0.0000	17.4767	17.4767	5.3000e-004	2.5300e-003	18.2445
Worker	0.0102	7.0300e-003	0.0857	2.6000e-004	0.0301	1.7000e-004	0.0303	8.0000e-003	1.5000e-004	8.1500e-003	0.0000	24.1068	24.1068	7.1000e-004	6.6000e-004	24.3224
Total	0.0112	0.0457	0.0994	4.4000e-004	0.0359	4.0000e-004	0.0363	9.6700e-003	3.7000e-004	0.0100	0.0000	41.5834	41.5834	1.2400e-003	3.1900e-003	42.5669

3.6 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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179

IRIS MF (102 units) - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.6 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	3.8500e-003	0.1502	0.0521	6.8000e-004	0.0226	9.0000e-004	0.0235	6.5300e-003	8.6000e-004	7.3900e-003	0.0000	67.1512	67.1512	2.1100e-003	9.7300e-003	70.1032
Worker	0.0373	0.0247	0.3138	9.8000e-004	0.1177	6.2000e-004	0.1183	0.0313	5.7000e-004	0.0318	0.0000	91.9059	91.9059	2.5200e-003	2.4300e-003	92.6920
Total	0.0412	0.1749	0.3659	1.6600e-003	0.1403	1.5200e-003	0.1418	0.0378	1.4300e-003	0.0392	0.0000	159.0570	159.0570	4.6300e-003	0.0122	162.7952

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	0.0429	0.2928	2.2873	3.5300e-003		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	0.0429	0.2928	2.2873	3.5300e-003		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175

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

3.6 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	3.8500e-003	0.1502	0.0521	6.8000e-004	0.0226	9.0000e-004	0.0235	6.5300e-003	8.6000e-004	7.3900e-003	0.0000	67.1512	67.1512	2.1100e-003	9.7300e-003	70.1032
Worker	0.0373	0.0247	0.3138	9.8000e-004	0.1177	6.2000e-004	0.1183	0.0313	5.7000e-004	0.0318	0.0000	91.9059	91.9059	2.5200e-003	2.4300e-003	92.6920
Total	0.0412	0.1749	0.3659	1.6600e-003	0.1403	1.5200e-003	0.1418	0.0378	1.4300e-003	0.0392	0.0000	159.0570	159.0570	4.6300e-003	0.0122	162.7952

3.6 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	0.0212	0.1933	0.2493	4.2000e-004		8.1800e-003	8.1800e-003		7.6900e-003	7.6900e-003	0.0000	35.9475	35.9475	8.4500e-003	0.0000	36.1588
Total	0.0212	0.1933	0.2493	4.2000e-004		8.1800e-003	8.1800e-003		7.6900e-003	7.6900e-003	0.0000	35.9475	35.9475	8.4500e-003	0.0000	36.1588

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

3.6 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	4.4000e-004	0.0176	6.0600e-003	8.0000e-005	2.6800e-003	1.1000e-004	2.7800e-003	7.7000e-004	1.0000e-004	8.7000e-004	0.0000	7.7939	7.7939	2.6000e-004	1.1300e-003	8.1366
Worker	4.1600e-003	2.6500e-003	0.0349	1.1000e-004	0.0139	7.0000e-005	0.0140	3.7000e-003	6.0000e-005	3.7600e-003	0.0000	10.6088	10.6088	2.7000e-004	2.7000e-004	10.6959
Total	4.6000e-003	0.0202	0.0409	1.9000e-004	0.0166	1.8000e-004	0.0168	4.4700e-003	1.6000e-004	4.6300e-003	0.0000	18.4027	18.4027	5.3000e-004	1.4000e-003	18.8325

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	5.0800e-003	0.0346	0.2706	4.2000e-004		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	35.9475	35.9475	8.4500e-003	0.0000	36.1587
Total	5.0800e-003	0.0346	0.2706	4.2000e-004		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	35.9475	35.9475	8.4500e-003	0.0000	36.1587

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

3.6 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	4.4000e-004	0.0176	6.0600e-003	8.0000e-005	2.6800e-003	1.1000e-004	2.7800e-003	7.7000e-004	1.0000e-004	8.7000e-004	0.0000	7.7939	7.7939	2.6000e-004	1.1300e-003	8.1366
Worker	4.1600e-003	2.6500e-003	0.0349	1.1000e-004	0.0139	7.0000e-005	0.0140	3.7000e-003	6.0000e-005	3.7600e-003	0.0000	10.6088	10.6088	2.7000e-004	2.7000e-004	10.6959
Total	4.6000e-003	0.0202	0.0409	1.9000e-004	0.0166	1.8000e-004	0.0168	4.4700e-003	1.6000e-004	4.6300e-003	0.0000	18.4027	18.4027	5.3000e-004	1.4000e-003	18.8325

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1817					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0800e-003	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.1828	7.3100e-003	0.0109	2.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

IRIS MF (102 units) - San Diego County, Annual

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

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.2000e-004	2.8200e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0600e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8269	0.8269	2.0000e-005	2.0000e-005	0.8339
Total	3.4000e-004	2.2000e-004	2.8200e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0600e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8269	0.8269	2.0000e-005	2.0000e-005	0.8339

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	0.1817					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8000e-004	7.7000e-004	0.0110	2.0000e-005		0.0000	0.0000		0.0000	0.0000	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341
Total	0.1819	7.7000e-004	0.0110	2.0000e-005		0.0000	0.0000		0.0000	0.0000	0.0000	1.5320	1.5320	9.0000e-005	0.0000	1.5341

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3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.2000e-004	2.8200e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0600e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8269	0.8269	2.0000e-005	2.0000e-005	0.8339
Total	3.4000e-004	2.2000e-004	2.8200e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0600e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8269	0.8269	2.0000e-005	2.0000e-005	0.8339

3.7 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	0.4694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6500e-003	0.0178	0.0280	5.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	3.9575	3.9575	2.2000e-004	0.0000	3.9629
Total	0.4720	0.0178	0.0280	5.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	3.9575	3.9575	2.2000e-004	0.0000	3.9629

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3.7 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	8.2000e-004	5.2000e-004	6.8500e-003	2.0000e-005	2.7300e-003	1.0000e-005	2.7500e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0839	2.0839	5.0000e-005	5.0000e-005	2.1010
Total	8.2000e-004	5.2000e-004	6.8500e-003	2.0000e-005	2.7300e-003	1.0000e-005	2.7500e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0839	2.0839	5.0000e-005	5.0000e-005	2.1010

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	0.4694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6000e-004	2.0000e-003	0.0284	5.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9575	3.9575	2.2000e-004	0.0000	3.9629
Total	0.4698	2.0000e-003	0.0284	5.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.9575	3.9575	2.2000e-004	0.0000	3.9629

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**3.7 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	8.2000e-004	5.2000e-004	6.8500e-003	2.0000e-005	2.7300e-003	1.0000e-005	2.7500e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0839	2.0839	5.0000e-005	5.0000e-005	2.1010
Total	8.2000e-004	5.2000e-004	6.8500e-003	2.0000e-005	2.7300e-003	1.0000e-005	2.7500e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0839	2.0839	5.0000e-005	5.0000e-005	2.1010

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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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	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2575	0.2479	2.4302	4.9700e-003	0.6785	2.9800e-003	0.6815	0.1811	2.7800e-003	0.1838	0.0000	497.3008	497.3008	0.0350	0.0222	504.7792
Unmitigated	0.2575	0.2479	2.4302	4.9700e-003	0.6785	2.9800e-003	0.6815	0.1811	2.7800e-003	0.1838	0.0000	497.3008	497.3008	0.0350	0.0222	504.7792

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	816.00	816.00	816.00	1,814,520	1,814,520
Parking Lot	0.00	0.00	0.00		
Total	816.00	816.00	816.00	1,814,520	1,814,520

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.88	6.88	6.88	42.00	19.00	39.00	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
Apartments Low Rise	0.581445	0.061322	0.168269	0.110400	0.022610	0.006703	0.010268	0.006246	0.000647	0.000667	0.027159	0.000784	0.003479
Parking Lot	0.581445	0.061322	0.168269	0.110400	0.022610	0.006703	0.010268	0.006246	0.000647	0.000667	0.027159	0.000784	0.003479

5.0 Energy Detail

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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

Install High Efficiency Lighting

Install Energy Efficient Appliances

	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	52.4021	52.4021	3.2500e-003	3.3000e-004	52.5803
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	64.9470	64.9470	4.0300e-003	4.0000e-004	65.1678
NaturalGas Mitigated	5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	59.2991	59.2991	1.1400e-003	1.0900e-003	59.6515
NaturalGas Unmitigated	5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	59.2991	59.2991	1.1400e-003	1.0900e-003	59.6515

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.11122e+006	5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	59.2991	59.2991	1.1400e-003	1.0900e-003	59.6515
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		5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	59.2991	59.2991	1.1400e-003	1.0900e-003	59.6515

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.11122e+006	5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	59.2991	59.2991	1.1400e-003	1.0900e-003	59.6515
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		5.9900e-003	0.0512	0.0218	3.3000e-004		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	59.2991	59.2991	1.1400e-003	1.0900e-003	59.6515

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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			
Apartments Low Rise	411945	60.2384	3.7400e-003	3.7000e-004	60.4432
Parking Lot	32200	4.7086	2.9000e-004	3.0000e-005	4.7246
Total		64.9470	4.0300e-003	4.0000e-004	65.1678

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	347086	50.7541	3.1500e-003	3.1000e-004	50.9267
Parking Lot	11270	1.6480	1.0000e-004	1.0000e-005	1.6536
Total		52.4021	3.2500e-003	3.2000e-004	52.5803

6.0 Area Detail

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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	0.5898	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710
Unmitigated	0.5898	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710

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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	0.1628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4043					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	0.0228	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710
Total	0.5898	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710

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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	0.1628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4043					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	0.0228	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710
Total	0.5898	8.7300e-003	0.7568	4.0000e-005		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	1.2413	1.2413	1.1900e-003	0.0000	1.2710

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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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	20.2074	0.2177	5.2300e-003	27.2065
Unmitigated	21.5687	0.2178	5.2300e-003	28.5724

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	6.64571 / 4.18969	21.5687	0.2178	5.2300e-003	28.5724
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		21.5687	0.2178	5.2300e-003	28.5724

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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			
Apartments Low Rise	6.64571 / 3.35175	20.2074	0.2177	5.2300e-003	27.2065
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		20.2074	0.2177	5.2300e-003	27.2065

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

IRIS MF (102 units) - San Diego County, Annual

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

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.1433	0.4222	0.0000	17.6971
Unmitigated	9.5243	0.5629	0.0000	23.5961

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	46.92	9.5243	0.5629	0.0000	23.5961
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		9.5243	0.5629	0.0000	23.5961

IRIS MF (102 units) - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**8.2 Waste by Land Use****Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	35.19	7.1433	0.4222	0.0000	17.6971
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		7.1433	0.4222	0.0000	17.6971

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation

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			
Unmitigated	72.2160	0.0000	0.0000	72.2160

11.2 Net New Trees
Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
	MT				
Miscellaneous	102	72.2160	0.0000	0.0000	72.2160
Total		72.2160	0.0000	0.0000	72.2160

ATTACHMENT B

EMFAC 2017 (2035 - VMT per Trip Calculations)

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 Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips
SAN DIEGO	2035	HHDT	Aggregated	Aggregated	GAS	19,08407476	2479.244144	381.8341678
SAN DIEGO	2035	HHDT	Aggregated	Aggregated	DSL	18254.54977	2302893.489	196550.7286
SAN DIEGO	2035	HHDT	Aggregated	Aggregated	NG	1743.611948	71069.77251	6800.086597
SAN DIEGO	2035	LDA	Aggregated	Aggregated	GAS	1743038.203	60161271	8192817.852
SAN DIEGO	2035	LDA	Aggregated	Aggregated	DSL	21358.48464	746246.2432	100886.8794
SAN DIEGO	2035	LDA	Aggregated	Aggregated	ELEC	99028.05263	3780117.911	476878.1082
SAN DIEGO	2035	LDT1	Aggregated	Aggregated	GAS	190874.4617	6159579.628	872278.0498
SAN DIEGO	2035	LDT1	Aggregated	Aggregated	DSL	26.57831443	848.634638	120.4507753
SAN DIEGO	2035	LDT1	Aggregated	Aggregated	ELEC	5624.399008	216578.7376	27162.89091
SAN DIEGO	2035	LDT2	Aggregated	Aggregated	GAS	514959.2047	17230528	2391592.483
SAN DIEGO	2035	LDT2	Aggregated	Aggregated	DSL	4992.107416	173166.7246	23616.86351
SAN DIEGO	2035	LDT2	Aggregated	Aggregated	ELEC	19320.86035	515173.8388	93316.1592
SAN DIEGO	2035	LHDT1	Aggregated	Aggregated	GAS	33746.39232	1185631.469	502770.9634
SAN DIEGO	2035	LHDT1	Aggregated	Aggregated	DSL	38715.06475	1342853.69	486986.8109
SAN DIEGO	2035	LHDT2	Aggregated	Aggregated	GAS	6005.465647	204627.9358	89472.48999
SAN DIEGO	2035	LHDT2	Aggregated	Aggregated	DSL	15477.50558	522173.8775	194687.5495
SAN DIEGO	2035	MCY	Aggregated	Aggregated	GAS	87039.41453	602328.1204	174078.8291
SAN DIEGO	2035	MDV	Aggregated	Aggregated	GAS	328931.1203	11020863.81	1518405.53
SAN DIEGO	2035	MDV	Aggregated	Aggregated	DSL	11266.00447	392271.7924	52938.92386
SAN DIEGO	2035	MDV	Aggregated	Aggregated	ELEC	13614.9908	366845.3392	65998.28671
SAN DIEGO	2035	MH	Aggregated	Aggregated	GAS	7284.507707	68440.99114	728.742151
SAN DIEGO	2035	MH	Aggregated	Aggregated	DSL	3866.456944	31748.93248	386.6456944
SAN DIEGO	2035	MHDT	Aggregated	Aggregated	GAS	4823.928101	264563.4051	96517.15345
SAN DIEGO	2035	MHDT	Aggregated	Aggregated	DSL	28084.55978	1545799.495	274372.3327
SAN DIEGO	2035	OBUS	Aggregated	Aggregated	GAS	1214.404945	56721.69279	24297.81414
SAN DIEGO	2035	OBUS	Aggregated	Aggregated	DSL	859.7433616	60137.727	8759.854993
SAN DIEGO	2035	SBUS	Aggregated	Aggregated	GAS	632.5586018	30389.26217	2530.234407
SAN DIEGO	2035	SBUS	Aggregated	Aggregated	DSL	1879.159687	59746.68643	21685.24225
SAN DIEGO	2035	UBUS	Aggregated	Aggregated	GAS	580.4429593	60984.8873	2321.771837
SAN DIEGO	2035	UBUS	Aggregated	Aggregated	DSL		0	0
SAN DIEGO	2035	UBUS	Aggregated	Aggregated	NG	1557.385687	175036.4426	6229.542747
					Total		109351118.8	15905571.1
					VMT/Trip		6.875019958	

ATTACHMENT C

NREL PV Watts Energy Calculations



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.

Disclaimer: The PVWatts® Model ("Model") is provided by the National Renewable Energy Laboratory ("NREL"), which is operated by the Alliance for Sustainable Energy, LLC ("Alliance") for the U.S. Department Of Energy ("DOE") and may be used for any purpose whatsoever.

The names DOE/NREL/ALLIANCE shall not be used in any representation, advertising, publicity or other manner whatsoever to endorse or promote any entity that adopts or uses the Model. DOE/NREL/ALLIANCE shall not provide

any support, consulting, training or assistance of any kind with regard to the use of the Model or any updates, revisions or new versions of the Model.

YOU AGREE TO INDEMNIFY DOE/NREL/ALLIANCE, AND ITS AFFILIATES, OFFICERS, AGENTS, AND EMPLOYEES AGAINST ANY CLAIM OR DEMAND, INCLUDING REASONABLE ATTORNEYS' FEES, RELATED TO YOUR USE, RELIANCE, OR ADOPTION OF THE MODEL FOR ANY PURPOSE WHATSOEVER. THE MODEL IS PROVIDED BY DOE/NREL/ALLIANCE "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. IN NO EVENT SHALL DOE/NREL/ALLIANCE BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO CLAIMS ASSOCIATED WITH THE LOSS OF DATA OR PROFITS, WHICH MAY RESULT FROM ANY ACTION IN CONTRACT, NEGLIGENCE OR OTHER TORTIOUS CLAIM THAT ARISES OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE MODEL.

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

348,400 kWh/Year*

System output may range from 334,882 to 350,595 kWh per year near this location.

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Value (\$)
January	4.79	23,751	3,762
February	5.18	22,919	3,630
March	6.20	30,164	4,778
April	6.60	30,909	4,896
May	7.06	33,598	5,322
June	7.52	34,588	5,479
July	7.48	35,017	5,547
August	7.53	34,562	5,475
September	6.89	30,780	4,876
October	5.80	27,145	4,300
November	4.97	23,330	3,696
December	4.34	21,636	3,427
Annual	6.20	348,399	\$ 55,188

Location and Station Identification

Requested Location	escondido ca
Weather Data Source	Lat, Lon: 33.13, -117.1 0.8 mi
Latitude	33.13° N
Longitude	117.1° W

PV System Specifications (Residential)

DC System Size	204 kW
Module Type	Premium
Array Type	Fixed (roof mount)
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	0.158 \$/kWh
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Performance Metrics

Capacity Factor	19.5%
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ATTACHMENT D

CalEEMod (204 kW Solar)

204KW Solar - San Diego County, Annual

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

204KW 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	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
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 204 kw solar. Solar generated by the project site does not offset solar provided by SDGE but rather power generated from non-renewable sources.

Land Use - Rooftop Solar

Construction Phase -

Off-road Equipment -

Off-road Equipment - zero hours

Trips and VMT - zero

Grading -

Architectural Coating -

Vehicle Trips -

Woodstoves - asdf

Area Coating -

204KW Solar - San Diego County, Annual

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

Landscape Equipment - zero

Energy Use -

Water And Wastewater -

Energy Mitigation - Based on PVWatts, 204 kw of solar would generate 384,400kWh per year.

Area Mitigation -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

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

2.0 Emissions Summary

204KW Solar - San Diego County, Annual

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					
2019	0.0000	0.0000	0.0000	0.0000	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					
2019	0.0000	0.0000	0.0000	0.0000	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	N2O	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)			
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204KW Solar - San Diego County, Annual

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

204KW Solar - San Diego County, Annual

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	0.0000	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	-125.6253	-125.6253	-0.0051	-0.0011	-126.0635
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	-125.6253	-125.6253	-0.0051	-0.0011	-126.0634

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	628,126,450.00	628,126,450.00	0.00	0.00	630,317,300.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/2/2019	5/2/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

[illegible]

204KW Solar - San Diego County, Annual

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

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

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

Mitigated Construction Off-Site

[illegible]

204KW Solar - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.575453	0.061728	0.171227	0.112384	0.022882	0.006522	0.009800	0.006298	0.000679	0.000623	0.027611	0.000857	0.003936

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

Historical Energy Use: N

Kilowatt Hours of Renewable Electricity Generated

[illegible]

204KW Solar - San Diego County, Annual

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

																		Total
																		0.0000
																		0.0000
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Mitigated

																		Total

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			
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	-384400	-125.6253	-0.0051	-0.0011	-126.0635
Total		-125.6253	-0.0051	-0.0011	-126.0635

6.0 Area Detail

6.1 Mitigation Measures Area

204KW Solar - San Diego County, Annual

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	0.0000	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

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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

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	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

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	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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation
